Abstracts from the 5th Brazilian Congress of Veterinary Pathology.
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ABSTRACTS FROM THE 5TH BRAZILIAN CONGRESS OF VETERINARY PATHOLOGY

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JULY 15-18TH, 2019

We are very happy to finalize the 5th Brazilian Congress of Veterinary Pathology (BCVP), with the publication of the abstracts in this issue of the Brazilian Journal of Veterinary Pathology – BJVP.

The 5th BCVP was held in Ribeirão Preto, São Paulo, from July 15 until 18, 2019, having a wide scientific program, to represent the veterinary pathologists and clinical pathologists professionals and students. The main goal of the BCVP was to increase the interest of this field for young researches, residents, professionals and under grad and grad students, allowing a technical- scientific exchange among the pathologists from Brazil and abroad.

The 5th CBPV had workshops, meetings and interactive sections, as well as oral and poster scientific research presentations. The scientific committee, composed of veterinary pathologists and clinical pathologists, evaluated 443 abstracts, published in this issue. for the first time, all abstract submission was in English, so the work can be known internationally.

The abstracts published demonstrate the diversity and complexity of the veterinary pathology and clinical pathology diagnosis, in different geographic areas, being important the publication of these information among students, professionals and professor.

We hope you enjoy them.

Sincerely,

Gisele Fabrino Machado
ABPV President

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Intracranial anaplastic ependimoma in a young dog

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Background: Canine ependymoma is a malignant neoplasia that affects brachycephalic animals. **Case Report:** A case was reported in a 4-month-old Boxer mixed breed dog that initially presented bilateral blepharospasm and uveitis. Discarded the traumatic uveitis (negative fluorescein), complementary examinations were performed to investigate the systemic origin of bilateral uveitis. Six days after the onset of ophthalmic symptoms, the dog did not show improvement on the administration of analgesics and anti-inflammatories, and new symptoms emerged (vomiting and neurological symptoms such as incoordination and behavior change). Neurological symptoms and eyebrows contraction (suggesting headache and brain injury) were investigated by Computed Tomography (CT) of the skull on the ninth day. Before CT, the dog had limbs and neck spasms, followed by respiratory arrest, with reversion and stabilization. **Results:** CT imaging revealed extensive and amorphic neoformation in the diencephalon, middle of the brain and inside of the right lateral ventricle, shifting the cerebral sickle to the left side. The dog was euthanized and necropsied, observing hydrocephalus and the intracerebral tumor mass as observed in CT. The histological diagnosis of the Central Nervous System by hematoxylin and Eosin staining was suggestive of Ependymoma, with several pseudorosettes in the neuropil, mitoses and high degree of cellular atypia. The neoplasia was phenotyped by immunohistochemistry, being positive to the markers Vimentin and Glial Fibrillary Acid Protein, confirming Intracranial Anaplastic Ependymoma. Inflammatory, hemorrhagic and necrotic tissue lesions in both cerebral hemispheres, in the brainstem and cerebellum were due to the ependimoma, that compressed and invaded the brain tissue, causing hydrocephalus and the onset of blepharospasm, uveitis, behavioral changes and worsening of neurological signs in a few days. **Conclusions:** Ophthalmic symptoms with neurological evolution, associated with imaging diagnosis (CT), histopathology and immunohistochemistry elucidated this rare case of ependymoma in a young dog.

Key words: neoplasia, ophtalmological, manifestations, neurological symptoms.

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Bilateral calcaneal epiphysiolysis in a dog

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Background: Epiphysiolysis is an osteochondrosis manifestation that occurs because of abnormal chondrocyte differentiation in the growth plate, leading to chondrocyte degeneration and necrosis and, ultimately, to metaphysis separation from the epiphysis. High calcium levels in the diet during growth, which result in hypercalcitonism, have been considered to be the main cause of epiphysiolysis. Although osteochondrosis is not a rare disease, its clinical presentation as a bilateral calcaneal epiphysiolysis is not common, and it should be considered as a differential diagnosis for bone defects. **Case Report:** A 7-month-old male German Shepherd dog, with a history of anorexia, progressive weight loss, claudication, and difficulty standing up despite the use of anti-inflammatory drugs, was taken to the Veterinarian Hospital of UFMG. It had been being fed puppy food and there was no history of trauma. The dog had also been serologically diagnosed with Leishmaniasis. During physical examination, swelling, crepitation, and severe pain were detected in both tibiotarsal joints. A radiological examination revealed areas of bone loss in the calcaneus and a separation of the tuberosity from both sides. Because of the previous diagnosis of Leishmaniasis and the clinical suspicion of osteitis and arthritis, the dog was euthanized. **Results:** At the necropsy, calcaneal tuberosities were separated from the rest of the bone, and the soft tissue around it was thickened. The limb bones were longitudinally opened and radiographed, thereby confirming the macroscopic findings and allowing identification of cortical irregularities and an increase in radiopacity in some of the long bones. **Conclusions:** Through microscopy, clinical suspicions of osteitis and arthritis were unconfirmed, but the presence of an epiphysiolysis resulting from cellular degeneration and lysis of the calcaneus growth plates was confirmed, associated with osteopetrosis.

Key words: growth plate, bone, joint.

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Peritoneal-pericardial diaphragmatic hernia in an old bitch

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Background: Peritoneal-pericardial diaphragmatic hernia is a congenital anomaly, which consists of communication between the peritoneal and pericardial cavities, allowing herniation of abdominal organs into the pericardial sac. This hernia is caused by abnormal development of the dorsolateral transversum septum. It is an uncommon anomaly in dogs, in which the median age of diagnosis is 14 months. The presence and the severity of clinical signs are directly related to the number of herniated organs and extent of herniation. **Case Report:** A 10-year-old female Basset Hound was taken to a veterinarian hospital to undergo a surgery for the correction of a recurrent ophthalmic condition (*Cherry eye*) and an umbilical hernia, and so that the dog's castration could be performed. Upon preoperative physical examination, the dog presented a systolic cardiac murmur grade II/III although no abnormalities were seen on an electrocardiogram. A few hours after the surgery, the animal started to vomit and presented liquid feces with blood and hypoglycemia. The dog was hospitalized, but a few hours later suffered cardiopulmonary arrest and died, after which the dog was then taken for a necropsy. **Results:** Necropsy revealed the presence of round area with a diameter of 4 cm located in both the diaphragm and pericardial sac. This area created a communication between the peritoneal and pericardial cavities. Inside the pericardial sac, liver's quadrate lobe and part of the omentum were found. Fibrosis had caused a reduction in the herniated hepatic lobe volume. Furthermore, severe hemorrhagic gastritis, hemorrhagic enteritis with severe lymphoid depletion, moderately enlarged and hemorrhagic lymph nodes, and a moderately enlarged and hyperemic spleen were also seen. **Conclusions:** Despite the presence of the peritoneal-pericardial diaphragmatic hernia, the animal survived the surgery, which indicated that the hernia was an incidental finding during the necropsy. The hemorrhagic gastroenteritis did not have a direct relationship to the hernia.

Key words: congenital anomaly, diaphragm, pericardium.

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Gastric dilatation-volvulus by liquid content (fluid/net content) in a dog – a case report

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Background: Gastric Dilatation-Volvulus (GDV) is a disorder in which the stomach rotates around its own axis, reaching up to 360 degrees. The predisposition is higher in large and giant dog breeds and the probable causes are: body shape with deep chest; laxity of the hepatoduodenal and hepatogastric ligaments; intense exercise; bulky feed rich in fats; fluid intake; and an increase in food fermentation with gas production. **Case Report:** a two-year-old Belgian Malinois male dog from military police was found dead at the kennel, with sparkling substance near its body. The dog was offered food and, a few minutes later, was submitted to intense physical exercise. After that, the animal was left at the kennel. **Results:** in the necropsy, bruises from the lower right quadrant of the abdomen and from the medial side of the left thigh were verified. In the abdominal cavity, severe gastric enlargement was noted with markedly streamlined wall and presence of fluid and gas inside. There were also abnormalities in the topography of the organs: the spleen presented a markedly increased volume, caudally positioned in relation to the stomach, showing a retroreflection (V shape) over one of its poles; the lung showed compressive atelectasis of the caudate lobes by gastric compression. **Conclusion:** Gastric Dilatation-Volvulus is a clinical emergency in which the liquid content is an uncommon finding. The physical exercise stimulated the animal to drink a significant amount of water which, in turn, resulted in gastric dilatation-volvulus, common among giant and large dog breeds as in this case, which led to death by cardiorespiratory insufficiency.

Key words: stomach, clinical emergency, dog.

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Histopathological and epidemiological classification of 230 neoplasms in dogs and cats attended at Botafogo Verinary Hospital

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Background: Neoplasm is an abnormal tissue growth resulting from uncontrolled cell proliferation. In recent years, the incidence of neoplastic lesions in companion animals has increased according to increased life expectancy. **Objective:** The objective of this study, was to verify the neoplasms frequency in dogs and cats treated at the Veterinary Hospital of Botafogo from January 2017 to July 2018. **Methods:** 205 requisitions for histophatologic examination were verified. In these 205 cases, 230 neoplastic lesions with different locations were found. After the histopathological results, the lesions were classified using the cellular origin in epithelial cells neoplasms, of round cells tumors, mesenchymal and mixed cells. **Results:** The population in this study was 185 canines and 20 felines, being thus the prevalence higher in canines than in felines. Regarding sex, 86 were male dogs (46%) and 99 female dogs (54%) and 15 (75%) female cats, 5 (25%) were male cats. Neoplasms in the presente study, were more frequent in females, in both species. The most frequent neoplasms in dogs were epithelial tumors 107 (53%), "round cells" tumors 45 (22%), mesenchymal tumors 43 (21%), and in less number were neoplasms of mixed origin 8 (4%). In felines, the most common neoplasms were epithelial tumors 19 (70%), followed by "round cells" tumors 4 (15%) and mesenchymal tumors 4 (15%). The most affected dog breeds were, Golden, Poodle, Dachshund, Cocker Spaniel, Labrador and Yorkshire and in relation to the feline species, the mongrel cats were also the most affected, followed by the Persians and Siamese. **Conclusions:** Neoplasms in pet animals is increasing all the world. Epidemiological studies are fundamental to understand the behavior and the principals histologics types of the disease in dogs and cats.

Key words: tumors, pathology, epidemiology.

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Condiobolomycosis in a sheep from the southeast region of Bahia: case report

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Background: Conidiobolomycosis is a disease caused by fungi of the genus *Conidiobolus*, frequently reported in sheep with significant lethality. Spore inhalation from the environment and inoculation of these into wounds are the main forms of infection. Granulomatous rhinitis is the predominant lesion in affected animals. **Case Report:** A 3-year-old female sheep was referred at the Veterinary Hospital of the State University of Santa Cruz, presenting a mucous-bloody nasal discharge, frequent cough with putrid odor, expiratory dyspnea, adventitious auscultation noise, percussion of the pulmonary field, unilateral exophthalmos, corneal ulcer and head oscillations in season. Enzootic ethmoid tumor, caseous lymphadenitis and conidiobolomycosis were suspected. Microbiological culture was performed from the nasal secretion and biopsy of the lesion to confirm the diagnosis, with microculture on slides and staining by Lactophenol cotton blue. Considering the unfavorable prognosis, euthanasia was performed followed by necropsy. **Results:** At necropsy, after the head longitudinal section, there was an intense destructive lesion, with an irregular, friable, yellowish-white mass located in the region of the ethmoidal shells, nasal septum, frontal sinus, with skull invasion. The submandibular lymph nodes were enlarged. Cranioventral consolidation was observed in the lungs, which allowed a moderate flow of purulent exudate, as well as the presence of multiple nodules measuring 0.5 to 2 cm in diameter, yellowish-white color, distributed in the parenchyma. The microbiological examination revealed the presence of hyphae with rare septa and spherical conidia with papillae, typical of the genus *Conidiobolus*. Histopathology showed intense pyogranulomatous inflammation associated with the presence of hyphae in negative image within multinucleated giant cells in the nasal cavity, meninges, brain and lungs. **Conclusions:** The diagnosis of nasopharyngeal and rhinocerebral conidiobolomycosis was based on the clinical-pathological findings and the isolation of *Conidiobolus* sp., which allowed the differentiation of other diseases that cause chronic rhinitis in sheep.

Key words: *Conidiobolus*, mycosis, rhinitis, granulomatous inflammation.

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Leiomyosarcoma in the intestine of a dog: case report

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Leiomyosarcoma is a malignant tumor of smooth muscle cells which usually affects elderly animals and, if surgical procedure is performed, the prognosis may be good to excellent. Metastasis usually occurs via hematogenous spread and reaches lungs and liver. This report describes the case of a 15-year-old Teckel male dog with a history of urinary tract infection. Ultrasonography was enabled to identify a mass cranial to bladder, with approximately 8 cm in diameter in the abdominal region. Due to the animal's advanced age, the tutor chose not to perform surgical treatment, and then euthanasia was elected by the surgeon due to the worsening of the clinical state. At necropsy it was noticed the presence of an irregular surface mass wrapping the cecum, with fibroelastic and whitish aspect, measuring 10 x 7 cm. There was a whitish focal area on the left caudal lobe of the liver. The lung presented diffuse reddish multifocal areas on the parenchyma. A mass of irregular and whitish aspect was observed in the soft palate. Histologically, the intestinal and hepatic mass corresponded to malignant neoplasic proliferation of mesenchymal cells, arranged in bundles distributed in several directions. Individually, the cells had moderate and acidophilic cytoplasm, oval, central and hypochromic nuclei, with grossly clustered chromatin and single nucleoli. Moderate anisocariasis, mild caryomegaly and 6 mitotic figures in 10 HPF were observed. Melanoma was observed in the lung and soft palate. Therefore, it is concluded that the dog presented leiomyosarcoma in the intestine with metastasis in the liver and an oral melanoma with pulmonary metastasis. Leiomyosarcoma is infrequent in the intestine and should be considered in the differential diagnosis of intestinal masses.

Key words: mesenchymal tumors, melanoma, metastasis.

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Spina bifida in a newborn dog: case report

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Background: Spina bifida refers to absence of the vertebrae dorsal portions. It is convenient to divide the defect into several classes based on severity. Local myeloschisis is a localized defect caused by failure of closure of the neural tube. One or more vertebral segments may be defective, but is more common to be lumbosacral. **Case Report:** A newborn, canine, male, Bulldog, born at full term birth, by cesarean. At birth a gap was noted on the skin with a communication between the vertebral canal from the end of the thoracic region the spine. In the neurological exam for function evaluation, little response was noted in the deep pain test. After radiographic exams, euthanasia was indicated and the animal was sent to necropsy. **Results:** At the necropsy it was noted that both pelvic members were atrophied and spine around to medial plane. In the lumbosacral region there was absence of skin covering the spine having a hemorrhagic appearance. After cutting the surface there was absence of the spinous process, beginning in the sixth thoracic vertebra (T6), thus being possible d to see the spinal canal, in the lumbar and sacral regions. The spinal canal was covered by blood. In the microscopy the spinal cord of the cervical and thoracic regions a large quantity of gray matter was noted, with loss of normal medullar architecture. The white matter was restricted to a narrow band on the periphery, and there was rarefaction of neuronal bodies in the nervous ganglia. There was no sign of spinal cord in the lumbosacral region. **Conclusions:** Based on clinical, radiographic and necroscopic findings, the final diagnosis was spina bifida with failure of the neural tube closure (myeloschisis) and including myelodysplasia in the thoracic and cervical regions, and segmental agenesis of the spinal cord in the lumbosacral region.

Key words: spinal cord, canine, bulldog, myeloschisis.

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PD-1, PDL1 and PDL2 are involved in spleen leukocytes apoptosis in canine leishmaniasis

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Background: Brazil is one of the six countries around the world with high number of cases of leishmaniasis (CanL), a Chronic illness in dogs which leads to high T lymphocyte apoptosis rates in the spleen; this mechanism could contribute to the disruption of the spleen white pulp. A co-stimulatory molecule with negative function has been described PD-1 (programmed cell death 1). When PD-1 is associated with its ligands, it triggers the induction of apoptosis. **Objective:** The expression of PD-1 and its ligands were investigated in the dogs' spleen with CanL and the role of PD-1 and its ligands in regulating T cell apoptosis in thespleen **Methods:** Immunohistochemical analysis for PD1, PDL1 and PDL2 was carried out in formalin- fixed, paraffin-embedded sections of spleen of 20 dogs with CanL and 10 dogs control, using a standard peroxidase-antiperoxidase method. For fluorochrome labeling, the spleen leukocytes from both groups were incubated with monoclonal antibodies and analyzed using flow cytometry. For PD1 and its ligands blockade, spleens leukocytes of dogs with CanL were suspended in the presence of blocking antibodies or isotype controls and incubated at 37 ◦C in a 5% CO2 incubator for 72 h. The percentage of apoptotic CD3+ T lymphocytes apoptosis was determined using flow cytometry. Mann-Whitney test was used to compare the expression of PD-1, PD-L1, and PD-L2, and Wilcoxon test was used to compare the levels of apoptotic CD3+ T cells. Results: PD-1, PD-L1 and PD-L2 showed higher percentages cells in the dogs' spleen with CanL ($p<0.05$). The use of blocking monoclonal antibodies to PD1 and its ligands in spleen cell cultures decreased the apoptosis rate of CD3+ T lymphocytes ($p<0.05$) **Conclusions:** It was concluded that *L. infantum* may modulate the expression of PD-1 and its ligands and participate in the T lymphocyte apoptosis induction in the spleen.

Key words: *Leishmania infantum*, pathology, dog, white pulp, CanL.

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Anatomopathological findings of canine ancillostomyase - case report

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Background: Canine ancylostomiasis is a zoonosis, often unnoticed by tutors and veterinarians, because when infections by species *Ancylostoma caninum* and *A. braziliense* are acute, the main symptomatology is anemia and sometimes dyspnea. **Case Report:** Dog, Boxer breed, male, 6.5 years old, 27 kg, was taken to the Veterinary Hospital Rio Preto University, with complaint of emesis and dyspnea a day ago. Anthelmintic and vaccines outdated. During clinical-laboratory examination the dog exhibited pale mucous, dehydration and anemia. Animal was hospitalized and at the same day had hematemesis and bloody diarrhea. The next day he got worse and he died. **Results:** Anatomopathological examination revealed 2/9 score, perlaceous mucous, hydroperitoneum and moderate hydrothorax. Accentuated white spume in the tracheal lumen, diffuse red lung, of fleshy consistency and hypocreptant. Stomach with mucohemorrhagic content, multiple suffusions and petechiae in the mucosa. Small intestine with multiple petechiae, resulting from the direct action of the parasites, which were found in large numbers adhered to the mucosa or interspersed with the contents. The parasites measured 1.0-1.5cm in length, greyish-white color. Large intestine without parasites, dark red contents and striations and petechiae in the mucosa. Other pale organs. In histopathology, there was marked eosinophilic interstitial pneumonia, small intestine containing larval and eggs structures, marked eosinophilic and hemorrhagic enteritis. According to the helminth species identification by taxonomic classification, nematodes were diagnosed and quantified of the small intestine, and it was possible to infer the following percentages: *Ancylostoma caninum* (89.00%) and *Ancylostoma braziliense* (11.00%). **Conclusions:** Based on the anatomopathological and necropsy reports, it is confirmed that all symptoms were due to the high adult parasite burden of highly pathogenic *Ancylostoma caninum*. The tutors did perform the prevention and due to the absence of an adequate treatment the animal died by hypovolemic shock due to the marked nematodes.

Key words: *Ancylostoma caninum*, dogs, hypovolemic shock, hematophagous parasites, zoonosis.

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Atomic force microscopy characterization of porcine corneas after corneal cross-linking with an extract of *Origanum vulgare*

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Background: Corneal cross-linking (CXL) is a technique used to treat corneal ectatic diseases in company animals. Its aim is to increase the number of covalent bonds among adjacent collagen fibers, improving the cornea rigidity. In experimental CXL protocols, corneas have been exposed to polyphenol-rich extracts from different medicinal plants. *Origanum vulgare* is a plant rich in polyphenolic compounds, whose effects in the promotion of corneal CXL are not known. **Objective:** our goal was to characterize, using atomic force microscopy (AFM), ex vivo porcine corneas subjected to CXL protocol with an extract of *O. vulgare*. **Methods:** The study protocols were approved by the Ethics Committee on Animal Use of the University of Franca. Clear corneas from enucleated porcine eyes were mechanically de-epithelized and distributed into two groups: oregano (n = 15), consisting of corneas immersed in a 4% *O. vulgare* extract, for 30 60, and 120 min; and control, consisting of untreated corneas (n = 5) that were immersed for 120 min in the solvent of *O. vulgare* (0.9% NaCl containing dimethyl sulfoxide - DSMO). After the treatments, the corneas were studied for morphology and elastic modulus using an AFM in contact model. **Results:** AFM revealed changes on the surface topography of the collagen fibers in the corneas of the oregano group, concomitant to high values of elastic modulus in comparison to the control group ($p = 0.001$). The increment in the elastic modulus was dependent-time and increased by 7 times after 120 min of exposition for *O. vulgare* extract. **Conclusions:** Because the *O. vulgare* extract increased the elastic modulus of the porcine cornea, it was effective in promoting CXL among the collagen fibers as characterized by AFM. This study was supported by CAPES (financial code 001) and ACEF/SA.

Key words: collagen, elastic modulus, multiphoton microscopy, ocular surgery, polyphenol.

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Contribution of astrocytes to immune-mediated canine encephalitis caused by the distemper virus

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Background: In the central nervous system (CNS), homeostasis is maintained through cell-to-cell contact, which keeps the microglia in a quiescent state. Astrocytes contribute towards this process and to local immunotolerance maintenance. In injury situations, astrocytes may have a deleterious effect, since they activate an immune response and neuroinflammatory effects. In canine distemper this condition that may lead to demyelination and inflammation in the CNS. **Objective:** The objectives of the present study were to evaluate the role of astrocytes in the encephalitis caused by the canine distemper virus, through immunodetection of MHC-II, CD3 T lymphocytes, MMP9, MIF and GFAP in demyelinated areas of the encephalon, in order to ascertain whether these findings might be related to the severity of the encephalic lesions. **Methods:** A retrospective study on archived paraffinized blocks was conducted, in which 21 encephala from dogs that had been naturally infected with the canine distemper virus (infected group) and five from dogs that had been free from systemic or CNS-affecting diseases (control group) were used. **Results:** In the immunohistochemical analysis of the samples, the marking degree by GFAP, MHC-II, MMP9 and MIF was greater in the demyelinated areas and in the adjacent neuropil, and this was seen particularly in the astrocytes. Detection of CD3 was limited to perivascular cuffs. In areas of liquefactive necrosis, Gitter cells were positive for MMP-9, MIF and MHC-II. **Conclusions:** Hence, it was concluded that activated astrocytes influenced the afflux of T lymphocytes to the encephalon, thus resulting in encephalitis, which contributed to the worsening of the dogs' viral lesions of the infected group. In more advanced phases, activated phagocytes in the areas of liquefactive necrosis (Gitter cells) continued to produce inflammatory mediators even after the astrocytes in these localities had died, thereby worsening the encephalic lesions.

Key words: demyelination, neuroinflammation, virus, immune response, dog.

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Congenital hydrocephalus in a dog

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Background: Congenital hydrocephalus in animals is characterized by the excessive accumulation of cerebrospinal fluid (CSF) in the skull, due to a genetic defect, promoting volume increase and, consequently, dilation of the cerebral ventricles. **Case Report:** A 1.7-year- old female dog (*Canis lupus familiaris*), with a history of seizures, inability to feed, cachexia, dehydration and prostration. The animal was clinically diagnosed with hydrocephalus. Due to the poor prognosis and the animal's debilitated state, euthanasia was elected by the owner and the animal was referred to necropsy at the Veterinary School of UFMG. **Results:** The dog presented disproportionality between head and body with the size of its skull cap, very prominent for its size. *Post mortem* examination revealed an intense skull enlargement, 7 x 7 x 7.5 cm. Non-occluded lambdoid suture, with 5 x 1.5 cm and 4.5 x 2 cm opening, left and right sides, were observed respectively. Temporal bone region had no occlusion of multifocal cranial sutures. The brain was intensely dilated, thinned, with a marked loss of brain parenchyma. Intensively dilated lateral ventricles filled with 100 mL of yellowish translucent fluid was observed. **Conclusions:** Based on the macroscopic findings, a diagnosis of marked internal hydrocephalus was established.

Key words: canine, cerebral ventricles, congenital disease, convulsions, internal hydrocephalus.

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Carcinoid tumor in a dog's gallbladder

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Background: A carcinoid or neuroendocrine tumor is a neoplasia that arises from dispersed cells of the neuroendocrine system. This tumor has been described in the nasal cavity, lungs, intestines, liver, gallbladder, esophagus, and skin. However, this tumor is uncommon in animals, and its occurrence in the gallbladder is rare. **Case Report:** A 16-year-old male, non-spayed Basset Hound's corpse without a description of its previous history was taken to *Universidade Federal de Minas Gerais* to be analyzed by the Veterinary Pathology Department. **Results:** Necropsy revealed the presence of pale oral, ocular, and penile mucous membranes. The gallbladder had a thickened wall and a dilated lumen, which was filled with dark and lumpy bile. Its mucosa had millimeter-length cysts, often found in the mucinous cystic hyperplasia, and a whitish-red nodule, which had a diameter of 2.0 x 1.5 cm with solid and friable areas. Microscopically, in addition to the mucinous cystic hyperplasia areas, there was a focal neoplastic proliferation. This proliferation was not encapsulated and had imprecise limits and whose cells were distributed in a solid pattern and separated by a delicate fibrovascular stroma. The neoplastic cells presented oval or round shaped nuclei, which had predominantly loose chromatin and one or two nucleoli. The cells cytoplasms were moderately abundant, and in most of the cells, they had eosinophilic, granular, and had well-defined limits. Using the Grimelius coloration, cytoplasmic granules of neoplastic cells stained brownish or black, confirmed the neoplasianeuroendocrine origin. Furthermore, neoplastic cells showed moderate pleomorphism and mitotic index, and multifocal areas of hemorrhage were found. Similar cells were also observed in a hepatic lymph node. Neoplastic cells were not observed in any of the other dog's organ. **Conclusions:** Based on macroscopic and microscopic findings, the diagnosis of a gallbladder carcinoid or neuroendocrine tumor was established.

Key words: neoplasia, neuroendocrine, gallbladder, dog.

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Non-ossifying and osteolitic mandibular fibroma in bovine

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Background: Oral tumors are relatively common in companion animals, but uncommon in other species. In cattle, with the exception of squamous cell carcinoma, associated with fern consumption, oral neoplasms are rare. **Case Report:** A slaughterhouse sent to the Department of Veterinary Pathology of *Universidade Federal de Minas Gerais*, a jaw for histopathological examination. The jaw was of a bovine, approximately 4 years old, and without a defined race. Radiography and serial cuts were performed, and the samples were decalcified and processed by the paraffin inclusion technique. **Results:** Macroscopically, there was an 8x5x5cm mass in the mandible in the region of the incisor teeth. Associated with the mass, there was displacement of the left incisor and absence of the right tweezers and first medium. At the sagittal cut of the mandible, the mass protruded 10 cm caudally among the medial faces of the mandible bodies where there was intense bone lysis, which was confirmed by radiographic examination. The mass had a smooth surface and was whitish, solid, and firm. Histologically, a well-differentiated and non-encapsulated mesenchymal neoplastic proliferation was observed with partially delimited areas and other areas with infiltrative growth. Spindle-like cells were arranged in bundles in different directions from the well-differentiated eosinophilic extracellular matrix and stained blue by Masson's trichrome. The neoplastic cells presented cytoplasm with little precise limits and that was sometimes eosinophilic. The nuclei were oval or fusiform and central with dense or loose chromatin. Anisocytosis and anisokaryosis were discrete with rare mitoses for each field. Adjacent to the neoplasia, there was bone necrosis, characterized by the presence of fragmented trabeculae, with empty gaps of osteocytes and intense osteoclasy. **Conclusions:** Based on macro and microscopy, the diagnosis of non-ossifying and osteolytic mandibular fibroma was established.

Key words: neoplasia, oral cavity, cattle.

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Multilobular tumor of bone in maxilla and zygomatic in a dog: case report

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Background: Multilobular Tumor of Bone, also known as Chondroma Rodens, is a rare primary tumor in dogs which mainly affects skull bones of adult large size dogs. It is considered a slow-growth malignant tumor, locally invasive and able to compress adjacent structures such as nerves, eyes, palate and brain. There are few cases reporting as being originated from the maxilla and zygomatic. **Case Report:** A nine-year-old male dog and 15 Kg weight, with left severe atrophy in the masseter muscle, had a locally extensive slow-growth mass. Tomography indicated that it was affecting different structures such as maxillary bone, left palatine bone, pterygoid, zygomatic and vertical branch of jaw, besides invasion of left retrobulbar space leading to exoftalmy of the left eye. Caudalmaxillectomy, caudal mandibulectomy and enucleation of left eye were performed and all material was sent to anatomopathological examination. **Results:** Macroscopically, the material size was 9.5 X 6.0 X 7.8 cm with a multilobulated, whitish and firm nodule measuring 9.0x 4.5x7.8 cm. The cut surface was homogenous and contained greyish circular multiple small areas. Microscopically, a pattern of numerous contiguous lobules was observed bordered by thin septa of spindle cells mesenchyme and in the center of these lobules, mineralized matrix zones were observed. **Conclusions:** The anatomopathological findings associated with those reported during physical evaluation and imaging examination allow to conclude that the animal had. Multilobular Tumor of Bone in maxilla and zygomatic bones as primary sites which is uncommon according to literature.

Key words: neoplasia, oncology, jaw, skull, dog.

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Meningoencephalocele in stillborn dogs: a case report

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Background: Meningoencephalocele, also known as Cranium Bifidum, is the encephalus protrusion beyond its normal limits, through a defect in the skull median dorsal line. It is a congenital malformation generated by a primary defect in the neural tube formation and therefore in a focal fail in development of axial skeleton. This malformation is associated with genetic factors or as a result of mothers' exposure to toxic or infection agents. Generally, animals which present encephaloceles also have other malformations such as exoftalmy, microphthalmia and cleft palate. **Case Report:** Two stillborn female dogs, mixed breed, and descendant from two different litters were sent to the Veterinary Pathology Department, after being submitted to x-ray exam, for necroscopic examination. **Results:** The radiographic exam indicated that both animals had parietal bones agenesis, which created a 0.4 X 0.3 cm size space where the brainprotrusion occurred. Besides this, it was noticed a cleft palate which measured 1.0 X 0.4 cm. During external examination it was noticed that the encephalus was projecting itself beyond the skullcap through a fail between the parietal bone´s suture lines. Furthermore, it was noticed that both animals presented bilateral exoftalmy. Immediately thereafter, during oral examination, it was noticed the cleft palate, previously diagnosed by x-ray. In the abdominal cavity examination, hepatomegaly and enlargement in right atrium and ventricule were observed. **Conclusions:** Based on the literature, clinical history and necroscopic examination, it was deduced that both stillborn had a malformation named meningoencephalocele (cranium bifidum) concomitantly to cleft palate.

Key words: cranium bifidum, cleft palate, malformation, dog.

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Apocrine carcinoma in a dog's ventral cervical region: case report

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Background: Among the adenocarcinomas, apocrine carcinoma is seen as a disease of little incidence in animals, with an abnormal proliferation of the affected glandular epithelium, with the formation of tumor masses that vary in appearance. The literature on the subject has no extensive repertoire, but it is known that the disease may have solid, cystic or tubular tumors and responses to treatment may vary from individual to individual. **Case Report:** A 6-year-old Dobermann male, weighing 33 kg, was treated with a complaint of swelling in the cervical region. Subsequently, it was identified as a tumor of cystic appearance and presence of an expansive lesion with a net collection and dimensions of 5.9 x 3.8 cm in diameter. Among the observed symptoms, weight loss and respiratory distress were caused by the pressure exerted by the neoplastic mass on the esophagus and trachea, respectively. Due to the structure fibrous nature surrounding the tumor, surgical removal was performed without difficulty and risks of neoplastic tissue permanence, obtaining a positive response in the recovery procedure and revealing that the disease, in this case, did not have a metastatic character. **Results:** The prevalence of this type of neoplasia represents only 2% of the skin neoplasms in dogs. In this case, the animal did not show clinical symptomatology, only mechanical pressure was caused in the esophagus and trachea, where the tumor was located, leading to dysphagia and dyspnea. The clinical picture, treatment and prognosis of the patient was facilitated by the nonadherence of the tumor in tissues and cervical structures, shown by the imaging tests. The non-invasiveness and aggression of other structures by the tumor was due to the fact that the tumor mass had a fibrous coating, contributing to a surgical removal safely and without risk of leaving neoplastic tissue residues. The histopathological examination was more efficient in the diagnosis, in relation to the cytopathology, detailing the architecture of the neoplastic process, evidencing better the cellular types differentiation and aiding the tumor diagnosis and monitoring. Thus, the case showed that although the disease evolutionary stage was advanced, it was still possible to obtain a positive return during the animal's follow-up.

Key words: adenocarcinoma, neoplastic tumor, cystic, removal.

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Neuronal necrosis in a giant anteater (*Myrmecophaga tridactyla*) associated to prolonged hypoglycemia

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Background: Studies show that marked hypoglycemia (< 18 mg/dL) results in severe neurological symptomatology in humans, rats, mice, rabbits, cats, dogs, and monkeys, including seizures, coma or even death, usually with irreversible brain damage. Investigations detailing neuropathological aspects in giant anteater (*Myrmecophaga tridactyla*) are rare in the literature. **Case Report:** An adult, female anteater, from the Brasilia city's Zoo, was found in a semi-comatose state, recumbent and presenting convulsions. Hypothermia, hypoglycemia (10 mg/dL), and cachexia were evidenced. Oxygen therapy, control of hypoglycemia, and treatment with hepatic protector and multivitamin were done. Improvement in the state of consciousness was observed, however, there was no reversal of hypothermia and hypoglycemia. The animal died after a day of clinical course. **Results:** Grossly, discrete cachexia, mucous adjacent to mouth, pulmonary edema, and petechial hemorrhage and esophagus and oropharyngeal mucosa mild hyperemia were observed. In the brain histopathological analysis, segmental, laminar, and cortical neuronal necrosis was observed in the parietal cortex. This lesion was characterized by eosinophilia and cytoplasmic shrinkage, as well as by pyknosis, absence or pallor of the nuclei. In addition, there were moderate multifocal hemorrhagic catarrhal bronchitis and bronchiolitis, moderate multifocal membranoproliferative gromeluronephritis, marked hepatocellular hemorrhage, marked lymphoid atrophy in the spleen and discrete multifocal lymphohistiocytic glossitis. **Conclusions:** Based on anatomopathological evaluation, the animals's death was attributed to respiratory failure and neuronal necrosis. This last alteration probably occurred secondary to prolonged hypoglycemia, as observed in other species. The neurological lesions were compatible with the clinical condition.

Key words: neuropathology, wild animal, Xenarthra.

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Metastatic uterine adenocarcinoma in a *Leopardus colocolo*

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Background: Endometrial adenocarcinoma is an uncommonly diagnosed neoplasm in domestic animals. Clinical diagnosis is difficult due to the absence of early signs and can be confused with pyometra. This neoplasm is more commonly observed in cows and rabbits, with occasional few cases diagnosed in felines. **Case Report:** A 12 years-old, female *Leopardus colocolo*, at Goiânia city's Zoo, presented a clinical history of loss of appetite and apathy. An ultrasound exam indicated suspicion of uterine neoplasia and pyometra. During surgery, an uterine mass was collected and samples were submitted to histopathology. The animal died two days later. **Results:** Necropsy revealed additional nodules in the lungs, ureter, liver, abdominal lymph nodes, spleen and left cranial lobe of the lung. Samples of neoplastic nodules in the lung, lymph nodes, and ureter were collected and fixed in 10% formalin. In addition, there was pulmonary congestion, evident lobular pattern in the liver, hydronephrosis of the left kidney, mildly icteric mucous membranes, and fibrous membrane in the dorsal region adhered to the uterus. Histologically, the uterine tumor presented irregular, unencapsulated, invasive features that expanded and infiltrated the endometrium. The cells were arranged in irregular acini and mantle and were supported by scarce fibrovascular stroma, with moderate pleomorphism, anisocytosis and anisocariasis. The nodules noted in the lung, ureter and lymph node were histologically identical to those of the uterus, indicating metastasis. In addition, the left kidney presented marked multifocal membranoproliferative glomerulonephritis, marked glomerulosclerosis and diffuse tubular atrophy. **Conclusions:** Based on the anatomopathological findings, metastatic uterine adenocarcinoma was diagnosed. Probably, the hydronephrosis in the left kidney was secondary to the neoplastic compression exerted on the ureter. Based on a review of the literature, this is the first report of uterine adenocarcinoma in a Pampas cat.

Key words: uterus, genital system pathology, Pampas cat.

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Benign ovarian teratoma in a female dog

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Background: Ovarian teratomas are neoplasm characterized by the presence of different structures of the ovary in their composition. Although of rare incidence, it can affect young female dogs. It can be benign or malignant. The benign form is the most common one. The diagnosis is made by histopathological test. **Case Report:** The present report describes a Belgian Shepherd young female dog attended at Dr. Halim Atique Veterinary Hospital for elective ovariohysterectomy. During the surgical procedure the right ovary growth and the presence of cysts were observed and the presence of bristle in the cut was noted interlacing the parenchyma. The uterus, uterine horns and ovaries were sent for further histopathological analysis. **Results:** Macroscopically the right ovary was observed measuring 3.2 x 3.0 x 2.7 cm with lobular surface. In the cut, cystic areas were observed containing translucent liquid inside and firmer areas, with a protruding surface, coloring varying from white to grayish and brown focal areas. There was presence of hair inside the ovarian parenchyma. The other structures did not show important macroscopic changes. Microscopically the left and right uterine horns had endometrial hemorrhage and in the right uterine horn there was a discrete hyperplasia of endometrial glands. In the right ovary there was a marked presence of hair follicles, many of them dilated and with keratinocytes and hairs in the interior, moderate presence of pilosebaceous glands, multifocal and extensive areas containing myxoid matrix, where amorphous, basophilic and finely fibrillar material was observed, besides multiple large foci containing bone and cartilaginous matrix. **Conclusions:** During the histological examination, due to the differentiation degree of the analyzed tissue cells, containing different structures to the ovary and the absence of metastasis, right unilateral benign ovarian was diagnosed.

Key words: embryonal neoplasm, female dog, female gonad, histopathology.

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Non-infiltrative angiolipoma in a dog: a case report

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Background: Mesenchymal soft tissue tumors originating from adipose tissue have a wide spectrum of clinical presentations and imaging appearances. Angiolipoma, a variant of lipoma containing clusters of branching blood vessels, is a well-known entity recognized in humans but only occasionally reported in dogs. Angiolipoma occurs as an encapsulated slow-growing subcutaneous mass with a predilection for the trunk area. Sex and breed predisposition are not reported in dogs. Angiolipoma pathogenesis remains obscure, although a traumatic hypothesis was postulated in humans. Histologically, these tumors contain well-differentiated fatty tissue proliferation intertwined with clusters of branching blood vessels. **Case Report:** A 2-year old, mixed-breed, female dog was admitted to a Veterinary Clinic in the State of Rio de Janeiro, Brazil, presenting a 2.3 x 1.9 x 0.6 cm nodular thoracic lesion embedded in a fatty tissue. An excisional biopsy was performed and the tissue sample was fixed in a buffered 10% formalin solution, processed routinely and stained with Haematoxylin and Eosin (HE). **Results:** Grossly, the tumor was a soft, solid, and light yellow mass with multiple black dots on the cut surface. Histopathological evaluation showed a well- differentiated proliferation of mature adipocytes intertwined with clusters of branching blood-filled vessels lined by otherwise normal endothelial cells. **Conclusions:** Clinical and pathological features were consistent with a benign fatty tumor and enabled the diagnosis of angiolipoma. To our knowledge, angiolipomas are still rare in Veterinary Medicine and deserve more attention from the scientific community.

Key words: canine, vascular, adipocytes.

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Skin fragility syndrome in a cat with hepatic disease: a case report

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Background: Skin fragility syndrome or cutaneous asthenia refers to a rare group of cats' hereditary and acquired collagen disorders characterized by tissue fragility and hiperextensibility. Acquired cutaneous asthenia is a multifactorial condition where previously normal adult cats develop a striking skin breakability, commonly secondary to hepatic diseases, such as lipidosis and cholangitis. **Case Report:** A 4 year-old, mixed- breed, male cat was referred to a Veterinary Clinic in the State of Rio de Janeiro, Brazil, presenting multifocal and ulcerative skin lesions on the abdomen and limbs. **Results:** On physical examination, cutaneous tissue was breakable and easily damaged (skin fragility and distensibility). Biochemical values revealed increased aspartate transaminase (472U.I./L), alkaline phosphatase (241,2U.I./L), total proteins, total bilirubin (3,4mg/dL), direct bilirubin (1,88mg/Dl), and indirect bilirubin (1,52mg/dL) levels. A skin specimen measuring 1.5 x 0.6 x 0.3 cm was obtained from an incisional biopsy and fixed in a tamponed 10% formalin solution. The sample was processed routinely and stained with Hematoxilin-Eosin and Masson's trichrome. Microscopic evaluation showed severe epidermal atrophy; small and uniform pilosebaceous units; collagens fibers irregularly sized and haphazardly oriented, mild hypertrophy of piloerector muscles, mild and multifocal lymphocyte inflammation on the superficial dermis, and discrete edema. Masson's trichrome enhanced the collagenous changes. **Conclusions:** Clinical, laboratorial, and pathological findings were consistent with acquired feline skin fragility syndrome. Once treatment is palliative, prophylactic measures were suggested to prevent further traumatic lesions.

Key words: disease, hyperextensibility, feline.

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Activity of Indometacina associated with Mesoporous silica nanoparticle against amendments in stomach, liver and kidneys

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Background: The use of non-steroidal anti-inflammatory drugs is common in human and veterinary medicine; however, continued use can lead to problems such as gastrointestinal ulceration. A solution is the conjugation with nanoparticles for its bioconjugation ability with different molecules with greater effectiveness and less collateral effect. **Objective:** Investigate the toxic effect and changes in stomach, liver, kidneys induced on the administration of indomethacin 10 mg/kg associated with mesoporous silica nanoparticle. **Methods:** Investigation of the toxic activity was performed with the open field trial in mice in order to assess lethargy, salivation or other changes. Under the gastrointestinal effect, gastric abnormalities were evaluated through macroscopic pathology (score system described by Appleyard and Wallace, 1995), occult blood in the stool due to the possibility of ulcerations, renal and hepatic biochemical profile in rats, 5 hours after treatment. **Results:** No toxic effect was evidenced in the open field test, with no obvious signs. The scores observed on the stomachs macroscopic evaluation were 0.27 to negative control, 0.75 to indomethacin 10 mg/kg and 0.3 to indomethacin 10 mg/kg associated with nanoparticle. For stool occult blood assay, blood was observed in 41.7% to indomethacin alone compared to 30.0% to indomethacin associated with nanoparticle. Renal function analysis through urea and creatinine dosage did not show difference in comparation with negative control, on other hand, in liver function, there was alteration of ALT level in comparation with negative control exhibited only to indomethacin 10 mg/kg. AST levels did not present significant alterations of the negative control. **Conclusions:** Indomethacin associated with mesoporous silica nanoparticle was considered safe for use by these protocol assays, with no changes in the stomach, liver and kidney region, showing the effectiveness of the nanotechnology use.

Key words: nanotechnology, nanomedicine, pathology, inflammation, anti-inflammatory.

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Oral lesions in dogs with visceral leishmaniasis

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Background: Canine visceral leishmaniasis (CVL) is an important zoonotic disease, which is endemic in Brazil and several other parts of the World. The disease may affect multiple organs, but lesions in the oral cavity are considered uncommon. **Objective:** The goal of this study was to describe clinical, pathological, and molecular findings in six dogs with exclusively oral manifestation of visceral leishmaniasis. **Methods:** A retrospective study including 147 cases of inflammatory lesions in the dogs' oral cavity was performed between January 2015 and July 2018. These cases were selected from the files of *Laboratório Histopato-Análise Anatomopatológica Veterinária*, and *Laboratório de Diagnóstico Patológico Veterinário* (LDPV) at Universidade de Brasília (UnB), Brazil. All samples were fixed in 10% buffered formalin for 24 hours, processed for paraffin embedding, and sections were stained with hematoxylin and eosin. **Results:** Twenty-three cases of oral lesions compatible with CVL were diagnosed. Six of those cases were confirmed to be CVL based on histopathology, immunohistochemistry, and PCR amplification of *Leishmania* (*L.*) *infantum* kDNA. Most of the affected dogs were older than 9 years, mixed-breed, and asympthomatic. There was no association of the disease with gender or season. The most important gross findings included ulcerated nodular lesions on the tongue, lip, gingiva, and hard palate. The most important microscopic changes included an inflammatory process ranging from lympho-plasmacytic to granulomatous, diffuse, moderate to severe, and ulcerated. **Conclusion:** These results support the notion that CVL should be considered in the differential diagnosis of nodular and ulcerative oral lesions in dogs.

Key words: *Leishmania* (*L.*) *infantum*, dogs' diseases, immunohistochemistry, PCR, stomatology.

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Leydigocytoma: case report

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Background: Leydigocitoma is a Leydig cells tumor, which are benign and with little metastatic potential. Due to changes in the structure and temperature of the testis, there may be a decrease in spermatogenesis, affecting the fertility. Diagnosis is made by clinical or pathological examination. The affected animals may present behavioral changes due to androgens exacerbated production. **Case Report:** The left and right testicles were referred to the Department of Pathology FCAV-UNESP, of a seven-year old mixed breed dog submitted to elective castration. The testicles did not present external macroscopic alterations, but at the cut surface, one of them had a rounded, yellowish, central and well delimited nodulation, which measured 1.0 cm diameter. **Results:** Histopathological nodulation analysis revealed neoplastic proliferation of Leydig cells, with high cellularity, poorly demarcated, unencapsulated and infiltrative growth. The cells were distributed in mantles interspersed by discrete fibrous stroma. Individually the cells had indistinct shapes and boundaries with broad, eosinophilic and sometimes vacuolated cytoplasm, oval hypochromatic and central nuclei, with finely clustered chromatin and unique and evident nucleoli. There were significant anisocariasis and cariomegaly. Two mitotic figures were observed in 10 large magnification fields. The presence of neoplastic cells inside blood vessels and foci of neoplastic infiltration in the epididymis and seminiferous tubules adjacent to the tumor were also observed. **Conclusions:** Most interstitial cell neoplasms occur in elderly animals and have low malignancy. However, in this case the malignancy was based on infiltration in adjacent tissues and tumor embolism in blood vessels, indicating the possibility of metastasis to distant sites.

Key words: neoplasm, testicle, leydig cell tumor.

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True hermafroditism in dog: case report

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Background: Hermaphroditism can affect any species, causing the animals to exhibit ambiguous sexual characteristics and is classified as true hermaphrodite or male or female pseudohermaphrodite. In true hermaphroditism, the diagnosis is only confirmed by the histological detection of ovarian and testicular tissue in the gonad. **Case Report:** A piece of the genital tract was referred for analysis from a 12-year-old female Yorkshire. **Results:** In the macroscopic analysis two rounded structures was observed, one being yellowish white and measuring 3.2x2.5x2.2 cm. In the microscopic analysis there was a tissue that resembled testis with neoplastic proliferation composed of cells intratubular proliferation that were similar to Sertoli cells. These cells are loosely arranged in palisade in intratubular formations. The cells have elongated forms with indistinct boundaries, the cytoplasm is dense and eosinophilic, the nuclei are small and rounded with coarsely chromatin. No mitotic figures were observed in 10 large magnification fields. The other structure had a smooth outer surface and measuring 1.8 x 0.8 x 0.6 cm. At cut surface, it was heterogeneous with cystic area, and microscopic analysis showed a thick wall of fibrocolagenous tissue, well vascularized, containing in the central portion multiple cystic formations, filled with hyaline content. The structure was delimited by cells of indistinct shapes and borders with flattened simple epithelium, eosinophilic cytoplasm, nuclei are normochromatic and central and with inconspicuous nucleoli (interstitial glands), characterizing rudimentary ovarian polycystic tissue. **Conclusions:** The histopathological findings led to the diagnosis of true hermaphrodite, due to the presence of ovarian tissue and testis with Setoli cell tumor.

Key words: intersex, ambiguous sexual characteristics, canine.

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Hematology and seric eletrophoresis proteinogram in positive leishmaniasis dogs

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Background: Visceral leishmaniasis (VL) is a chronic disease existent all over the world. It can attack humans, dogs and wild animals. Most of hematologic alteration in attacked dogs are hyperproteinemia, hyperglobulinemia, hypoalbuminemia, anemia, thrombocytopenia, proteinuria and azotemia. **Objective:** The aim of this study was to determine changes in serum total protein concentration and fractions by electrophoresis method in dogs attacked by VL. **Methods:** 15 natural infected dogs from LV endemic area were studied, the diagnosis was performed by popliteal limph node biopsy by needle puncture and aspiration, and serology by ELISA. Blood was collected from jugular vein was and processed to obtain serum that was employed for the electrophoresis to obtain complete proteinogram. **Results:** The most important blood changes were anemia 40% (6 of out 15 dogs), thrombocytopenia 80% (12 of out 15 dogs), leukocytosis 13,33% (2 out of 15 dogs), leukopenia 13,33% (2 out of 15 dogs), proteinuria 60% (9 out of 15 dogs), hyperproteinemia 66.66% (10 out of 15 dogs), hypoalbuminemia 100% (all dogs), hyperglobulinemia 93.33% (14 out of 15 dogs) and decrease of albumin: globulin ratio 93.33% (14 out of 15 dogs). In globulin fraction, increase in gamma globulins was observed, what is called polyclonal gammopathy. **Conclusions:** The gamma globulins increase in VL infected dogs is related to polyclonal antibodies productions, what promotes a humoral answer and contributes to albumin: globulin ration decrease. These results confirm that the most important findings in chronic infected dogs are related to hypergammaglobulinemia.

Key words: canine visceral leishmaniasis, *Leishmania infantum chagasi*, hematologic alteration, polyclonal gammopathy.

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Benign mixed tumor of mammary gland in a female dog – case report

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Background: Mammary tumor is the most frequent neoplasia in female dogs. The benign mixed tumor is one of the neoplasm that may occur in the mammary gland. It is composed by epithelial and myoepithelial proliferation with focus of mesenchymal cells, that can be associated with cartilage, bone or adipose tissue. The adenomas are benign tumors that arise from secretory cell epithelium and they are the most common type of mammary tumor in female dogs. The aim of this work was to report a case of benign mixed mammary gland tumor in a canine. **Case Report:** A 12-year-old, female dog was attended at the veterinary hospital at Federal Rural University of Amazonia for removal of the mammary gland. The owner reported that contraceptive was applied twice during its life. Additionally, the animal got pregnant before, however the animals born dead. After the procedure, the material was referred to the veterinary pathology laboratory in the same university. **Results:** Grossly, partial mammary gland was received, containing the abdominal and inguinal breasts, measuring, approximately, 16 cm in length. It presented nodulation, measuring 8.0 x 7.0 x 5.9 cm, with firm and hard areas, irregular surface with ulceration measuring 0.5 x 0.6 cm. The cut surface was irregular, had whitish color besides consistency similar to the previously described. In addition, it had few areas of yellowish color and fibroelastic consistency. Microscopically, trabeculae neoformation was described with typical chondroblasts and several degrees of mineralization, with tubular formations in distinct and isolated clusters. The cells were homotypic and had in situ growth. In some areas, the fibrous tissue was predominant in conjunction with mineralization areas. **Conclusions:** The gross and microscopic findings are consistent with adenoma in mixed mammary gland tumor in a female dog.

Key words: benign tumors, canine, reproductive tract, histopathology.

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Fibrous osteodystrophy secondary to juveline nephropathy in a 1-year-old French Bulldog

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Background: Renal dysplasia is a congenital condition described as an abnormal development of renal parenchyma during nephrogenesis leading to chronic kidney disease (CKD). Renal dysplasia has been reported in different breeds of dogs, but not in French Bulldogs. Parathyroid gland hyperplasia and subsequent hyperparathyroidism is a common finding in chronic renal failure and results in significant alterations in calcium metabolism leading to fibrous osteodystrophy. **Case Report:** A 1-year-old, male, French bulldog with no previous family history of renal disease had been presenting signs consistent with CKD for the past 8 months. Owners opted for the euthanasia due to the severe and worsening lesions of fibrous osteodystropy in the dog's maxilla and jaw. **Results:** Blood tests to evaluate the renal function confirmed the end-stage kidney disease exhibiting high levels of calcium- 5,6mg/dL (ref.:3,1-5,1), creatinine - 7,3mg/dL (ref.:0,5-1,4), urea - 362,4mg/dL (ref.:10-40), a severe proteinuria -1.7(ref.:<0,4), and a persistent hyperphosphatemia - 12,8mg/dL(ref.:2,6-6,0). Grossly, the maxilla and jaw were soft, with edematous areas surrounding the upper premolar teeth. Both kidneys were firm, pale, and pitted surfaced. The capsule was thickened and difficult to remove from the cortex due to adhesions. Left kidney was smaller compared to the right one. On the cut surface, it was noted a thinned cortex and a round, depressed area filled with clear liquid in the right kidney. Histologically, normal compact bone had been replaced by loosely arranged fibroblasts and collagen bundles admixed with numerous, irregular, thins spicules of woven bone lined by variable numbers of osteoblasts. Mineralization areas were seen in the aorta, kidneys, and lungs. The kidney and spleen were severely infiltrated with lymphocytes, plasma cells, and neutrophils. Glomeruli often exhibit segmental increase in mesangial matrix with obliteration of capillary lumina progressing to shrunken, periglomerular fibrosis, and mineralization. **Conclusions:** Epidemiological and pathological findings supported the diagnosis of renal dysplasia and fibrous osteodystrophy.

Key words: azotemia, calcium, dogs, congenital.

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Disseminated mycosis in a German Shepherd

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Background: The disseminated mycosis is a relatively uncommon but potentially fatal disease in dogs and its agent spreading occurs through hematogenous route to different organs. The main etiological agent is *Aspergillus spp* (mainly *A. terreus* and *A. deflectus*) to which animals and humans are continually exposed. The disease most commonly affects German Shepherd dogs, probably due to flaws in the immune response associated with genetic factors. **Case Report:** A male dog, German Shepherd, 3 years old, presented pelvic limb ataxia, splenomegaly, hematuria in clinical examination and azotemia in biochemical dosage. Diagnosis of spondylitis disc was given based on resonance imaging test requested by the neurologist. The animal died after two months of clinical signs onset and was referred for necropsy. **Results:** Necropsy examination revealed enlarged spleen and kidneys presenting white nodules, sometimes coalescing and well delimited. Volume increase in the T1 vertebra showing white to brown coloration and porous surface. The heart was globose with circular multifocal white areas on the myocardium and the mitral valve showed thrombus. Axillary, superficial cervical, mediastinal and mesenteric lymph nodes showed increased volume and white and gray color at cut. In the histological examination, large and multifocal areas of necrosis, associated with inflammatory piogranulomatous infiltrate and large negative images of septate and branched fungal hyphae were observed in the lymph nodes, heart, mitral valve, kidney, spleen and vertebrae, evidenced strongly by special Grocott staining. **Conclusions:** Based on the macroscopic and microscopic findings associated with the animal's clinical history, the diagnosis of disseminated aspergillosis is suggested. Aspergillosis, although rare, is common in young German Shepherd dogs and should be taken in consideration in cases with nonspecific clinical signs or related to musculoskeletal, urinary and nervous systems.

Key words: *Aspergillus*, fungal disease, systemic aspergillosis.

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Bone marrow fat in oligo/asymptomatic and multisymptomatic dogs with visceral leishmaniasis

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Background: Oligo/asymptomatic dogs (OLIGO) with visceral leishmaniasis (CVL) present no apparent clinical signs or discrete signs of the disease, while multisymptomatic dogs (MULTI) present visible and varied organic changes. The bone marrow fat atrophy (BMF) is caused concomitantly with fat loss and body muscle mass in animals with severe emaciation, common in dogs with CVL. **Objective:** To establish a parameter to relate the amount of BMF to clinical signs in CVL. **Methods:** Thirty-nine dogs with CVL positive diagnosis from Araçatuba/SP were divided into two groups: 25 multisymptomatic (MULTI) and 14 oligo/asymptomatic (OLIGO). 11 controls (CONT) were used. The whole bone marrow was harvested from long bones and homogenized to measure the mm of fat in a 15-mL tube, using 3g of bone marrow in 8mL of distilled water. **Results:** In MULTI, it was possible to observe BMF macroscopic scarcity, however there is subjectivity of the gross examination. The BMF measurement at supernatant allows a quantitative evaluation of the nutritional status of an animal. The amount of BMF in MULTI was 1.6mm, lower and significantly different ($p<0.05$) than those observed in OLIGO (4.0mm) and CONT (5.5mm), with no difference ($p<0,05$) between the last two groups. **Conclusions:** The quantification of bone marrow fat may be a parameter used to stablish emaciation in cases of dogs with CVL under precarious body conditions.

Key words: *Leishmania* spp., emaciation, cachexia.

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Intra-erythrocyte crystals in feline

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Background: The presence of crystalloid structures in erythrocytes is described as haemoglobin (Hb) crystals. These crystalloid structures are occasionally recognized in blood smears of cats, dogs, and often in llamas and alpacas. In humans, the formation of these structures inside red blood cells is mainly associated with haemoglobin C disease. **Case Report:** A female, adult and castrated feline was treated at the Veterinary Hospital of the Uberlândia Federal University. The animal had only with upper respiratory tract disease and did not present hematological alterations compatible with any type of anaemia. **Results:** In blood smear examination, rectangular and square crystalloid structures were observed inside the erythrocytes suggesting hemoglobin crystals. The haemoglobin electrophoresis revealed two bands, Hb A and Hb F, corresponding to human Hb B and feline Hb A respectively, previously reported in the literature. **Conclusions:** Hb C was not confirmed as a cause of haemoglobin crystals formation in domestic felids. No hemoglobin variant was detected in the electrophoretic tests to justify the formation of these crystals.

Key words: haemoglobinopathy, haemoglobin C, electrophoresis.

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Brachyspira spp. diagnosis in broiler chickens by fluorescence in situ hybridization

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Background: Genus *Brachyspira* corresponds to a group of bacteria previously classified into genus Serpulina and includes several commensal and pathogenic intestinal spirochetes. In poultries, some pathogenic species of this genus cause a disease known as avian intestinal spirochetosis, leading to severe losses that are still sub-diagnosed. *Brachyspira* has the characteristic of fastidious growth. Because of that, application of fast and efficient identification techniques are necessary. **Objective:** The objective of this study was to identify *Brachyspira* spp, by using fluorescent in situ hybridization (FISH) technique in formalin-fixed samples of cecum from broiler chickens. **Methods:** Samples were collected from 129 broiler chickens aged between 35 and 45 days old. To evaluate, 10% formalin fixed fragments of cecum were included in paraffin and sectioned in five microns on previously silanized slides for FISH. Labeled probes were used to *Brachyspira* spp, *Brachyspira pilosicoli*, *Brachyspira hyodysenteriae*, and *Brachyspira intermedia* for the FISH technique. **Results:** Of the 129 samples 86 were positive in FISH. Samples with positive Brachyspira specimens in the FISH technique were tested for B. pilosicoli, B. hyodysenteriae and B. intermedia, in which 56 samples were B. pilosicoli positive, 75 were B. hyodysenteriae positive, and 80 were B. intermedia positive. In 82 samples there was mixed infection by more than one tested species. There was frequent detection of the agent in the lumen of the intestinal crypts and in close association with the intestinal mucosa. There were also marks on the top of the villi forming "false brush border" and free spirochetes in the intestinal lumen. Sometimes in the submucosa *Brachyspira* was noted in association with GALT. **Conclusions:** This is the first report of FISH use in Brachyspira species in avian. The technique was effective to identify these Brachyspiras species, thus serving as a fast and efficient tool for diagnosis.

Key words: avian spirochetosis, diagnosis, fluorescent in situ hybridization.

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Exposure to a fipronil non-lethal dose increases anxiety, reduces the social interaction and the sexual preference and cause injury the gills in zebrafish

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Background: Fipronil (FPN) is a phenylpyrazole insecticide used in veterinary services and agriculture, and it is of considerable concern to public health. It inhibits the chloride channels associated with gamma-amino butyric acid receptors in mammals and also inhibits the chloride channels associated with GABA and glutamate receptors in insects. Although FPN is often used in or near aquatic environments, few studies have assessed the effects of this neurotoxicant on aquatic vertebrates. **Objective:** To investigate the neurotoxicity of acute exposure to a non-lethal dose of FPN and in gills zebrafish histology. **Methods:** The FPN acute non-lethal dose was calculated after one h of exposure. The fish were exposed to this dose and the general activity, anxiety-like behavior, social interaction and sexual preference assessed and the gills histology examined. **Results:** in relation to control group an increased frequency and time in the water surface, tremors and erratic movements were observed; 2) the non-lethal dose after exposure for one h was 0.5 µg/L. Exposure to this lethal- dose, increased the anxiety-like behavior by reducing the time in the dark compartment in a clear/dark aquarium increasing the immobility. A reduced social preference was observed in zebrafish exposed to FPN while the control group remained in the side of the aquarium with other fish. The sexual preference was also reduced by FPN exposure because fish remained in the neutral compartment. The histological analysis in gills revealed the presence of mucosal cells, cellular infiltration rich in eosinophilic granular cells, detachment of the lamellar epithelium and presence of rodlets cells. **Conclusions:** This study suggests that exposure to FPN induced neurotoxicity and gills injuries in zebrafish.

Key words: fish, behavior, pesticide, toxicity.

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Ivermectin impairs sexual performance but enhances 50 KHz ultrassonic vocalization in sexually experienced male rats

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Background: This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001. Ivermectin (IVM) is a human and veterinary antiparasitic drug which is one of the most widely used in the world. Studies of our group have revealed several behavioral and neurochemical impairments induced by therapeutic doses of ivermectin in adult rats. This drug is an agonist of chlorine channels, therefore in invertebrates causes paralysis due to hyperpolarization when opening such channels, while in vertebrates it interacts with GABAergic receptors. GABA is an important neurotransmitter which modulates the sexual behavior. It has been shown previously that ivermectin is responsible for reducing sexual behavior to the detriment of impairment in motor coordination. **Objective:** To distinguish the ivermectin effects on motor function and sexual motivation through 50 Khz ultrasonic vocalizations (USV) emitted in appetitive stimuli as sexual behavior. **Methods:** Fourteen male and six female rats previously subjected to sexual experience were used. IVM was administered subcutaneously at the dose of 1.0 mg / kg and 1 drop / 1ml of 0.9% NaCl in the control group. Twenty-four hours after the treatments, the males were exposed to a female in physiological estrus. The latency to the first mount and the 50 USVs were evaluated. **Results:** An increased latency to the first mount was observed in IVM treated rats while increased number and maximal USVs were detected compared to control group. **Conclusions:** Indeed, these results corroborate the hypothesis that ivermectin impairs motor coordination during sexual behavior, USVs data suggesting an increased sexual motivation.

Key words: avermectins, sexual motivation, motor incoordination.

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Neurolymphomatosis in a cat

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Background: Neurolymphomatosis is an uncommon condition observed in several species (including humans, domestic dogs and cats and equine), characterized by neural neoplastic lymphocyte infiltration. This condition is acknowledged by selective involvement of some spinal nerves and nerve roots with minimal lesions in the central nervous system, without detectable extraneural systemic lymphomas or leukemia. **Case Report:** A male feline, undefined breed, was attended with a progressive weakness and lameness without sensibility and reflex in the left thoracic limb. Computed tomography showed increased nerve volume in the brachial plexus and the animal underwent biopsy with removal of a nerve fragment, measuring 3.2 x 0.5 x 0.3 cm. **Results:** In the histological analysis, a nerve fragment showing intraneural and epineural infiltration by neoplastic lymphocytes was observed. The cells showed scarce cytoplasm, round and sometimes cleaved nuclei, coarse chromatin and evident nucleoli. They exhibited high nucleus / cytoplasm ratio, discrete anisocariosis and about 4 mitoses in 10 fields of higher magnification (40X). On the adjacent connective tissue, there was multifocal infiltrate of lymphocytes. Immunohistochemistry was positive for CD3 and negative for CD20 and PAX5, with a proliferative index of 95% by KI-67 labeling. **Conclusions:** Based on clinical data, histopathological findings and positive immunohistochemical labeling for CD3, the diagnosis of neurolymphomatosis caused by T-cell lymphoma was detected.

Key words: feline, lymphoma, histology, immunohistochemistry.

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Tumors in rabbits: a 25-case report

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Background: Neoplasia is less common than infectious diseases in lagomorph. However, house rabbits are growing in popularity and consequently the number of neoplastic lesions diagnosed in this species. **Case report:** Pathological aspects of 25 tumors in rabbits were evaluated. Data were retrieved from a retrospective survey conducted on the Anatomic Pathology Sector of the Federal Rural University of Rio de Janeiro (SAP/UFFRJ), from 1953 to 2018. **Results:** Twenty-five lagomorph specimens were received by the necropsy (n=18) and biopsy (n=7) service of the Federal Rural University of Rio de Janeiro. A total of 24 were from New Zealand rabbits and 1 from a Vienna Blue rabbit. Diagnoses were made by gross and histological examination on twenty-five lagomorph. Morphological diagnosis, anatomical tumors locations in lagomorphs and their respective metastatic sites are given in Table 1. **Conclusions:** Hepatocellular carcinoma and lymphoma were the most common tumors found in our study.

Table 1. Anatomical locations of the proliferations diagnosed in lagomorphs and their respective metastatic sites.

Morphological diagnosis	Anatomic site per tissue	Metastasis	Total (25)	%
Hepatocellular carcinoma	9 liver	4 lungs 1 kidney 1 ovary	9	36
Lymphoma	3 skin 1 kidneys	-	4	16
Adenoma	1 uterus	-	1	4
Adenocarcinoma	1 kidney	-	1	4
Hemagiosarcoma	2 skin	-	2	8
Neurofibroma	1 skin	-	1	4
Fibrosarcoma	1 skin	-	1	4
Osteosarcoma	1 appendicular	Liver and lungs	1	4
Embryonal nephroma	1 kidney	-	1	4
Chondrosarcoma	1 no data	-	1	4
Amelanotic melanoma	1 skin	-	1	4
Leiomyoma	1 uterus	-	1	4
Adenocarcinoma	1 uterus	-	1	4

Key words: neoplasia, lagomorph, retrospective survey.

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Supernumerary nostril in a calf: a case report

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Background: A number of different congenital defects are known to occur in domestic cattle. Craniofacial abnormalities are frequently reported in calves and are commonly associated with Bovine Viral Diarrhea virus (BVDV) infection. **Case Report:** A male, mixed-breed calf born in a farm located in Volta Redonda municipality, RJ, had a congenital extra orifice (supernumerary nostril) in the nasolabial fold. The calf died two weeks after birth with signs of respiratory distress consistent with pneumonia. **Results:** A cranial skin and regional muscle dissection showed the extra orifice was connected to the nasal septum. The structure was conical shaped and close-ended along the nasal septum wall. Nasal septum remained unaltered. Supernumerary nostril was 2.2 cm in diameter and 5.7 cm in depth. Palatal ridges were bilateral incomplete and failed to reach the medial sagittal plane (lack of palatine raphe). Additionally, the calf developed a 9.1 cm double cleft palate arising from the hard palate, extending to the soft palate, and deepening bilaterally towards the choana. Necropsy confirmed the craniofacial lesions and revealed a lobar pneumonia. Reverse Transcription Polymerase Chain Reaction (RT-PCR) was negative for bovine pestivirus. Virus neutralization test was positive for Bovine Viral Diarrhea in the calf's mother. **Conclusions:** Positive results for BVDV in the mother suggested a vertical transmission, although the calf itself was negative for the virus. Supernumerary nostril is a rare cattle congenital defect.

Key words: craniofacial abnormalities, bovine, accessory nostril.

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Concomitant ocurrence of multicentric hemangiosarcoma and histiocytic sarcoma in a dog – case report

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Background: Histiocytic sarcoma (HS) is an uncommon malignant neoplasia of round cells, with marked predilection in Rottweiler and Bernese Mountain. The disseminated form, which affects mainly spleen, lungs, lymph nodes, bone marrow, skin and subcutis, presents a quick and aggressive clinical behavior. Hemangiosarcoma is a malignant neoplasm of endothelial vessels cells which is commonly reported affecting the right atrium of dogs heart. **Case Report:** A five-year-old male Rottweiler, presented flaccid paraplegia and progressive muscular atrophy in the temporal, masseter and limbs muscles; Biochemistry blood analysis presented high serum level of creatine kinase. Due to the animal clinical stage, euthanasia was conducted. **Results:** During necropsy several masses were noticed presenting different sizes, some of them were whitish and others were reddish and spread in multiple organs (lungs, heart, spleen, stomach, kidneys, brain, medulla, skeletal muscle and pre-scapular lymph node. Microscopically, in some organs as stomach, right ventricle, lungs and medulla proliferation of myeloid cells, highly cellular, with poor demarcation, non-encapsulated and with infiltrative growth pattern of cells with high pleomorphism was noticed. Several tumoral emboli in spleen, brain, skeletal muscle and lymph node were observed. These cells were submitted for immunohistochemistry and were positive for CD18 (SH) antibody. In the right atrium, liver and kidney a malignant and infiltrative endothelial proliferation (HSA) and emboli in medulla were observed. **Conclusions:** Therefore, it is concluded that both neoplasias (HS and HSA) provoke the animal´s paraplegia due to its emboli and metastasis in the medulla and skeletal muscle.

Key words: mesenchymal neoplasia, paraplegic, metastasis, round cells.

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Follicullar-compact thyroid carcinoma with metastasis in spleen in a dog -case report

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Background: Thyroid carcinoma is a malignant neoplasia derived from follicular cells proliferation and it is known by its various pleomorphism grade and high cellularity. Metastasis is reported in nearly 50% of dogs with this neoplasia, being reported mainly in lungs, cervical and retropharyngeal lymph nodes. These neoplasias are large and can lead to dysphagia and dyspnea. **Case Report:** An eight-year-old female boxer presented, during clinical exam, an increase of volume in the cervical region. The clinical exam also diagnosed hyporexia associated with tachypnea and apathy. Blood test indicated severe thrombocytopenia. Due to its poor condition, the animal died. **Results:** During the necroscopic exam it was noticed the nodule which was diagnosed during clinical examination. It was a firm, 7-cm diameter nodule, with no ulcer on the skin and next to submandibular gland. The morphological organs analysis showed a 3-cm, soft and dark focal mass in the spleen. Microscopically, a malignant neoplastic epithelial origin proliferation, highly cellular, non-encapsulated and presenting an expansive growth pattern in the left thyroid was seen. Cells were arranged in a solid and papillary pattern interspersed with a fine collagenous stroma. The cells were arranged in solid papillary arrays, interspersed by a delicate collagenous stroma. Individually, cells were rounded, with distinct limits and their cytoplasm were moderated, acidophilic and occasionally contained thin vacuoles and moderated pleomorphism. In the spleen a focal metastasis area of thyroid carcinoma was observed. **Conclusions:** The anatomopathological findings are compatible with thyroid carcinoma with metastasis in the spleen. The clinical signs are correlated with this neoplasia.

Key words: malignant neoplasia, follicular epithelium, cell pleomorphism, tachypnea, dog.

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Lymphomas in cats and the high correlation with feline leukemia virus (FeLV)

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Background: Lymphoma is the most important hemopoietic tumor in cats and has been associated with feline leukemia virus (FeLV) infection. In Brazil, until the beginning of this research, there were no studies establishing a correlation between FeLV infection and lymphoma. **Objective:** The aim of this study was to characterize lymphomas arising in cats in Brazil anatomically and microscopically, and to associate these data with FeLV infection. **Methods:** Fifty-three cats with lymphoma were evaluated. Lymphomas were classified according to anatomy into alimentary, cutaneous, hepatic, lymph node, mediastinal, multicentric, renal and splenic. The lymphomas histological classification was performed as established by the National Cancer Institute Working Formulation. IHC was performed using a primary anti-FeLV gp70 antibody. **Results:** Of the 53 evaluated cats, 50.94% (27/53) were female and 49.06% (26/53) male, 41.51% (22/53) were junior, 26.42% (14/53) prime, 5.66% (3/53) mature, 13.21% (7/53) senior and 3.77% (2/53) geriatric cats, and 9.43% (5/53) of unknown age. As for topography, 43.4% (23/53) were multicentric, 33.96% (18/53) mediastinal, 11.32% (6/53) renal, 5.66% (3/53) hepatic, 3.77% (2/73) lymph nodes and 1.89% (1/53) alimentary. The histological types were small noncleaved-cell (33.96%, 18/53), mixed diffuse (22.64%, 12/53), immunoblastic (15.11%, 8/53), lymphoblastic (11, 32%, 6/53), small lymphocytic (9.43%, 5/53), small cleaved-cell (3.77%, 2/53) and large cell lymphomas (3.77%, 2/3). Positivity for FeLV was observed in 56.6% (30/53) of the samples, equally distributed between the genders but predominated in junior and prime cats. The most strongly immunoreactive lymphomas were multicentric (56.52%, 13/23), mediastinal (66.67%, 12/18), renal (33.33%, 2/6), lymph node (100%, 2/2) and hepatic (33.33%, 1/3). There was no immunohistochemical labelling in alimentary lymphoma. **Conclusions:** The degree of association between lymphoma and FeLV infection in Brazil was higher than that found in other countries, demonstrating the need to prevent and control the factors associated with infection.

Key words: lymphocyte, neoplasm, infectious disease, immunohistochemistry.

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Feline leukemia virus (FeLV) as the primary causative agent of leukemia in cats

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Background: Leukemia are hematopoietic tumor originating from myeloid or lymphoid precursors in the bone marrow. These tumors are rare but occur more frequently in cats because of the association with the feline leukemia virus (FeLV). To the best of our knowledge, no studies conducted in Brazil to date analyzed the correlation between leukemia and FeLV in cats. **Objective:** The objective of this study is to perform a histopathological analysis of leukemia and evaluate the association between leukemia and FeLV infection in cats. **Methods:** This study was carried out from 2009 to 2017 and evaluated 37 cats with leukemia. The animals underwent necropsy, histopathology, and immunohistochemistry (IHC), performed using a primary anti-FeLV gp70 antibody. Descriptive analysis was performed, and the association between histological tumor type and FeLV infection was determined. **Results:** Male animals comprised 54.05% (20/37) and females 43.24% (16/37). Regarding the animals' life stage, 24.32% (9/37) were junior, 32.43% (12/37) were prime, 18.92% (7/37) were mature, and 10.81% (4/37) were senior. Myeloid leukemias occurred in 56.76% (21/37) of the cases, of which 57.14% (12/21) were acute myeloid leukemias (AML) and 42.86% (09/21) chronic myeloproliferative neoplasms (MPN). Lymphoid leukemias comprised 43.24% (16/37) of the cases, 93.75% of which were acute lymphoid leukemias (ALL) and only one chronic lymphocytic leukemia (CLL) (6.25%). Most (78.38%, 29/37) anti-FeLV gp70 IHC examinations of bone marrows with leukemia were positive. Regarding the positivity according to the type of leukemia, 77.78% (7/9) comprised NMP, 66.67% (8/12) AML and 86.67% (13/15) ALL, in addition to the single case of LLC. **Conclusions:** The results of this study indicated that the development of myeloid and lymphocytic leukemia in cats is strongly associated with FeLV infection, especially in young cats, highlighting the need to improve the FeLV infection control in the region.

Key words: bone marrow, neoplasia, myelopathy, hematopathology.

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Clinical and hematological avaliation of the mielosis eritremic in cats with feline leukemia virus

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Background: Feline leukemia virus (FeLV) is known to cause hematopoietic tumors in cats. Lymphoproliferative neoplasms are more common than myeloproliferative neoplasms. Erythroidmyelosis or acute erythroid leukemia is a myeloproliferative neoplasm, more common in cats and rare in dogs, which is characterized by the excess of erythroid precursors in the bone marrow and that must be present in the peripheral blood. **Case Report:** Three cats were attended between 2017 and 2018, two females and one male, age between 1 – 3 years. In all cases, the clinical findings were apathy, inappetence, splenomegaly and positive FeLV in immunochromatography test. **Results:** Two cats (♀ and ♂, both 2 year) had macrocytic normochromic anemia with polychromasia, anisocytosis and intense normoblastocytemia (52% and 158% orthochromatic erythroblast). The other cat (♀, 3 year) did not present hemoglobina (HB) and hematocrit (HCT) reduction (16 g/dL and 47%) but it was positive FeLV. After three months of clinical monitoring there was high counts of orthochromatics erythroblasts (286%) and basophilic (46%) with normocytic normochromic anemia (HB: 5,5 g/dL; HCT: 15,9%). The animal's condition was getting worse and it died. Abone marrow biopsy was indicated for all the cats, however the tutors did not accept the procedure. **Conclusions:** Based on the clinical, serological and hematology findings of the animals, it was possible to suspect of erythemicmyelosis,despite of not performing a bone marrow biopsy. One of the animals followed on three months had the hematologic disturbs intensified together with complicated clinical signs and developed to death. The bone marrow biopsy is very important for myeloproliferative disorder diagnosis and it is a challenge to study the prognosis and treatement of hematologic proliferations caused by FeLV.

Key words: feline, hematology, prognosis.

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Intravascular T-cell lymphoma in a dog: case report

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Background: Intravascular lymphoma is a lymphoid neoplasm confined to the blood vessels lumen, lacking leukemia and solid masses. This form is rare and difficult to diagnose and is commonly associated with ischemic infarction. Secondarily, systemic clinical signs may occur, and neurological involvement is the most frequent. Thus, this tumor should be considered in the differential diagnosis of other encephalopathies. **Case Report:** An 8-year-old, 33 kg, mixed breed dog was referred for necropsy with a history of nonspecific neurological signs. Previous imaging studies were inconclusive and cerebral spinal fluid cytology indicated neutrophilic pleocytosis. The clinical suspicion was of granulomatous meningoencephalitis. **Results:** At necropsy, no significant changes were observed. In the microscopic analysis, tumor cells aggregates were observed obstructing the meningeal and nervous tissue vessels associated with interstitial edema, neurophagia, focal areas of infarction and hemorrhage. Individually, the cells present marked atypia, with high proportion nucleus:cytoplasm, with scant and eosinophilic cytoplasm. The nuclei are predominantly rounded and with unique and evident nucleoli. Moderate anisocytosis, anisocariasis and karyomegaly were also observed. Twenty mitotic figures were observed in 10 large magnification fields. Blood vessels containing these tumor cells were also observed in the stomach, spleen and adrenals. In immunohistochemistry, 90% of the neoplastic cells were positive for CD3. **Conclusions:** The morphological aspect of the tumor added to the immunophenotyping led to the diagnosis of intravascular T-cell lymphoma. The presence of these cells in several organs reinforces that, although the most common clinical sign are the neurological ones, intravascular lymphoma should be treated as a systemic disease.

Key words: encephalopathy, lymphoid neoplasm, oncology, immunohistochemistry.

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The immune privilege site of the claw region in dogs with visceral leishmaniasis

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Background: Visceral leishmaniasis is a systemic disease that leads to an immune imbalance in the organs it affects, and the nail bed is a site of immune privilege. Among the common skin clinical signs of dogs infected with *Leishmania* spp. are onychogryphosis, paronychia and chronic dermatitis. **Objective:** This study aimed to compare the lesions with the parasite load of the different regions of the canine digit, by immunodetection of MHC-II, IL-10 and TGF-β, in order to evaluate if the site of the claw matrix immune privilege favors the maintenance of local infection by *Leishmania* spp. and the onychogryphosis development. **Methods:** Digits of the thoracic limb of 15 naturally infected dogs were analyzed. In the immunohistochemical technique, the parasite load, MHC-II, IL-10 and TGF-β were analyzed. **Results:** The nail bed showed absence of inflammation and cellular marking by immunohistochemistry, except in animals that presented onychogryphosis, where some amastigotes were marked. The claw matrix epithelium stained positively for the cytokines IL-10 and TGF-β, and for MHC-II, even in the absence of a local inflammatory process. The most affected regions of the digit were the epidermis and dorsal and ventral dermis, located adjacent to the claw matrix, where inflammatory infiltrate and greater detection of the cytokines (IL-10 and TGF-β), MHC-II and high parasite load were observed. **Conclusions:** The immune privilege site of the claw matrix probably favors the maintenance of infection in the digits of dogs with visceral leishmaniasis, and onychogryphosis would be influenced by the inflammatory mediators released in the skin chronic inflammation adjacent to the claw matrix.

Key words: immune response, onychogryphosis, immunohistochemistry.

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Multiple primary tumors in dogs: a restrospective study of 58 cases in São Paulo

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Background: Multiple primary tumors (MPT) are characterized by two or more tumors histologically different or in different organs in the same individual. The mechanisms in the MPT development are unclear in dogs, therefore epidemiological studies can provide initial information to understand the process. Despite reports of individual cases in dogs, only a few studies have an epidemiological approach. **Objective:** To determine the prevalence of MPT in dogs presented to Oncology Service of Methodist Veterinary Hospital, between November 2016 and March 2018. **Methods:** From the medical records analyses cases were selected that received two or more distinct diagnoses of neoplastic disease, with histological or cytological confirmation, regardless of biological behavior. **Results:** During the study period, 751 dogs underwent to Oncology Service, with confirmed 58 cases of MPT (7.7 % of all dog cases). In contrast with a high casuistry of small breeds in the service (36%), large breeds stood out with 53% of cases diagnosed with MPT. The average age was 10.5-years-old, concentrating 44% of cases between 11 and 12-years-old. The most common tumors were the integumentary system, with lipoma (9.83%, n=17) and mast cell tumors (7.51%, n=13) overrepresented. In females associations stood out among the mammary gland tumors and in males testicular tumors associated with hepatoid gland tumors stood out. 67% (n=39) of the dogs with MPT were neutered after 1-year-old. **Conclusions:** This study shows the clinical importance of multiple primary tumors in dogs and suggests that geriatric dogs and large breed, as well as late neutered animals, are predisposed to develop more than one primary tumor.

Key words: canine, oncology, mast cell tumor, mammary gland.

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Aspergilosis in magellanic penguins (*Spheniscus magellanicus*) as an important limiting factor for the rehabilitation

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Background: Frequently penguins arrive on the Brazilian coast originating from several Southern Hemisphere areas and the death of many birds happens due to secondary respiratory infections and systemic treatment. Aspergillosis is framed in one of those major infections. **Objective:** The aim of this work was to investigate the *Aspergillus* sp. hyphae frequency in captivity magellanic penguins and its consequence for the rehabilitation. **Methods:** Organ samples of 21 penguins, found on the Búzios coast, Rio de Janeiro State, kept in rehabilitation captivity in the Búzios Atlantic Forest's State Institute (IBAMA), were collected and histologically evaluated by Hematoxiline and Eosine (HE) staining and periodic acid of Schiff (PAS) staining indicated to identify fungi. More than one organ fragment was collected from each animal, totaling 76 analyzed samples. **Results:** Granulomas were observed in 11% of the kidneys, 20% of the lungs, 8% of the hearts and 17% of the windpipes, totaling 8 in 21 infected animals (38,1%). Involvement of these organs occurs due to the agent being carried through the aerosol, and then affects first the upper respiratory tract, subsequently occurring systemic dissemination, likely because this fungus has high angiotropism. The granulomas histologically were composed by thick and vascularized fibrous capsule containing infiltrated mononuclear cells and a center with varying degrees of caseous necrosis. When they were submitted to PAS staining, septate fungal hyphae were observed, suggesting *Aspergillus* sp. infection. **Conclusions:** The prevalence of captivity animals infected by *Aspergillus* sp. in that study was of 38,1%, therefore aspergilosis should be considered an important disease for the rehabilitation and survival of those birds.

Key words: fungal hyphae, granuloma, seabirds, Periodic acid of Schiff.

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Gastrointestinal obstruction in feline by E.V.A. (Ethyl Vinyl Acetate): case report

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Background: Gastrointestinal obstruction is more frequent in small and young company animals. Cats have selective eating habits, but because they have a greater tendency to play and bite, there is the occurrence of accidental strange bodies ingestion. The detection of these strange bodies essentially depends on the radiographic examination. **Case Report:** A 33-month-old Persian cat, who presented emesis, gastrointestinal disorders and reduced food intake for 30 days, underwent ultrasonography and haematological examinations, and was euthanized at the owner's decision, as there was no improvement. **Results:** Necropsy revealed severe gastric distension and intestinal dilatation with blood vessels constriction. Upon opening the intestine there was a strange body, rectangular, spongy in the jejunum initial portion, after cleaning the object it was identified as a piece of E.V.A. In the histopathologic examination the stomach presented neutrophilic infiltrate, degeneration and necrosis areas, the liver presented congestion, discrete steatosis and necrosis areas and the intestine presented mucous layer necrosis. Questioning the owner, she reported that the animal had bitten and played with a tatami mat made of E.V.A. at her residence, based on this answer, it was verified that a piece of the material was ingested, dilatated by absorving water in the gastric lumen which later led to intestinal obstruction. **Conclusions:** Based on macroscopic findings, the obstruction by a foreign body that resulted in the gastric distension that led to anorexia and emesis diagnosis was made. The importance of the radiographic examination for the diagnosis of gastrointestinal strange bodies is emphasized, since the its absence was a determining factor in the development of the case.

Key words: strange-body, distension, cat, jejunum.

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Periocular sporotrichosis in a cat

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Background: Sporotrichosis is a granulomatous mycosis caused by *Sporothrix schenkii* complex. This disease affects mainly the skin and has been described in several species, especially in domestic feline. In Belo Horizonte, sporotrichosis is an emerging and expanding zoonosis since the year of 2015. Extracutaneous sporotrichosis with involvement of eye and conjunctivae is uncommon. **Case Report:** A semi-domiciled and intact male cat, with no clinical history but with apparent lesions, was euthanized due to the suspicion of sporotrichosis. **Results:** In gross examination, the left upper, lower eyelids and palpebral conjunctiva were markedly enlarged, with hyperemia and edema. In addition, there were multifocal ulcerations on the eyelids skin. The third eyelid was also hyperemic, markedly increased, irregular and whitish on the cut. The eye had no gross changes. The cytopathological examination using the eyelids imprint revealed numerous extracellular and intrahistiocytic yeast-like forms compatible with *Sporothrix* spp. At histopathology there were marked diffuse histiocytic conjunctivitis and blepharitis in the upper and lower eyelids. An accentuated histiocytic and neutrophilic blepharitis in the third eyelid with multifocal necrosis areas and moderate multifocal histiocytic adenitis in the lacrimal gland of the third eyelid were also found. There were numerous macrophages loaded with cytoplasmic yeast-like forms compatible with *Sporothrix* spp. in all left eyelids, which were marked in the third eyelid and moderate in the upper and lower eyelids. In the trabecular meshwork of the eye there were some similar macrophages. **Conclusions:** The cytopathological and histopathological findings are consistent with ocular sporotrichosis. The conjunctival lesions may have occurred by extension of the ulcers on the eyelid skin or by extension of the infection by lymphatic drainage, since the head lymph nodes were also affected. However, uveitis probably occurred by bloodstream.

Key words: *Sporothrix*, conjunctivitis, blepharitis, domestic feline.

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Description of malignant trichoepithelioma in a dog

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Background: Malignant trichoepithelioma is an uncommon skin neoplasm with differentiation of root and inner sheath. This tumor commonly affects dogs, between 8 and 12 years of age and with higher prevalence in females. Usually, the dorsal is the most affect area and the most important features of the malignant behavior are the presence of neoplastic cells in lymphatic vessels. **Case Report:** An 8-year-old, canine, English cocker spaniel, female was attended at Hospital Veterinário da Universidade Federal do Paraná (UFPR), Palotina, Brazil,, weighing 10.0 kg had a history of arising cutaneous nodule in the cervical region, that was removed and sent to the Laboratório de Patologia da UFPR to biopsy. **Results:** Macroscopically, a nodule with 8.5cm x 5.2cm x 2.5 cm, hairy, ulcerated, firm, and exhibit cystic area with amorphous material in the middle. Histologically, a proliferation of epithelial cells in the derm was observed, well delimited, unencapsulated, with expansive growth, organized in a circumscribed multifocal tubular structure, delimited by a large collagen stroma. In the light of the tubular structure, there was deposition of amorphous eosinophilic lamellae (keratin). The neoplastic cells had an indistinct, scant to moderate, eosinophilic cytoplasm, sometimes had discrete vacuoles. The nuclei were elongated with dense or coarsely dotted chromatin and the nucleoli were not evident. In the lumen of lymphatic vessels it was noted neoplastic cells. **Conclusions:** The histopathological finds, age and sex match with malignant trichoepithelioma diagnosis. This tumor has the features of metastasis to regional lymph nodes and to the lung, this behavior is provided by the presence of neoplastic cells into the lymphatic vessels. In this case, there is a lymphatic invasion, however, there is no information about others changes consistent whit metastasis. It is emphasized the importance of this neoplasm as a differential to another skin neoplasm.

Key words: skin neoplasm, canine, hair follicle neoplasm.

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Paradoxical embolism of an air gun pellet in a domestic cat

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Background: Although unusual, the majority of reported cases of projectile emboli come from fire guns bullets, due to greater speed and penetration force. The entrance into the venous system by a projectile may result in embolization of the venae cavae or the heart. Even more unusual is the situation where a projectile embolizes paradoxically from the venous to the arterial circulation, where it can reach distant sites. It can occur in three main scenarios: 1) erosion of the missile across the interatrial or interventricular septum due to direct projectile injury to the heart; 2) when the projectile erodes across the blood vessels from the venous to the arterial circulation; 3) and when the projectile passes across a congenital cardiac defect. **Case Report:** A 9-year-old female, spayed, domestic cat was hospitalized to intensive care due to the owner's suspicion of being shot by an air gun by her neighbor. Radiographic imaging revealed a metal density fragment in the thoracic cavity. The cat died a few hours after being admitted. **Results:** Necropsy examination revealed an entrance wound in the right thoracic area, between the 4th and 5th right ribs. Internally intense hemothorax, pulmonary edema and diffuse atelectasis were observed and accompanied by perforation of the pericardial sac contiguous to the right atrium (auricle), with rupture to the adjacent interatrial septum. A pointed metal pellet was found obliterating the lumen of the thoracic aorta. **Conclusions:** Paradoxical bullet embolus is a very rare occurrence, which can be associated with considerable diagnostic confusion. In this reported case, it occurred due to erosion across the interatrial septum due to direct projectile injury to the heart, causing the air gun pellet to enter arterial circulation and become aortic emboli.

Key words: legal veterinary medicine, forensic veterinary medicine, forensic veterinary pathology.

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Cylicospirura felineus in jaguarundi (*Puma yagouaroundi*)

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Background: *Cylicospirura felineus* is a nematoid of the family Spiruroidea that has wild and domestic felines as its definitive hosts. In these animals, the parasite settles into the gastric mucosa, causing small nodules. The clinical significance of these lesions has not been proved yet due to a lack of reports and studies about this parasite in the literature. This report aims to describe a case of *C. felineous* in a specimen of *Puma yagouaroundi*. **Case Report:** An adult, male, *Puma yagouaroundi* was hit by car. The specimen was submitted to necropsy at the Laboratório de Patologia Animal of the Universidade Federal do Paraná, Palotina, Brazil. **Results:** Gross examination of the major curvature in the stomach revealed a focal, white, round, firm, 2 cm in diameter nodule in the gastric mucosa that extended towards the serosa. On cut surface, the nodule was filled with round, white, filiform parasites. Histologically, the muscular layer had a focally extensive infiltrate of macrophages, lymphocytes, and plasma cells surrounded by a large amount of dense fibrous connective tissue, creating a capsule. It was enclosing multiple accumulates of eosinophilic, amorphous, floccular material admixed with cellular debris, degenerative and intact neutrophils and eosinophils (granuloma). In the middle of this structure there was a large number of round parasites, measuring between 50 and 150 µm in diameter, with a celomatic cavity, prominent lateral cords, coelomyarian musculature, gastrointestinal tract lined by single-layered, columnar epithelium with long projections in the free cellular edge, and uteri containing large numbers of larvated eggs. Specimens of the parasites were collected and submitted to identification through scanning electron microscope. **Conclusions:** The gross, histological and structural findings were consistent with granuloma in the gastric mucosa caused by *Cylicospirura felineus*. Further epidemiologic studies are necessary to evaluate the morbidity rate of this condition in wild felines of this region.

Key words: gastric parasite, granuloma, wild feline.

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Cholangiocarcinoma in *Ara chloropterus*

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Background: Cholangiocarcinoma is a neoplasm from epithelial cells of the hepatic ducts. Although with uncommon occurrence, this tumor represents the main hepatic neoplasm found in both captive and free-living avian, reported in many species. However, for the authors' knowledge, this the first report of this neoplasm in *Ara chloropterus* (Red-and-green macaw). **Case Report:** A 40-year-old, 1.4 Kg, male of *Ara chloropterus*, with a history of progressive weight loss and continuous use of haloperidol, died and was sent to necropsy at the Laboratório de Patologia Animal of the Universidade Federal do Paraná, Palotina, Brazil. **Results:** The external examination revealed pale oral and ocular mucosa, poor body condition, and moderate amount of translucent mucous secretion in the oral cavity. The liver was diffusely enlarged and presented multiple white, well-demarcated, firm, 0.1 cm to 1 cm nodules raising the capsular surface and extending towards the parenchyma. On cut surface, the nodules were solid, white and homogenous. Histologically, the nodules were characterized by a infiltrative, well-demarcated, non-encapsulated, densely cellular neoplastic proliferation of epithelial cells organized into nests and ducts and supported by moderate fibrovascular stroma. The cells were cuboid with indistinct delimitation, moderate, eosinophilic, homogeneous cytoplasm; round to oval, eccentric, vesiculous nucleus with finely stippled chromatin and a large conspicuous nucleolus. Anisocytosis and anisokaryosis were mild with rare mitotic figures per high power field. The remain parenchyma had moderate infiltration of granulocytes and lymphocytes and marked diffuse dilatation of the hepatic sinusoids. **Conclusion:** The gross and histological findings are characteristic of cholangiocarcinoma, as described in the literature. The authors suggest that the prolonged haloperidol administration may be the cause of the neoplasm in this case.

Key words: haloperidol, hepatic neoplasia, macaw.

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Cholangiocarcinoma in a goose (*Ansercygnoides domesticus*)

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Background: In wild and domestic birds cholangiocarcinoma had been reported in ducks, ring-necked pheasant, and senegal firefinch. Predisposing factors in humans and some mammalians include chronic inflammation and intraductul parasitism. This report describes the gross and histopathological characteristics of a cholangiocarcinoma in an Australian goose. **Case Report:** An adult male goose (*Ansercygnoides domesticus*) was found apathetic in its premises at the Belo Horizonte Zoological Garden. The animal was admitted at the zoo's veterinary hospital, but died soon after admission. **Results:** Grossly, the animal was cachectic with extremely pale mucosal membranes. There was moderate amounts of translucent liquid in the celomic cavity. In the liver and gallbarder there was a mass with cystic cavities on the cut surface. Microscopically, there was a non-encapsulated and invasive epithelial neoplasm. Neoplastic cells were organized in tubules or cords. Tubules were often lined by more than one cell layer, with accumulation of eosinophilic material in the lumen of some neoplastic tubules. Cells were predominantely cuboidal, with well-circumscribed cytoplasmic boundaries, and an eosinophilic homogenous cytoplasm. Nuclei were basal, with a round to oval shape, loose chromatin, and prominent nucleoli. There was moderate anisocytosis and anisocytosis. The mitotic index was low. Neoplastic tubules were supported by abundant fibrous connective tissue (stroma). The neoplasm compressed the adjacent liver parenchyma. **Conclusions:** To our knowledge, this is the first report of cholangiocarcinoma in a goose.

Key words: tumor, liver, birds.

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Squamous cell carcinoma (scc) in the tongue of dog: case report

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Background: The incidence of tumors in domestic animals tongue is not frequent and it probably does not exceed 4% of the neoplasia that affect the oral cavity and the pharyngeal area. Although few epidemiological data are available in small animals, squamous cell carcinoma (SCC) can be found in the tongue of dogs and cats, being painful and affecting middle-aged animals to the elderly. The main clinical signs are halitosis, ptyalism, dyspnea, anorexia, difficulty seizing food and chewing, as well as local hemorrhage. **Case Report:** A 15-year-old female Labrador Retriever with a history of halitosis, dysphagia, seizures and polydipsia was sedated for visual inspection of the oral cavity. The exam revealed a mass with an irregular and non-delimited surface, of infiltrative aspect and firm consistency affecting more than 70% of the tongue, from the apex towards the base, extending throughout the region of the lingual frenulum. 8mm punch biopsy was performed at three distinct sites of the tongue and referred for histopathological examination. **Results:** Histopathological examination showed malignant neoplastic proliferation of squamous epithelial cells, with eosinophilic cytoplasm, round nucleus, finely granular chromatin, moderate anisocytosis and anisocariosis, and two mitosis figures per field of larger magnification (400x). Unbound and infiltrative proliferation extending from the mucosa to the deep tongue musculature, with abundant desmoplastic reaction and keratin pearls. There are also discrete multifocal areas of intratumoral necrosis associated with a discrete neutrophil inflammatory infiltrate. **Conclusions:** Based on the clinical, macroscopic and histopathological findings, the diagnosis of squamous cell carcinoma affecting the tongue of a dog was confirmed.

Key words: histopathology, neoplasm, oral cavity, biopsy.

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Granulomatous gastroenteritis associated to phycomycosis in a dog: case report

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Background: The phycomycosis constitutes a diverse group of mycotic affections with anatomopathological similarity that affect skin, subcutaneous tissue, digestive and respiratory tracts. In dogs, this infection mainly affects the gastrointestinal tract and the skin, with *Pythium insidiosum* as the main etiologic agent. The clinical signs associated with this disease are chronic anorexia, vomiting or diarrhea and the lesions found are the stomach wall thickening, lymphadenopathy and the submucosa inflammation. **Objective:** There are few of them described in dogs, so the purpose of this report was to describe the main anatomopathological aspects of this disease. **Case Report:** A young dog, boxer, had persistent anorexia and vomiting. Faced with the worsening of the clinical picture, the animal was euthanized. **Results:** Necropsy showed brownish transudate in the abdominal cavity (ascites). Areas of focal and irregular calcification were observed in the epiglottis, trachea, pulmonary and aortic arteries, left atrium and abdominal aorta. In the stomach and the initial portion of the duodenum there was an increase in firm and irregular greenish volume, which caused a marked wall thickening of these organs. At the pylorus there was marked stenosis of the lumen. In the microscopic analysis, the presence of multinucleated cells and macrophages, extensive areas of fibrosis and necrosis associated with the presence of longitudinal tubilliform structures in the central portion of these areas were observed in the stomach submucosa, which were positive by the silver methenamine staining of Grocott-Gomori. **Conclusions:** Based on the histopathological findings, the diagnosis was granulomatous gastroenteritis associated with intralesional pathogen and soft tissues calcification in the lung, atrium, aorta, heart, muscle and kidneys and atherosclerosis. These findings are compatible with infections caused by phycomycosis.

Key words: phythiosis, zygomycose, gastritis.

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Glomerular amyloidosis in Shar-Pei dog with undifferentiated pulmonary neoplasm: case report

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Background: The term "amyloidosis" refers to a group of diseases that have as their main characteristic the deposition of insoluble fibrillar proteins in the extracellular spaces. There are two types of classification for amyloidosis in medicine: primary amyloidosis; and secondary or reactive amyloidosis. The latter is associated with inflammatory, neoplastic and rheumatic diseases, including familial amyloidosis in Shar-Pei dogs and Abyssinian cats. **Case Report:** A female, six-year-old Shar-Pei dog presented history of claudication in the right pelvic limb, weight loss, intermittent emetic episodes, parorexia and selective appetite. In spite of the clinical treatment instituted, the profile evolved over three weeks with severe azotemia, proteinuria and anemia. No compatible donors were located for blood transfusions and the animals were euthanized due to the bad prognosis. **Results:** The necropsy revealed areas of off-white coloration along the cortical region and along the renal medulla, as well as a pulmonary neoplasm. A microscopic examination showed an amorphous content interspersed with the glomerular capillaries which was stained in a bright green with Congo Red, confirming the presence of amyloid substance. The examination also revealed multifocal lymphocytic nephritis, fibrosis and the presence of proteinaceous material in the glomerular space. The peribronchial area was extensively afflicted by pleomorphic neoplastic cells, located inside the alveoli and the bronchi, with rounded or fusiform shape and nuclei presenting loose chromatin and conspicuous single or double nucleoli with frequent multinucleations, as well as 15 mitoses in 10 fields with higher magnifications (400x). **Conclusions:** Based on the necropsy macroscopic and microscopic findings, the diagnosis of renal amyloidosis was confirmed, although its origin remains uncertain, with both the history of familial origin in Shar-Pei dogs and the presence of a pulmonary neoplasm providing reasonable causes. Amyloidosis is usually diagnosed in the later stages of the disease, when the kidney is already considerably affected.

Key words: amyloid, nephropathies, proteinuria, canines.

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Distemper in wolf (*Chrysocyon brachyurus*) – case report

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Background: Canine Distemper is a systemic infectocontagious disease that affects canids worldwide. Despite being diagnosed in dogs, distemper has been reported in other animals of Canidae family such as wolves. **Case Report:** The objective of this study was to report a case of wolf distemper in "Lobo Guará" (*Chrysocyon brachyurus*), male brown and black, in Alto Paranaíba - Minas Gerais region. The animal was forwarded to Zoonoses Control Center of Patos de Minas, presenting anorexia, blindness, myiasis in the eyes, prostration and neurological signs suggestive of distemper. Quick test for distemper was performed, which was positive, and the hemogram presented leucopenia, with lymphopenia and enlargement of band cells and thrombocytopenia. At blood smear Lentz Corpuscle was identified in the red blood cells and white blood cells, this inclusion is pathognomonic for distemper. The animal was medicated, but did not respond to the treatment and it was opted for euthanasia. **Results:** The animal's necropsy had ocular, oral and penile pale mucosa, moderate amount of bleached foam in the final portion of the trachea and in lungs, the right side had multifocal bleached areas that deepened to the cut, suggestive of pulmonary edema. His liver and kidneys were pale, multifocal areas that penetrated to the cut as well. The Central Nervous System presented passive hyperemia in the brain. Histopathological diagnosis had microgliosis in parenchyma of Central Nervous System, increased perivascular space, characterizing edema in the brain; increased oligodendrocytes and astrocytes suggesting encephalitis; neurons in degeneration, nucleus in pyknosis and lateralized and neuroniophagia, confirming the disease. **Conclusions:** Distemper is a worldwide distributed disease that may cause mortality in wildlife species, and has been described endemic among wild carnivores. The main cause of distemper in wild animals is the growth of human population providing a greater contact between the domestic and wild canids.

Key words: encephalitis, Lentz corpuscle, lobo guará.

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Sclerosing encapsulating peritonitis in a dog

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Background: Sclerosing encapsulating peritonitis is a chronic form of peritonitis rarely reported in dogs, characterized by abdominal organs encased in thick layers of fibrous tissue. Various conditions have been identified as possible underlying causes, but many cases are idiopathic. In dogs, a diagnosis is typically made by exploratory laparotomy or post-mortem. The aim of this report is to describe a case of sclerosing encapsulating peritonitis in a dog. **Case Report:** A 4-year-old female mixed dog was submitted to veterinary care, presented anorexia, vomiting, ascites and weight loss. Haematological examination and serum biochemistry were normal. A modified transudate was obtained by abdominocentesis. Abdominal ultrasonography was performed and a hyperechoic material was found on the surfaces of all the abdominal viscera. The exploratory laparotomy revealed a thick "coccon-like" fibrous membrane that encapsulated all the abdominal organs. The membrane was incised and an attempt was made to break down the fibrous adhesions in the abdomen. The dog died after surgery and necropsy was performed. **Results:** At necropsy, the abdominal cavity contained a red fluid (blood), a "cocoon-like" fibrous membrane, and numerous adhesions between the visceral and parietal peritoneal membranes. Additionaly, the abdominal wall and visceral membrane of abdominal organs, including the capsule, were markedly thick. Histopathology revealed a moderately cellular proliferation in visceral and parietal membranes. This proliferation was composed of spindle cells associated with a collagenous stroma and few vessels (mild angiomatosis). Fibrin deposition was randomly observed. Small number of lymphocytes and macrophages were found. Mesothelium was not detected. **Conclusions:** Based on anatomopathological findings, a diagnosis of sclerosing encapsulating peritonitis was made. Foreign body ingestion, fiberglass ingestion, bacterial peritonitis, steatitis, abdominal neoplasms, leishmaniasis, and previous abdominal surgery have been identified as possible underlying causes. However, for this case, there were no known associated conditions or risk factors, suggesting an idiopathic form of the disease.

Key words: cocoon-like, ascites, chronic inflammation, modified transudate.

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Globoid cell leukodystrophy in a senile Spaniel Cocker dog

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Background: globoid cell leukodystrophy is determined genetically by an autosomal recessive gene and results from a deficiency in the lysosomal galactocerebrosidase activity. This enzyme, when accumulated, is toxic to the oligodendrocytes, resulting in their degeneration and death. Usually, neurologic impairment starts at early age in dogs and progresses quickly to death. **Case Report:** a 15-year-old, Cocker Spaniel dog, was admitted for necropsy at the Veterinary Pathology Laboratory with a clinical historic of neurologic signs including depression and behavioral changes. The dog was euthanized due to poor prognosis and subjected to post-mortem examination. **Results:** there were no identifiable gross lesions. Histologically, the cerebrum and brainstem had a marked perivascular and aleatory histiocytic infiltration, particularly affecting the white matter. Histiocytes were full of granular amphiphilic strongly PAS-positive cytoplasmic material. Some degenerated axons and a mild histiocytic meningitis were observed. **Conclusion:** this is a case of globoid cell leukodystrophy, with an atypical manifestation in a senile Cocker Spaniel dog.

Key words: leucodystrophyc, galactocerebrosidases, Krabbe disease.

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Granulomatous encephalits duo to *Sarcocysts neurona* in horse

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Background: *Sarcocystis neurona* is an apicomplexan parasite that causes equine protozoal myeloencephalitis (EPM). Horses with *S. neurona* brain infection usually develop ataxia, limb weakness, lameness and, rarely, seizures. Merozoites and schizonts are often present near the lesions but they are not easy to identify by conventional staining. **Case Report:** a 10-year -old, Mangalarga Marchador horse was admitted at the UFMG Veterinary Hospital with neurological signs including dysphagia and walking in circles. CSF analysis was normal and an ELISA for *S. neurona* was positive in the serum, but negative with CSF samples. The horse was euthanized due to poor prognosis and subject to *post-mortem* examination. **Results:** leptomeninges were hyperemic and there were no other identifiable gross lesions in the cerebrum or brainstem. Histological examination of the parietal cortex and thalamus sections revealed an intense multifocal to coalescent granulomatous inflammation associated to malacia, many gemistocytic astrocytes, fibrin deposition, and some neurons with central chromatolysis, characterizing a granulomatous and necrotizing encephalitis. No parasite structures were observed in HE-stained sections. Immunohistochemistry (IHQ) was performed using a anti-*Sarcocistis neurona* polyclonal antibody, in cortex parietal and thalamus, immunestained *S. neurona* schizonts were observed near the lesions. **Conclusions:** the neurologic signs in this horse were due to granulomatous and necrotizing encephalitis associated with *S. neurona* infection.

Key words: equine diseases, encephalopathies, protozoa.

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Pharyngeal mast cell tumor in a dog

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Background: Mast cell tumors (MCTs) are malignant neoplasms that occur mainly on the dogs' skin. Extracutaneous MCTs are uncommon and occur mainly in the oral cavity or perioral area, and rarely in the pharynx and larynx. Oral and perioral MCTs tend to be more aggressive than cutaneous MCTs and have a high propensity to metastasize to the regional lymph nodes. **Case Report:** An 8-year-old male neutered mixed breed dog was necropsied after a one-month history of chronic cough, upper airway stridor, and fainting episodes. On physical examination, mucous discharge was present in the nares, and a mass was detected expanding the soft palate and protruding into the right aspect of the pharynx. The dog was euthanized. **Results:** Gross anatomic changes were restricted to the pharynx. A longitudinal head section revealed a well-demarcated, 2.8 cm in diameter, soft, white mass expanding the soft palate and extending dorsally into the nasopharynx. Histologically, the mass was composed of closely apposed sheets and cords of neoplastic mast cells with Giemsa-positive cytoplasmic granules that infiltrated the submucosa and the palatine glands. The mitotic count was 20 per 2.4 mm2. The cortex and medullary sinuses of the retropharyngeal and submandibular lymph nodes were partially obliterated by mast cells morphologically similar to those observed in the main mass. **Conclusions:** Pathological changes were consistent with a pharyngeal MCT with metastasis to the retropharyngeal and submandibular lymph nodes.

Key words: round cell tumor, extracutaneous neoplasm, canine.

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Subcutaneous dirofilariasis in a dog

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Background: *Dirofilaria immitis* is a common cause of cardiopulmonary disease in dogs, cats, and wild carnivores. Canine subcutaneous dirofilariasis is rare and is usually caused by *D. repens*. **Case Report:** An adult male intact mixed breed dog was examined because of physical trauma to the right maxilla, with gingival mucosa avulsion and left pelvic limb lameness. The dog died during hospitalization and was submitted for necropsy. **Results:** Gross anatomic changes included 100-150 adult nematodes morphologically consistent with *Dirofilaria* spp. in the pulmonary artery, right atrium, and right ventricle. Four similar nematodes surrounded by hemorrhage were present in the subcutaneous tissue of the left medial thigh and tibial area. The lungs were edematous and the right kidney had two cortical infarcts. Histologically, subcutaneous nematodes were located inside the fascia and skeletal muscles, and were surrounded by epithelioid macrophages and multinucleated giant cells, with fewer lymphocytes and plasma cells. A few nematodes were mineralized. Nematodes had a thin eosinophilic cuticle, lateral cords with internal lateral cuticular ridges, and coelomyrian-polymyarian musculature. Pulmonary changes included widespread hyperplastic endarteritis with intraluminal nematodes, as well as thickening of alveolar septa with macrophages and neutrophils. The nematodes were morphologically classified as *D. immitis*. **Conclusions:** Pathological changes were consistent with subcutaneous dirofilariasis associated with the classic cardiopulmonary changes caused by *D. immitis*. Subcutaneous dirofilariasis occurs when nematode larvae reach and develop into adults in the subcutaneous and skeletal muscle tissues. The renal infarcts were likely secondary to circulatory disturbances caused by the cardiac nematodes, as no evidence of microfilaremia was detected.

Key words: *Dirofilaria immitis*, heartworm, nematodiasis.

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Abdominal malignant peripheral nerve sheath tumor in a dog

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Background: Malignant peripheral nerve sheath tumors (MPNST) are relatively rare in domestic animals. Most reports of this tumor are in dogs and cattle. These tumors originate from Schwann cells, perineural fibroblasts, or both. In dogs, MPNSTs are more frequent in the nerves of the brachial plexus, but may occur in the lumbosacral plexus, cranial nerves, and spinal nerve and nerve roots. **Case Report:** An 11-year-old, mixed-breed dog, weighing 8kg had three days history of dyschezia. **Results:** A mass of approximately 7 cm in diameter was observed in the abdominal cavity that displaced the right kidney and compressed the bladder. The mass infiltrates the lumbar and sacral intervertebral musculature. Macroscopically the mass had 14.0x11.0x8.0cm and was firm and tan. On cut surface, the mass was hemorrhagic and necrotic. Histologically, the cells were organized in small multi-directional bundles and tended to form incomplete random spirals. The cells had poorly distinct cytoplasmic boundaries, eosinophilic and homogeneous cytoplasm, elongate nucleus, vesicular to lumpy chromatin, distinct nucleolus, moderate nuclear pleomorphism and elevated anisocariosis. Eight figures of mitosis were observed. Immunohistochemistry for CD56 and NSE revealed strong immunopositive labeling. **Conclusions:** Based on the histologic findings associated with the positive immunohistochemistry labeling the diagnosis of MPNST was made. This tumor should be included in differential diagnosis of dogs presenting dyschezia.

Key words: mass, rare, dyschezia, lumbosacral plexus.

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Transmissible venereal tumor in uterus with metastasis in urinary vesicle of a dog

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Background: The transmissible venereal tumor (TVT), is a neoplasm of round cells that affects dogs. Transmission occurs through sexual contact, therefore, it is a naturally occurring allogeneic tumor transmitted among cells by living cells, instead of neoplastic transformation in the affected host. Metastatic dissemination is low and can occur in animals with persistence of neoplasm for more than two months, immunosuppression dogs have a higher prevalence. **Case Report:** A canine, female, undefined breed, nine-years-old with a history of vulvar secretion for four months was attended at Hospital Veterinário da Universidade Federal do Paraná (UFPR), Palotina. The clinical exam detects an abdominal volume increase near the bladder. At surgery, an intrauterine mass was observed in the cervix region. This tumor was firm, adhering to the descending colon and the bladder ligaments. Another mass was located in the bladder caudal region, not associated with the mass in the cervix. The uterus and ovaries were sent to the Laboratório de Patologia Veterinária da UFPR, Palotina. A cytology exam was performed of the mass located in the bladder. **Results:** In the cytology, pronounced bluish cytoplasmic round cells were observed containing vacuoles of varying sizes; rounded nucleus, large, peripheral, with loose chromatin and one to three evident nucleoli. It had mild anisocytosis and moderate anisokaryosis. A proliferation of neoplastic round cells, densely cellular, well-demarcated, expansive, encapsulated was observed in the uterus through histopathology. The cells were round, arranged in strings on the fibrous stroma. The cytoplasm was sparse, eosinophilic and homogeneous; the nucleus was round, sometimes paracentral or peripheral, with loose chromatin and one to three evident nuclei; moderate anisocytosis and anisokaryosis. **Conclusions:** The histological and cytological features match with TVT. Uterine metastasis is rare; they are usually related to immunosuppression animals. TVT must be among the differential diagnoses to uterine and intracavitary neoplasm.

Key words: atypia, round cells, histology, cytology.

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Transmissible viral proventriculitis in naturally infected broilers

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Background: Transmissible Viral Proventriculitis (TVP) is an emerging infectious disease, reported in many countries, which has not been identified in Brazil yet. The etiological agent is a Birnavirus, named Chicken Proventricular Necrosis Virus (CPNV). This disease mainly affects four to five weeks old broilers, as well as laying hens and broiler breeders. **Objective:** Investigate the occurrence of TVP in broilers in Brazil by macroscopic and histopathological examination of suspected broilers and characterize the virus by reverse transcription polymerase chain reaction (RT-PCR) and sequencing. **Methods:** In December 2017, 63 birds from different flocks, with weekly mortality rate of 1.67%, and age ranging from 25 to 36 days were examined clinically, euthanized and necropsied in the Pathology Sector of UFMG. In addition, retrospective study of 10 cases (of 2013 and 2016) was performed, with a total of 73 broilers. **Results:** Macroscopically, five (6.8%) broilers had enlargement of proventriculus with thickened wall. Histologically, there were 35 broilers (47.9%) with mild to marked multifocal lymphocytic necrotizing proventriculitis, with replacement of glandular epithelium by ductal epithelium. In 63 cases RT-PCR was performed and 24 (35.8%) were positive. The VP1 gene sequencing of CPNV showed genetic similarity of 87.01% to 92.68%, with other sequences of the same gene found in other countries. **Conclusions:** Macroscopic and histopathological lesions are strongly compatible with TVP and the RT-PCR and sequencing confirmed the presence of CPNV in the proventriculus of these broilers. This is the first report of the disease in Brazil.

Key words: proventriculus, histopathology, RT-PCR, CPNV, birnavírus.

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Primary corneal hemangiosarcoma and uveal melanosis in a dog

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Background: Corneal primary vascular neoplasms are rare, with sporadic reports in dogs, cats and horses. The etiopathogenesis is uncertain, but an association with ultraviolet light exposure, previous keratitis and breed predisposition has been reported. Ocular melanosis refers to bilateral melanocytes proliferation in the uvea and is divided into four stages. **Case Report:** A six-year-old female Greyhound dog underwent enucleation surgery due to the history of rapid growth in the cornea. **Results:** A nodule measuring 0.5 cm in diameter, dark-red, irregular and soft was found limited to the cornea. The mass was solid and focally invaded the middle of the corneal stroma. The uvea was diffusely thickened and black, and pigmented tissue extended to the optic nerve adjacency. There was also anterior synechia, mature cataract, and retinal thinning with detachment. Microscopically, in the corneal stroma, the neoplastic cells formed vascular spaces filled by red blood cells. The vessels were lined by ovoid to spindle-shaped cells with eosinophilic cytoplasm. The nuclei were fusiform to ovoid, with dispersed chromatin and prominent nucleoli. There were seven mitosis throughout the whole neoplastic power fields. In the iris and the ciliary body, invading the sclera close to the limbus and adjacent to the optic nerve, there were numerous well-differentiated melanocytes (stage II melanosis). The anterior synechia and the high amount of pigment led to complete obstruction of the filtration angle and the trabecular meshwork collapse. The retina was detached, wrapped, intensely atrophied and the pigment epithelium was hypertrophied and hyperplastic. In the optic nerve there was axonal swelling and moderate multifocal gliosis. **Conclusions:** The clinical, macroscopic and microscopic findings enabled the diagnosis of primary corneal hemangiosarcoma and uveal melanosis, which are infrequent eye lesions in dogs. The anterior synechia associated with severe melanosis triggered a secondary glaucoma with lesions in the retina and optic nerve.

Key words: mesenchymal tumor, vascular tumor, eye tumor, corneal tumor.

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Abdominal mixoid liposarcoma in a dog

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Background: Liposarcomas are rare malignant tumors of adipose tissue in domestic animals. They can be well-differentiated, pleomorphic (anaplastic), or myxoid subtypes. The myxoid variant is characterized by the presence of scattered spindle cells, lipocytes, and lipoblasts loosely arranged in a mucoid stroma that is alcian blue positive. The observation of several lipid-containing cells in the cytoplasm are important to distinguish this tumor from a myxosarcoma. There are records of myxoid liposarcoma in monkeys, dogs and humans. The aim of this report is to describe a case of myxoid liposarcoma in the abdominal cavity of a dog. **Case Report:** the subject is a five-year-old; male, mixed-breed dog admitted to the Veterinary Hospital of the Federal University of Espírito Santo (UFES) for exploratory laparotomy. **Results:** During clinical examination, the patient presented increased abdominal volume, cachexia, apathy, 8% dehydration and pale mucous membranes. Laparotomy revealed an extensive mass occupying a large area of the abdominal cavity without relation to the organs of this cavity. Procedures included the removal and fixation of the mass in 10% formalin for analysis in the Animal Pathology Laboratory of UFES. At the macroscopic examination, it measured 45x30cm, weighed 6.7 kg, and was white with multifocal areas brown, black or cystic, of firm consistency and with soft areas. The cut maintained the same characteristics, but with multifocal areas of necrosis. At the microscopic examination the material presented mesenchymal neoplasm, non-encapsulated, consisting of round, oval to elongated cells, intense anisocytosis, oval to elongated nuclei, displaced to the periphery, cytoplasm containing either large vacuoles or small vacuoles, loose chromatin and single or multiple evident nucleoli. Mucoid stroma Alcin Blue positive and multifocal thrombi were also observed. **Conclusions:** The histologic findings support a diagnosis of mixoid liposarcoma in the abdominal cavity of a dog.

Key words: adipose tissue, neoplasm, animal.

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Study of JMJD1A nuclear and citoplasmatic expression of colorectal tubular andenocarcinoma of rats

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Background: The tobacco shows in its composition several carcinogenic agents and co-carcinogenics, such as nickel and cobalt, which can inhibit the JMJD1A protein, a histone demethylase that facilitates tumoral progression, inclusive in colorectal neoplasia. **Objective:** The goal was to evaluate the JMJD1A protein expression by immunohistochemistry in colorectal tubular adenocarcinoma in colorectal cancer experimental models exposed to cigarette smoke. **Methods:** The experiment used 41 male rats (Rattus norvegicus) separated in three groups: three animals in the negative control group (DMH-/tobacco-), kept as normal mucosa; 18 animals in the group exposed to 1,2-dimetilhidrazine, but not to cigarette smoke (DMH+/tobacco-), and 20 animals in the group exposed both to the carcinogenic agent and the cigarette smoke (DMH+/tobacco+). The smoke exposure to the (DMH+/tobacco+) group occurred in a puff-equipped inhalation chamber in a total of 143 days. The animals were euthanatized in the 22nd week and the colorectal neoplasia samples submitted to histological processing and prepared for immunohistochemistry techniques. The evaluation of the JMJD1A expression was done by a semi-quantitative analysis. **Results:** The JMJD1A nuclear expression was smaller in colorectal tubular adenocarcinoma than in normal mucosa, being absent in neoplasia from animals exposed to the cigarette smoke. There was a reduction regarding the cytoplasmic expression from the animals tubular adenocarcinoma exposed to the cigarette smoke, in comparison to the normal mucosa and from the animals neoplasia not exposed to smoke. **Conclusion:** Exposure to cigarette smoke reduces JMJD1A expression in colorectal tubular adenocarcinoma of rats submitted to colorectal carcinogenesis.

Key words: experimental carcinogenesis, tobacco, neoplasm.

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An outbreak of urolithiasis in laying hens

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Background: Urolithiasis in chickens is a degenerative disease with multiple etiologies. Viral agents, as avian bronchitis virus (IBV) (nephropathogenic strain), could result in interstitial nephritis and tubular necrosis with consequent urate deposition in the kidneys. Other causes of urate deposition are water restriction and high-protein diet or excess dietary calcium. **Case Report:** Chickens of one flock belonged to a laying hen farm presented decrease in productivity and apathy for three months. Farm had three flocks with 30 thousand chickens each and only one flock experienced this condition. Fourteen 31-week-old Lohmann chickens from the same flock were selected and *post mortem* examined. In addition to the macroscopic and histopathological examination, reverse transcriptase polymerase chain reaction (RT-PCR) for IBV was performed. **Results:** The main macroscopic findings were marked diffuse renal atrophy in three layers (3/14) and renal hypertrophy in three other chickens (3/14). Five chickens (5/14) had partial loss of renal lobes and in one (1/14) there was absence of all the left lobes. The ureters of seven layers (7/14) were marked dilated. In six (6/7) of them, several uroliths (similar to chalky precipitates) were found blocking the ureters. Histopathologically, there was urate deposition in the tubules and ureters, distending them and causing compression of the adjacent renal parenchyma. In addition, there were lymphocytic interstitial nephritis in 13 cases (13/14), multifocal proteinuria in six (6/14) and multifocal membranoproliferative glomerulonephropathy in eight chickens (8/14). Five chickens (5/14) had also suppurative urethritis. The RT-PCR for IBV strain was negative. **Conclusions:** The lesions were consistent with renal gout and water restriction was suggested as the etiology in these chickens.

Key words: chickens, histopathology, kidneys, visceral gout.

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Trypanosoma cruzi infection in a domestic dog from Piauí, Brazil

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Background: Chagas disease is an anthropozoonosis endemic in some Latin American countries, caused by *Trypanosoma cruzi*. Dogs can be reservoirs of this protozoan, being a public health concern worldwide. In the acute Chagas disease phase, numerous pseudocysts can be found in the cardiac muscle fibers, as well as the trypomastigote form of *T. cruzi* in the bloodstream. **Case Report:** Canine, male, 7 months old, Poodle, from the rural area of Teresina-PI, Brazil, presented a history of vomiting for 3 days, innumerous ectoparasites, apathy, dehydration, pale mucous, edema and suffusion in the inguinal region, tachypnea and tachycardia. Supportive care, hemogram, biochemical examination and DOT-ELISA for *Ehrlichia canis* were performed. The dog died in the same day, and hence the necropsy was carried out. Fragments of liver, lungs, kidney and heart were collected for histopathology. **Results:** The hemogram showed marked thrombocytopenia, leukocytosis with absolute neutrophilia and eosinopenia. At the blood smear, the promastigote forms of *Trypanosoma* sp was visualized. The biochemical examination showed severe hepatic impairment and in the DOT-ELISA test there was a titration of 1:20, indicating a weak positive result for *E. canis*. Necropsy examination revealed edematous lungs, globular heart with concentric hypertrophy of cardiac chambers and hydrothorax (about 500mL). Histologically there was moderate diffuse degeneration, with individual hapatocyte necrosis, edema and pulmonary congestion, nephrosis and diffuse lymphohistiocytic myocarditis accentuated with fibroplasia. The cardiac muscle fibers showed structures compatible with pseudocysts filled with amastigote forms of *T. cruzi*. **Conclusions:** According to the findings described, it was possible to diagnose an infection by *Trypanosoma* sp., possibly *T. cruzi* as it is the only one that causes myocarditis.

Key words: canine, chagasic myocarditis, trypanosomiasis.

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An outbreak of br virus strain of infectious bronchitis in breeders from Pernambuco, Brazil

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Background: Infectious bronchitis (IB) is an acute and highly contagious avian disease, of major economic importance spread worldwide. In Brazil the infectious bronchitis virus (IBV) is widely disseminated in the poultry producing regions, causing economic losses in Brazilian poultry flocks. **Case Report:** Breeders from Pernambuco, Brazil, from 25 to 58 weeks old had decrease in eggshell quality (deformation and thin bark). Necropsy was performed and fragments of trachea, proventriculus, lungs and tonsil were collected for histopathology and Reverse Transcription-Polymerase Chain Reaction (RT-PCR) and cloacal swab also for PCR. Blood was collected for Enzyme Linked Immuno Sorbent Assay (ELISA) for infectious bronchitis. **Results:** Necropsy examination revealed no noteworthy change, though the RT-PCR was positive to infectious bronchitis variant BR (in all types of sample) and the immune response geometric mean titers (GMT) was 5846 at 25 weeks and 6040 at 47 weeks for infectious bronchitis. Histopathologically, moderate multifocal lymphoplasmacytic tracheitis with hydropic degeneration and individual necrosis of epithelial cells, moderate multifocal lymphoplasmacytic proventriculitis, moderate multifocal lymphocytic bronchitis and diffuse multifocal lymphohistiocytic infiltrate and lymphoid nodule hyperplasia in the tonsil were observed. **Conclusions:** In view of molecular diagnosis, immune titration and pathological findings, infectious bronchitis can be confirmed in laying hens from Pernambuco, Brazil.

Key words: challenge, coronavirus, Massachusetts virus strain, vaccine.

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Lymphoma outbreak caused by reticuloendotheliosis virus in laying hens in the state of Sergipe, Brazil

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Background: Reticuloendotheliosis virus (REV) is a retrovirus that causes immunosuppression and is oncogenic in character. It is a poultry malignant disease that has major economic impact. Histopathologically, it can lead to acute or chronic neoplasia of lymphoid tissue, similarly to other lymphoid diseases, so the differential molecular diagnosis is essential. **Case Report:** Laying hens at 30 and 65 weeks old, had apathy, anorexia, and decreased egg production, with a mortality rate of 5% of the flock. Necropsies of laying hens were performed and fragments of liver, heart, spleen, breast muscle, proventriculus, kidney, barb, crest and planting cushion were collected for histopathology and Polymerase Chain Reaction (PCR). **Results:** Necropsy examination revealed multifocal whitish nodules, measuring from 0.1 mm to 1 cm, in liver, spleen and breast muscle. Barb, crest and planting cushion presented erosive scaly lesions with necrotic center. Liver, heart, breast muscle, spleen, kidney and proventriculus presented the same pattern of microscopic lesions, characterized by infiltrate of mononuclear neoplastic cells with diffuse distribution. In the epidermis of barb and crest, balloon degeneration, ulceration and serocellular crust were observed, in the dermis inflammatory infiltrate, presence of macrophages and heterophils, disorganization of collagen fibers and vascular invasion of neoplastic cells were observed. However, in the epidermis of planting cushion moderate multifocal degeneration, with heterophils, microabscesses and orthokeratotic hyperkeratosis were found, as well as the dermis had diffuse and discrete lymphocyte and heterophile infiltrates. The differential diagnosis for avian leukosis virus, Marek disease virus and reticuloendotheliosis virus was performed by PCR, been positive only for reticuloendotheliosis virus. **Conclusions:** Based on the clinical, PCR and pathological findings, it was possible to diagnose an outbreak of lymphoma caused by reticuloendotheliosis virus in commercial laying hens.

Key words: layer hens, lymphoproliferative diseases, REV, neoplasm.

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Thyroid adenocarcinoma in cats

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Background: Thyroid adenocarcinoma is defined as a malign neoplasm with origin in the thyroid gland. It presents low prevalence compared to benign alterations such as hyperplasia and thyroid adenoma in domestic felines. Adenocarcinoma presents an invasive and highly metastatic character in organs like the lung without sexual predilection and old animals. **Case report:** Feline, female, 4 years old, with history of dyspnea, lymphadenopathy, splenomegaly and fast growing mass in the ventral region of the right cervical. The patient showed aggravation of the clinical condition and euthanasia was indicated. **Results:** Necroscopic examination revealed a multinodular mass in the right cervical region, measuring 4.8 x 3.5 x 1.0 cm, firm, adherent, with a white, multinodular cut surface filled with brownish cystic content, leading to left tracheal displacement. In the abdominal cavity observation, a nodule with similar characteristics to the previous one was found measuring 6.0 x 1.5 x 1.5 cm, adhered to the sternum occupying the 1st to 4th intercostal space. The lung presented several diffuse nodules invading parenchyma varying from 0.1 cm to 1.0 cm with a firm appearance and white color, demonstrating a positive docimasia test. Splenomegaly with nodule measuring 9.0 x 6.0 x 2.0 with cut surface similar to the previous ones. On the histopathological examination, the thyroid had neoplastic proliferation of glandular epithelial cells with moderate presence of nuclear pleomorphism and atypical mitoses. Diffuse thyroglobulin crystals were also seen in a large quantity and moderate inflammatory infiltrate. Lung presenting metastatic pattern of neoplastic glandular cells, congestion and hemorrhage. Liver with hepatic congestion and a metastatic nodule similar to that of the lung. **Conclusions:** It was verified that the described case confirmed the pulmonary metastatic pattern, demonstrating that even with low literary prevalence there was confirmation of thyroid adenocarcinoma in histopathological examination.

Key words: veterinary pathology, oncology, histopathologic.

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Microfilaria detection in lymph node fine needle aspiration cytology

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Background: Microfilaria is the larval stage of filarids development in the blood and/or lymph of infected organisms and in the vector tissues. Dirofilaria immitis and Dipetalonema reconditum, helminths that cause filariasis in dogs and cats, occur simultaneously in several geographic regions and produce microfilariae that circulate in the blood of the natural hosts, being important the differentiation among the species. The diagnosis is based on the clinical signs of cardiovascular dysfunction and the demonstration of microfilariae in the blood that can be performed by direct method (thick drop), by filtration or by concentration (modified Knott technique). **Case Report**: A male canine, non-defined breed, 6 years old, was attended by the medical clinic of the UFMT Veterinary Hospital, *Campus* Sinop, with complaint of progressive volume increase in the submandibular region. Physical examination revealed an increase in submandibular, axillary and popliteal lymph nodes, which were punctured by FNAC (Fine Needle Aspiration Cytology) and sent to the Animal Pathology Laboratory for microscopic examination. No other clinical signs were reported. **Results**: In the cytologic analysis, in all the samples lymphoid hyperplasia was observed, in addition to a large number of eosinophils. In the left axillary lymph node puncture, a parasitic nematode specimen was verified, measuring approximately 80 micrometers compatible with microfilaria in the middle of the lymphoid cells. **Conclusions**: The identification of Microfilaria was performed by FNAC in lymph node in this case, however, the diagnosis of the disease involved should be made based on the parasite morphological characteristics to detect the involved filarial species associated with clinical pathological alterations presented by the animal.

Key words: parasite, cytology, canids, cats.

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Iatrogenic liver lobe torsion in a puppy dog

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Background: Hepatic lobe torsion although uncommon, already that has been identified in domestic animals. The main causes have not yet been fully established, however iatrogenic surgical lesions, trauma episodes, neoplasms, gastric dilations or congenital disorders (absence of a ligament), may predispose a torsion to the axis, varying from 180° to 360° degrees. The clinical signs include vomit, lethargy, inappetence, polyuria, polydipsia, abdominal cramps e distended abdominal. The most frequent consequences are ischemia, infarctions, necrotic, intense hepatic congestion, ascites and pulmonary edema. **Case Report:** A dog, male, 2 months old, Siberian Husky breed, was attended with history of gastric foreign body and referred to gastrotomy. After surgery, the dog showed apathy, vomiting, anemia, and showed stool with blood. The animal received blood transfusion; abdominal ultrasonography showed severe hemorrhagic and possible splenic and hepatic lesions. Splenectomy was performed, but after surgery the animal died. **Results:** The necropsy exam showed that the left lateral hepatic lobe increased in volume with irregular surface and appeared dark red with firm consistency. The diaphragmatic face of lobe was twisted approximately 180 degrees in an anti-clockwise direction, the capsule had easily remove, multiple areas of steatosis in the parenchyma and fissures coated with fibrin. The quadrate lobe was consistency brittle with an extensive hemorrhagic area. The other hepatic lobes had discreet increased volume and multiple steatosis areas. Anemia, intense hemoperitoneum (160 ml), moderate hydrothorax (36 ml), edema, emphysema, congestion and pulmonary hemorrhages were also observed. **Conclusions:** In the present report, anatomopathological findings are compatible with hypovolemic shock secondary to torsion associated with fissures of the left hepatic lobe, possibly resulting from surgical manipulation.

Key words: hepatic torsion, canine, young dog, hepatic fissures, medical error.

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Ophidian bothropic accident in a dog in the state of Bahia

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Background: *Bothrops* snakes are responsible for most snakebite accidents involving domestic animals in the country, which can be justified in part because of its wide geographic distribution as well as the great diversity of the species. The bothropic venom has proteolytic, vasculotoxic, nephrotoxic and coagulant actions. The dogs have moderate resistance to such effects, however, factors such as site of the bite, inoculated volume and time elapsed until treatment, can result in death due to circulatory collapse. **Case Report:** A dog, male, Rottweiler, six years old, raised in a farm, showed acute edema of the right thoracic limb (RTL) and lameness, and was referred for veterinary care. Anti-inflammatory and analgesic therapy was instituted, but there was no improvement in the clinical picture, the animal evolved to inappetence, prostration and vocalization, followed by death four days after the beginning of the clinical signs. **Results: The** necropsy showed a markedly increased RTL with a fluctuating appearance, especially in the radio-ulnar, carpal and metacarpal regions. In the metacarpal, there were two cutaneous perforations with 0.15 cm in diameter and 1.3cm apart (site of the bite). Upon skin cut, large amounts of serosanguineous fluid flowed with fibrin filaments, the subcutaneous tissue was pale, edematous and with multiple petechiae and suffusions. The underlying musculature was necrotic, pale and diffusely hemorrhagic. These changes extended to the distal end of RTL to the right cervical and thoracic regions where there was a focally extensive hematoma associated with edema. In addition, there were moderate pulmonary edema, severe hepatomegaly and moderate congestive splenomegaly, as well as multiple pulmonary, splenic and renal hepatic hemorrhages. **Conclusion:** the diagnosis of snakebite was established based on the clinical-epidemiological data and confirmed by the necroscopic alterations, in particular the necro-hemorrhagic myositis focally extensive and the visualization of the site of the bite in the RLT.

Key words: *Bothrops spp.*, poisoning, coagulopathy, canine diseases, snakes.

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Abdominal effusion analysis as key element in dog illness diagnosis

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Background: Abdominal effusion is an indication of a pathological process with numerous etiologies. Detailed fluid analysis is an easy and inexpensive procedure to obtain information about the possible causes. In this reported case, the fluid analysis was important to determine the diagnosis while cytology exam was performed. **Case Report:** A 13-year-old male dog, mixed-breed, weighting 14 kg presenting abdominal distension identified as ascites. During physical examination dehydration, pale mucous membrane, heart murmurs grade V/VI and limb edema were detected. Besides that, a hard nodule with approximately 3 cm near inguinal region with progressive growth was noticed. Due to laboratory and imaging findings, clinical signs and animal age, the euthanasia was suggested and accepted by the tutor. **Results:** The abdominocentesis was performed and the fluid collected was analyzed. It presented reddish yellow color, turbidity, 5g/dL total protein concentration, 17.200 nucleated cells/mm3 with mesothelial cells predominance, non-degenerated and degenerated neutrophils abundance, macrophages, cells agglomeration presenting malignancy criteria such as anisocytosis and anisokaryosis, abnormal mitosis figures, increased nucleus-to-cytoplasma ratio, and also erythrocytes, erytrophagocytosis and heme breakdown products. Therefore, the fluid was classified as neoplastic with hemorrhagic effusion. The nodule cytology was composed of round and epithelial cells, ropy chromatin pattern, binuclear and multinuclear cells, abnormal mitosis figures, beyond erythrocytes and neutrophils in high quantity. These cytological characteristics suggested mixed neoplasia. **Conclusions:** The patient attended in the hospital had ascites. The initial presumption was heart disease. However, after fluid analysis it was possible to define neoplasia as the main cause of the abdominal fluid distension. Cytological fluid analysis was important to determine the disease etiology. Thus, a detailed fluid analysis is essential to achieve an accurate diagnosis and prognosis.

Key words: fluid cavity, neoplasia, abdominocentesis, cytology.

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Fibromuscular hamartoma in A*mazona amazonica* parrot

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Background: Hamartoma consists of a nodule located on the skin originating from several tissues, which presents benign features easily detected through histopathology, such as delimited shape and mature specialized proliferative cells. Even though the histopathological findings elucidate that it is not a neoplastic condition, other exams are usually applied as supportive diagnosis. The fibromuscular hamartoma is rarely described in exotic pets. **Case Report:** A parrot that has been living with the tutor for about 18 years, weighing 397 grams, presented a circumscribed nodule on left foot, reddish, rigid, measuring 5cm of diameter, bleeding to the touch and with progressive growth of 2 months. The cytologic and radiologic exams were chosen as complementary tests while nodulectomy was performed through biopsy. During this procedure other smaller nodules with the same macroscopic features were noticed in entire parrot's body, however, they were not ablated. The patient had a good recovery after surgery and the other nodules did not increase in size after some weeks. The tutor did not return to the scheduled appointment**. Results:** In nodule cytologic report there were described spindle shaped cells and capillary structures, rounded to spindle nuclear shapes, slightly basophilic cytoplasm, some of them with vacuoles, suggestive of hemangiopericytoma. Imaging findings revealed a circular structure with radiographic opacity in metacarpal bones with 1.6 cm x 1.7 cm, also suggesting neoplastic process. Nevertheless, histological sections showed a highly keratinized stratified epithelium. On the derma, there was a loosely constituted and highly vascularized connective tissue, apparently proliferated. Neoplasia or inflammation features were not observed. As a result, the biopsy indicated the process as fibromuscular hamartoma. **Conclusions:** The cytology and radiographic tests are easy and fast exams commonly used in veterinary routine triage, however in hamartoma the histopathological analysis is definitive about the diagnosis, considered the gold standard technique.

Key words: exotic pets, cytology, histopathology, psitaccines.

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Case report of a pulmonary blastoma in a heifer

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Background: Pulmonary blastoma is a rare aggressive lung neoplasm composed of immature mixed epithelial-and-mesenchymal elements. Some of these components may dominate in a given tumor. Pulmonary blastomas have been reported in humans, dogs, cattle, and rats. The prognosis for these tumors are generally poor, and two-thirds of pulmonary blastomas revealed recurrences and metastasis. **Case Report:** A one-year-old Holstein heifer was received by the Veterinary Pathology Department at Universidade Federal de Lavras, Minas Gerais for necropsy. **Results:** The animal had a clinical history of dyspnea. The main gross findings were thoracic cavity filled with an abundant amount of translucent yellowish fluid, diffuse adhesions of the lungs to parietal pleura, extensive firm masses in the lungs, and increased mediastinal lymph nodes. The cut surfaces showed extensive whitish firm areas interspersed by mineralized foci, with yellowish friable material at the center of these areas. The histopathological findings of the lungs and lymph nodes revealed a neoplastic epithelial cells proliferation. These cells were pleomorphic, with scant cytoplasm and centralized nuclei and were dense and diffusely arranged, sometimes forming tubular structures lined by simple cuboidal to columnar epithelium. Spindle cell arranged in bundles were also seen, as well as neoplastic cell inside blood and lymphatic vessels. Anti-vimentin and anti-cytokeratin immunohistochemical labeling was positive for both. **Conclusion:** The pulmonary blastoma diagnosis was based on pathological and immunohistochemical findings, which is a rare primary lung tumor. The co-expression of cytokeratin and vimentin label suggests the pluripotent origin of this tumor. Differential diagnoses for pulmonary blastomas should include other lung tumors that contain mixed components, like bronchial gland tumors, teratomas, mesotheliomas.

Key words: lung tumors, mesenchymal, epithelial, bovids.

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Lysosomal storage disease in cat: case report

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Background: Metabolic storage diseases consist of rare disorders in humans and domestic animals. These are used as experimental models for the study of the disorders. Lysosomal storage diseases are characterized by enzymatic deficiency causing the accumulation of materials inside lysosomes. **Case Report:** A 1-year-old female cat without breed pattern was received by the Veterinary Pathology Sector of the Federal University of Lavras, where the necropsy was performed. **Results:** The cat had a four-month history of neurological signs, with a clinical diagnosis of cerebellar syndrome and report of progression to emaciation and decubitus at the last month. The gross examination revealed markedly pale conjunctival and oral mucosa and dehydration, diffusely pale and yellowish liver with slightly increased consistency, and engorged meningeal vessels. The brain histological analysis revealed severe neuronal loss, swollen neurons with intracytoplasmic eosinophilic material and nucleus peripherally displaced. Axonal balloons were also observed. In the cerebellum, there was a reduction of cellularity in the granular layer and accumulation of eosinophilic material in Purkinje cells. Similar findings were seen in the neurons of the spinal cord and in the ganglia, besides an abundant quantity of axonal spheroids. The toluidine blue staining evidenced the cytoplasmic material as dark blue accumulations, mainly around the neuronal nuclei. The liver showed diffuse vacuolization of hepatocytes cytoplasm and multifocal macrophages contained cytoplasm filled with eosinophilic material and eccentric nuclei. In the spleen, there were large numbers of macrophages with foamy cytoplasm. **Conclusions:** The diagnosis of lysosomal storage disease was based on the histological findings and the accumulated material was stained by toluidine blue. Complementary tests are required to characterize the accumulated material.

Key words: metabolic disease, neuron, central nervous system.

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Poorly differentiated hemangiosarcoma in a cow

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Background: Hemangiosarcomas are highly malignant tumors derived from endothelial cells. Those are common in dogs, but rare in cattle. **Case Report:** A 7-year-old cow presented progressive weight loss and an ulcerative, exudative, and putrid lesion in the udder. Tuberculosis and Brucellosis tests were negative. The cow was treated with iodine and systemic antibiotics, but the udder lesion failed to heal. An excisional biopsy was performed and representative fragment tissues were sent to the Anatomic Pathology Sector of the Federal Rural University of Rio de Janeiro (UFRRJ). **Results:** Grossly the tissue samples were soft on the cut surface and yellow with red blackish areas in color. Histopathological evaluation revealed a non-encapsulated moderately cellular neoplasm composed of highly pleomorphic round to spindle cells arranged in solid sheets and bundles of intertwined cells. Neoplastic cells had moderate distinct cell borders, moderate amounts of eosinophilic cytoplasm, sometimes filled with hyaline globules, oval to elongate nuclei with finely stippled chromatin, and multiple distinct nucleoli. Anisokaryosis and anisocytosis were prominent and the mitotic count averaged 3.8 per 400x high power field (HPF). Scattered throughout the neoplasm were low numbers of lymphocytes and extensive areas of necrosis. A similar neoplastic proliferation was seen in the regional lymph nodes. Although most cells were epithelial-like, multiple and small blood-filled vascular spaces were noted, wherefore it was decided to submit representative tissue samples to immunohistochemistry evaluation. The neoplastic cells expressed Vimentin, CD31, and Factor VIII, and failed to express immunoreactivity for CK Pan (AE1/AE3). **Conclusions:** Pathological and immunohistochemistry features were consistent with a diagnosis of poorly differentiated hemangiosarcoma.

Key words: vascular tumors, cattle, immunohistochemistry.

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Neurofibroma in cattle: a 11-case study

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Background: Bovine peripheral nerve sheet tumors are generally classified as neurofibroma, schwannoma, and hybrid neurofibroma-schwannoma. Most lesions are restrict to deep thoracic wall nerves and viscera, although skin involvement is also reported. Affected nerves are thick, firm, grayish, and multilobulated on the cut surface. **Case Report:** Epidemiological and pathological aspects of 11 bovine neurofibromas were evaluated. Data were retrieved from necropsies conducted on the Anatomic Pathology Sector of the Federal Rural University of Rio de Janeiro (SAP/UFFRJ), from 1953 to 2018. **Results:** The geographic distribution of the 11 cases of bovine neurofibroma is described as it follows: Rio de Janeiro (7/11), Pará (2/11), Amapá (1/11) and Minas Gerais (1/11). Sample tissues were obtained from both biopsy (7/11) and necropsy (4/11) procedures. Affected cattle ranged from 1.5 to 11 years old and showed a female/male ratio of 6/2. The clinical history failed to provide gender information in three cattle. Ten out of 11 tumors arise from the skin. Common cutaneous site included facial, scapular, dorsal, lumbar, sacral-lumbar, and pelvic limb areas. One neoplasm arose from the heart. Grossly all 11 cases similar features were found; an elevated and sometimes ulcerated lesion arising from the affected anatomic site. Histological evaluation showed a mesenquimal neoplastic cell proliferation composed of poorly defined interlacing streams and bundles of tightly packed spindle cells embedded in a loose collagenous stroma. The neoplastic cells had a moderate quantity of eosinophilic cytoplasm and round to elongated, hyperchromatic and vesicular nucleus. Mitosis were rare. **Conclusions:** Retrospective surveys on bovine neurofibromas are rare in Brazil. This research evaluated 11 bovine neurofibromas, 10 arising from the skin. Pathological features were similar in all cases.

Key words: perineural tumor, Schawnn cells, neurofibromatosis.

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Causes of death and euthanasia in domestic cats in Santa Catarina Plateau (1995-2015)

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Background: Causes of death in felines constitute important information to owners, veterinarians and researchers, comparing mortality rates across breed or gender preferences and suggesting theories about the origins and possible evolutions of a disease, aiming at reducing the number of deaths in these animals. Studies addressing the causes of death in cats in Brazil are scarce. **Objective:** This study aimed to determine the most prevalent diseases in cats that died in Santa Catarina plateau. **Methods:** Data from 1995 to 2015 available in necropsy files of the Laboratory of Animal Pathology (LAPA) in University of Santa Catarina State (UDESC) were collected and evaluated. Individuals of all age groups, breeds and genders were included in this study. The causes of death were classified as degenerative diseases, endocrine or metabolic diseases, infectious diseases (viral, bacterial and fungal), intoxications and toxi-infections, malformations, neoplasms, nutritional disorders, parasitic diseases, traumas, and others. **Results:** In that period, 1,728 cats were necropsied, mainly males (46.12%) and adults (50.11%). The mean ages at death for kittens, adults, and elderly were 5.07 months, 3.9 years, and 13.9 years, respectively. The cause of death was identified in 1,184 (68.52%) cases. The three main categories were infectious diseases (15.8%), where feline infectious peritonitis (32.6%) and sepsis (13.18%) were the most common diseases, neoplasms (11.98%), represented predominantly by lymphoma (44.93%) and leukemia (16.91%), and traumas (11.81%), mainly from automotive origin (67.65%). The frequency of the other categories was 9.26% for degenerative diseases, 2.95% to intoxications or toxi-infections, 1.56% to metabolic disorders, 1.5% to parasitic illnesses, 1.45% to nutritional disorders, 0.52% to malformations and 11.68% for other diseases. **Conclusions:** These results show the need of the owner's awareness, as well as the establishment of prophylaxis and vaccination programs, aimed at reducing the number of deaths and thus increasing life expectancy in the feline population.

Key words: mortality, infectious diseases, neoplasm, trauma, feline.

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Histopathological evaluation of young bulls (*Bos taurus*) testicles subjected to immunocastration with BOPRIVA®

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Background: Immunocastration is a less invasive and painless technique, promoting the production of specific autoantibodies against Gonadotropin Releasing Hormone, disrupting the sexual hormones production. Histological evaluation is useful to correlate the different degrees of testicular degeneration in relation to other characteristics of immunocastrated males, especially in relation to very young bulls confined under breeding conditions in southern Brazil, where there are a few studies in the area. **Objective:** To correlate different histological grades of testicular degeneration in bovines immunocastrated with BOPRIVA®, their weight and scrotal perimeter, comparing with testicles of whole males. **Methods:** Eighteen crossbreed Angus cattle were used, confined from weaning (7±1 months) to slaughter (15±1 months). The total period of feedlot was 271 days. Nine were slaughtered non-castrated and nine immunocastrated with three doses of BOPRIVA® (days 0, 87 and 223). The testicles were packed in 10% formalin, processed for histopathological analysis and subjected to graduation, zero for testicles without alterations; one, for a mild degree of degeneration; two for a moderate and three for a marked degree. **Results:** The testicles of non-castrated cattle obtained a higher mean weight (0.6kg) and scrotal perimeter (33.77cm) and zero degree of testicular degeneration. The immunocastrated ones reached a mean weight of 0.43kg, a scrotal perimeter of 27.4cm and the histological grade was inversely proportional to the scrotal perimeter, where 33.33% had a mild, 33.33% moderate and 33.33% marked degree of degeneration, including Sertoli and Leydig cell atrophy, absence of spermatogenesis, and reduction of seminiferous tubules. **Conclusions:** Immunocastration with BOPRIVA® is moderately effective as an alternative to surgical castration in young Angus cattle, with good histologically proven hormonal suppression. However, in order to make the efficacy of immunocastration more effective, an adjustment in the period among the vaccines may be performed on the animals, avoiding possible ineffective suppressive responses in certain individuals.

Key words: precocity, testicular degeneration, castration, cattle, GnRH.

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Evaluation of coccidiosis in broilers and their possible association with necrotic enteritis

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Background: Coccidiosis is an important enteric disease in birds that can lead to intestinal damage and predispose to secondary bacterial infections, causing increased feed conversion and mortality. **Objective:** To evaluate the occurrence of coccidiosis in broilers associated with the development of necrotic enteritis. **Methods:** Thirty-two lots with eight birds each were evaluated, totaling 256 samples. Macroscopic and histological lesions received a score for coccidiosis and necrotic enteritis. Intestinal fragments were collected for anaerobic culture for *Clostridium perfringens*, followed by detection of the *NetB*-encoding gene, and intestinal contents pool for *Eimeria* PCR. Results: Macroscopic and microscopic coccidiosis lesions are described in Table 1.

Table 1. Grade of coccidiosis lesions in broilers.

Grade	Macroscopic lesions				Microscopic lesions			
	Eimeria acervulina	*Eimeria maxima*	*Eimeria tenella*	*Eimeria brunetti*	Duodenum	Jejunum	Ileum	Cecum
G0	64% (164)	90.6% (232)	90.2% (231)	99.2% (254)	45.7% (117)	62.5% (160)	92.9% (238)	83.9% (215)
G1	27%(70)	8.9%(23)	9.7%(25)	0.7%(2)	38.2%(98)	21.4%(85)	5%(13)	9.3%(24)
G2	7%(18)	0.3%(1)	-	-	8.9%(23)	5.4% (14)	0.7%(2)	1.5%(4)
G3	1.5%(4)	-	-	-	7%(18)	10.5%(27)	1.1%(3)	5%(13)

In the PCR for *Eimeria*, 34.3%(11/32) of the batches were positive, with 21.8%(7/32) *E. tenella*, 18.7%(6/32) *E. maxima* and 3.1%(1/32) *E. acervulina*. Macroscopic lesions of necrotic enteritis were Grade 1: 32%; Grade 2: 46%; Grade 3: 21% e Grade 4: 0.7%, being that, in histopathology, only mucosa and submucosa hemorrhage was observed, in addition to *Eimeria* spp. *Clostridium perfringens* type A was found in 8.2%(21/256) of the samples but all *C. perfringens* strains were negative for the *NetB*-encoding gene. **Conclusions:** It was possible to observe that macroscopic lesions do not characterize necrotic enteritis, based on the histopathology and negativity of the *NetB* gene. In addition, it was observed that the macroscopic criteria for evaluation of coccidiosis should be reviewed once it does not agree with the histology and the PCR.

Key words: *Eimeria*, *Clostridium perfringens*, *netB*, intestinal disease.

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Malignant peripheral nerve sheath tumor in the ocular globe of an American Kestrel (*Falco sparverius*)

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Background: Nerve sheath tumors are neurogenic neoplasms that can affect cranial nerves, peripheral nerves, or nerve roots, originating from cells that sheathe these structures. The most frequent reports occur in dogs and cattle, but they are also described in cats, horses, pigs, goats and rarely in birds and humans. **Case Report:** The Wildlife Rehabilitation Center of Florianópolis, SC, Brazil, admitted through legal tutors, an American Kestrel (*Falco sparverius*) body weighing 95 grams, in good body condition, without clinical signs, and with increased volume and exophthalmos in the left eye. The affected ocular globe passed through the surgical procedure for enucleation, but the bird died during the intraoperative period. **Results:** The removed eye was being compressed by a whitish and firm mass measuring 3.5x2.5x1.5cm in the retrobulbar site. Histological evaluation was observed around the ocular globe, a neoplastic proliferation of the spindle to the polyhedral cells, with the arrangement in bundles, swirls or palisades, interspersed with scarce fibrovascular stroma. The cells had an oval nucleus, dispersed chromatin, with 1 to 3 evident nucleoli, and eosinophilic cytoplasm, moderate and indistinct. There were moderate cellular atypia and more than one mitosis figure per field of higher magnification (40x). Masson's trichrome staining was negative for fibrous connective tissue. Immunohistochemistry was performed to confirm the type of neoplasm. Tumor cells demonstrated positive labeling for vimentin and CD57 (NK1), non-reactive for CD56 (NCAM-1B6) and S100 protein, and negative for smooth muscle alpha actin (1A4). **Conclusions:** The histopathological and immunohistochemical examinations confirmed the diagnosis of malignant peripheral nerve sheath tumor. In canines the tumor of retrobulbar nervous sheath is common, however this neoplasm seems to be rare in Falconiformes, seen the scarcity of reports in the literature, but already described in Psittaciformes and Galliformes. Furthermore, the retrobulbar location of the tumor severely influences the quality of life and survival of Falconiformes.

Key words: neoplasms, bird, Falconiformes, retrobulbar tumor.

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Fungal rhinitis in a dog

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Background: Nasal aspergillosis, a sino-nasal infection caused by *Aspergillus* sp. fungi, is considered a relatively common local respiratory infection in dogs. The clinical symptomatology is variable and a diversity of signs can be observed: nasal discharge, sneezing, algia and unilateral or bilateral volume increase. **Case Report:** A male Border Collie, approximately 6 years old, residing in the countyside was admitted for clinical care with the complaints of mucopurulent discharge in the left nostril, sneezing, and volume increasement in the nasal region. The owner reported that the animal had already been treated with doxycycline, showing no improvement in the clinical conditions. **Results:** Hemogram, biochemistry and chest x-ray tests were carried out, none of which presented worthwhile changes. The cytological examination of the left nostril revealed the presence of inflammatory cells. Therefore, a rhinoscopy examination was performed for local evaluation along with the samples collection for anatomopathological examination. In the samples subjected to the laboratory it was possible to observe the presence of inflammatory infiltrate predominantly piogranulomatous (pus consisting of neutrophils and eosinophils) with areas of tissue necrosis associated with a large number of fungal hyphae. The hyphae had parallel walls, with a diameter from 10 to 20 μm, at times septate and branched. Thus, the diagnosis of fungal rhinitis was established. For fungal identification, tissue fragments were subjected to the immunohistochemistry technique, using polymer method. The samples presented immunostaining for *Aspergillus* spp., mainly in the wall and cytoplasm of the hyphae, varying from moderate to strong. **Conclusions:** Based on the clinical history, anatomopathological findings (traditional HE staining and periodic acid-Schiff - PAS) and immunohistochemistry results, the diagnosis of fungal rhinitis caused by *Aspergillus* spp. was confirmed.

Key words: *Aspergillus* sp., rhinoscopy, periodic acid-Schiff (PAS), immunohistochemistry.

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Death caused by air pressure rifle projectile in a dog

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Background: The occurrence of traumatic injuries by air pressure rifle projectiles in animals is widely experienced in the veterinary routine. However, in most cases, the injury hardly leads to serious lesions and rarely to death. At necropsy, the presence of the projectile is often described as an incidental finding without major relevance. **Case Report:** A two-year-old male Dachshund was referred for necropsy examination. According to the clinical history elucidated by the responsible person, the animal disappeared about 2 days ago. The tutors reported hearing shooting sounds and, soon after, the animal was spotted by a third party being buried. **Results:** At macroscopic examination, it was observed an advanced stage of decomposition. On the skin, a perforation with rounded and darkened edges in the right side of the thoracic region was noticed (in intercostal space between 8th and 9th ribs) associated to hematoma and hemorrhagic edema that, extended to the subcutaneous tissues; still, in subcutaneous and subsequent tissues, a similar perforation as the one on the skin was visualized, following a trajectory into the thoracic cavity. Upon inspection of this cavity, abundant hemothorax was observed. In one lung, consolidation foci and a circular hemorrhagic lesion in the right caudal lobe were spotted. During the opening and inspection of pericardial sac there was marked hemorrhage and, in the blood, the presence of foreign body compatible with a projectile, measuring approximately 7 x 5 cm; in the cardiac musculature there were two perforations in rounded continuity and with darkened edges in the left ventricle. At histopathology, the lung presented atelectasis, edema and hemorrhage. **Conclusions:** Based on the clinical history reported combined to anatomopathological findings, the cause of death was established as fatal heart injury caused by a projectile of an air pressure rifle that culminated with hypovolemic shock and cardiorespiratory insufficiency.

Key words: cardiac perforation, foreign body, hypovolemic shock.

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Carcinoma with spinal metastasis: report of two cases in dogs

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Background: Neoplasms are important causes of death, and among them the carcinomas are noteworthy. In dogs, metastasis of mammary carcinomas and squamous cell carcinomas to the skeletal system are rarely described. Thus, this work aims to report two cases of dogs that developed metastatic carcinomas to the spine. **Case Report:** The first dog was a 10-year-old male with clinical history of amputation of the right pelvic limb due to squamous cell carcinoma. The second dog was an 8-year-old female with clinical history of mastectomy. At clinical evaluation, both dogs had paralysis of pelvic limbs, apathy, anorexia and progressive weight loss. The dogs were submitted to euthanasia due to the inefficiency of clinical treatment and pain control. **Results:** At the necropsy of the first animal, a mass of approximately 15x8cm, whitish and firm, was observed, involving and infiltrating the lumbar vertebrae from L5 to L7. Lumbar mass histology resulted in the diagnosis of metastatic squamous cell carcinoma, confirmed by immunohistochemistry for Protein p53 and Cytokeratin. At the necropsy of the second animal, a nodule projecting between T3 and T4 was observed, yellowish white and firm, measuring about 5x3.8cm, invading the spinal canal and compressing the spinal cord. Histological evaluation of this nodule revealed it was a solid mammary carcinoma, which was confirmed by immunohistochemistry for Cytokeratin and C-*erb*B2 Oncoprotein. **Conclusions:** Metastatic spinal carcinomas are uncommon in dogs. The histopathological evaluation combined with the use of immunohistochemistry is extremely important for the determination of the tumor histogenesis associated to the metastasis. In this report, the expression of the p53 protein in case 1 and the expression of the C-*erb*B2 oncoprotein in case 2 confirm the histopathological diagnosis of both neoplastic proliferations. Neoplasms are an important differential diagnosis in patients that demonstrate neurological signs suggestive of spinal cord compression.

Key words: neoplasm, paralysis, spinal cord compression.

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Medulloblastoma in a calf of the flemish breed

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Background: Medulloblastomas are neuroectodermal tumors of embryonic origin developing in cerebellum and spinal cord and have an unusual occurrence. When it occurs in cattle, it is observed in neonatal cases, leading to multiple neurological clinical signs. Flemish cattle are considered at risk of extinction and the rare specimens of Brazil are in Lages, Santa Catarina. **Case Report:** The case of a two-month-old calf with difficulty remaining in a standing position, imbalance, opisthotonus, strabismus, and broad-based gait is described in this study. **Results:** The animal was euthanized, and the necropsy showed an irregular, whitish pink, and friable mass in the cerebellar vermis region, measuring 5×6×3.8 cm associated with the dilation of the lateral ventricles, which extended through the interventricular foramen, midbrain aqueduct, and fourth ventricle. Histologically, it presented elongated triangular neuronal cells arranged in a dense sheet that sometimes encircled small areas of neuropil to form Homer-Wright pseudorosettes. These characteristic tumors were compatible with a medulloblastoma. The tumor immunohistochemical (IHC) evaluation demonstrated a positive staining for vimentin in neoplastic cells and glial fibrillary acidic protein in neoplastic stromal cells, non-reactive for synaptophysin, and negative for S100 protein and pan-cytokeratin. Tests for differential diagnosis as PCR for *Neospora caninum* and RT-PCR for BVDV were carried out and both results were negative. **Conclusions:** The histological and topographical characteristics were paramount for determining the medulloblastoma diagnosis and the IHC panel is similar to that observed in other studies. Tumor growth is limited by skull bony structures, allowing to determine that the clinical signs expressed by the animal were directly related to the compression of important functional structures due to tumor expansion. Medulloblastoma is an unusual tumor in all the animal species, not previously reported in Flemish cattle, and necropsy followed by histopathological examination is essential for the diagnosis.

Key words: neoplasm, neuropathology, central nervous system, ruminant.

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Importance of biomolecular technique in formalin fixed paraffin embedded tissues for complementation diagnosis of yellow fever infection in a *Callithrix*

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Background: Yellow fever (YF) is a zoonotic, reemerging, noncontagious disease, caused by the YF virus and transmitted by the vector mosquitoes. Epizootics among neotropical non-human primates (NHPs) are sentinel events that indicate circulation of YF virus in an environment, triggering vaccination in human population. The infection must be confirmed through histopathology and immunohistochemistry (IHC) and/or amplification of YF virus genomic sequences. **Case Report:** A 7-year-old, common marmoset (*Callithrix* spp.), with history of travel to Juquehy during owner's vacation, presented vomiting, fever and lower limbs paralysis. No abnormalities were reported in hematological and biochemical parameters. **Results:** Necropsy examination revealed liver with heterogeneous coloration. Histologically, mild, multifocal, macrogoticular degeneration with rare apoptosis in hepatocytes were observed. Rare hepatocytes, cardiomyocytes, and cerebellar glial cells showed positive immunolabeling for YF virus antigens. Astrogliosis in cerebellum and brain was noticed trough GFAP IHC. No amplification of YF virus was identified through RT-qPCR in fresh frozen tissue, however, a detectable amplification was evidenced by the same technique in formalin fixed-paraffin-embedded (FFPE) tissue (Cq = 31,98). **Conclusions:** Based on the histopathology and molecular findings, the diagnosis of YF virus infection was confirmed. It was the first epizootic in the north shore of São Paulo and played a key role in triggering control and prevention measures. Probably, due to the RNA degradation, the RT-qPCR in fresh frozen samples was negative in this case. Thus, FFPE samples were an alternative source to obtain genetic material and have the potential to be applied in endemic areas and to assist in the YF control and prevention.

Key words: Real-Time Polymerase Chain Reaction, immunohistochemistry, pathology, non-human primates, infectious disease.

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Infiltrative liposarcoma in the oral cavity of a cow

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Background: Liposarcoma is a common sarcoma in humans, accounting for almost 20% of all malignant mesenchymal tumors in this species. In animals, it is considered unusual, with a higher prevalence in dogs. This tumor is considered rare in cattle, with only a few cases described. Liposarcomas are known for their infiltrative biology, being able to invade muscles and bones and destroy adjacent tissues. **Case Report:** A 5-year-old Holstein Friesian cow was progressively losing weight and had a cauli-flower-like mass on the right side of its jaw. Because of its bad body condition, euthanasia was elected. Necropsy was performed. **Results:** Upon necropsy examination, a 2x8x5cm friable mass was observed in the right jaw. It was brownish with white areas, irregularly-shaped and multilobulated. It destroyed and replaced the underlying alveolar bone (fourth molar tooth was absent), affecting the area corresponding to from the third to the fifth molar teeth and sparing the tongue. Histologically, it was constituted of a densely cellular, poorly demarcated, unencapsulated neoplastic proliferation. The neoplastic mesenchymal cells were arranged in large islands sustained by a moderate quantity of fibrous connective tissue. The neoplastic cells were round, with distinct cytoplasmic borders and a moderate amount of cytoplasm that was almost entirely replaced by one or multiple round, non-stained vacuoles (lipid). Multifocal necrosis was present inside the tumor, and approximately 4 mitotic figures in 10 high power fields were seen. Multifocal areas of bone destruction and replacement by the tumor cells were also observed. The tumor was diagnosed as a liposarcoma of the jaw. **Conclusions:** Despite their rare occurrence, liposarcomas should be included in the list of differential diagnosis of bovines oral cavity tumors.

Key words: sarcoma, jaw, cattle.

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Periventricular encephalitis in an English puppy Bulldog

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Background: Hydrocephalus is a distension of the ventricular system due to cerebrospinal fluid (CSF) accumulation. It is more frequently congenital, however, it can also be acquired. Periventricular encephalitis is a rare condition of young dogs. These animals are generally born normal and develop acute neurologic signs at 2-3 months of age. The clinical course is progressive, and most animals die. At necropsy, the animals have hydrocephalus and brain hemorrhages. Histologically, severe inflammation and necrosis of the subependymal tissues are observed surrounding the dilated ventricles. The cause and pathogenesis of periventricular encephalitis of dogs remain unknown, however, infectious agents or ischemia induced by rapidly rising intracranial pressure have been proposed. The aim of this study is to report a case of periventricular encephalitis affecting an English Puppy Bulldog. **Case report:** A 4-month-old, female, English Bulldog was submitted to necropsy after a one-month history of ataxy. This clinical sign had recently progressed to tremors, impossibility to move and vocalization. The animal died naturally and was subjected to necropsy. **Results:** At necropsy, the brain had severe distension of the lateral and forth ventricles, with secondary parenchymal atrophy. The brain parenchyma was soft and had multiple pin-point hemorrhages. The central canal of the spinal cord was also dilated. Histologically, malacia and severe neutrophilic and lymphohistiocytic inflammation affected the white matter surrounding the brain ventricles and the gray matter surrounding the central canal. Fresh brain samples were collected for canine parainfluenza and distemper investigation, however, they were negative. No bacterial, fungal or protozoal organisms were found throughout the brain or spinal cord, even with the use of Periodic Acid-Schiff and Gram stains. **Conclusion:** Despite its rare occurrence, periventricular encephalitis should be considered as a differential diagnosis for puppies with an acute onset of neurological signs. The pathophysiology of this condition remains unknown.

Key words: hydrocephalus, encephalitis, dog.

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Papillary serous endometrial carcinoma in a cat: case report

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Background: Endometrium carcinomas are considered rare tumors in domestic animals, although they are the most frequently diagnosed uterine tumors including cats. In fact, the number of publications on the subject in the last few years has been increasing, raising the question of the real tumor incidence in the feline species. **Case Report:** A 9-year-old, mixed-breed cat (*Felis catus*), had clinical signs of constant vomiting, anorexia, prostration, mild abdominal sensitivity, nasal secretion, lean, and dehydrated. Upon ultrasound examination, an intraluminal tumor was detected in the right uterine horn, measuring 2.69cm x 1.56cm, soon afterwards submitted to a pathological ovariosalpingohisterectomy procedure. **Results:** Upon analysis of the surgical specimen, the right uterine horn revealed a soft, irregular area of increased volume. The cut surface showed an intraluminal lobulated, tan, solid tumor, completely occluding the lumen. Histological analysis exhibited a non-encapsulated neoplasm composed of endometrial glandular epithelial cells, arranged in tubules with accumulation of central serous substance, and papillae with growth towards the lumen, supported by septa of fibrous connective tissue. The cells showed eosinophilic, cylindrical to polygonal cytoplasm, round to oval and central to basal nucleus, with coarse chromatin and prominent nucleolus. Anisocytosis and anisokaryosis, two mitotic figures per high power field and high nucleus to cytoplasm ratio were observed. **Conclusions:** Based on the histologic findings, the diagnosis of Papillary Serous Endometrial Carcinoma was made, contributing to the epidemiological study of this subtype that is considered the most frequent of the feline endometrial carcinomas.

Key words: feline; neoplasm; uterus.

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Myeloid leukemia in swine and sheep

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Background: Leukemia is a malignant neoplasm of hematopoietic precursor cells in the bone marrow, resulting in loss of cell differentiation, growth and functionality. Leukemia is classified according to its cellular origin (lymphoid or myeloid), course of the disease (acute or chronic), and the occurrence of neoplastic cells in the blood (leukemic or aleukemic**). Case report:** The first case was a five-month-old pig, industrial crossbred, which presented lateral recumbency and dyspnea. The second case was a four-year-old female Texel sheep, at the end of pregnancy, with apathy, severe anorexia, hyperthermia (40.8ºC) and congestion of ocular and vulvar mucosae. Both animals had a history of sudden death. **Results:** At necropsy, the pig showed a good body condition, petechiae and suffusions in the subcutis, moderate splenomegaly and hepatomegaly with moderate congestion. The sheep presented severe splenomegaly and a yellowish liver with moderate evidence of the lobular pattern. In the microscopic examination, the pig presented a massive amount of rounded cells from 10 to 25 μm of diameter inside the blood vessels of the lung, spleen, liver, stomach, and small intestine. The round cells resembled myeloblasts, which had fine chromatin, inconspicuous nucleoli, with scanty cytoplasm, moderate cellular atypia and rare mitotic figures per field (0.237mm2). The ovine presented neoplastic cells similar to those described in the swine, mainly in the blood vessels of the lung, spleen, liver, heart, lymph node and brain. In the liver, necrosis and moderate macrovacuolar degeneration were observed in the centrilobular zone. **Conclusion**: The diagnosis of myeloid leukemia in both cases was concluded based on the gross and histopathological lesions. This illustrates the importance of necropsy and histopathological evaluation in livestock to determine the diagnosis in case of sudden deaths.

Key words: hematopoietic neoplasia; splenomegaly; livestock.

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Necrotic enteritis associated with *Clostridium perfringens* type a in a captive giant anteater (*Myrmecophaga tridactyla*)

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Background: *Clostridium perfringens* is a Gram-positive bacillus that can be classified in five types, according to the presence of the typifying toxins: alpha, beta, epsilon and iota. *C. perfringens* type A is characterized by the presence of only alpha toxin. It is frequently associated with enteric disease in domestic animals. However, it could be also normally present in mammals enteric microbiota. In sheep, yellow lamb disease, caused by *C. perfringens* type A, should be suspected when there is a count of colonies of 10^4-10^7 CFU/g of intestinal contents. There are only a few reports of enteric diseases in anteaters, most of them on enteric helminths and coccidia. This report aims to describe a necrotizing enteritis associated with *C. perfringens* type A in a captive giant anteater (*Myrmecophaga tridactyla*). **Case Report:** An adult, female, giant anteater captive at the Belo Horizonte Zoological Garden was found dead. The animal had no previous clinical history and was considered in good health. **Results:** Grossly, small intestine serosa was diffusely dark red. Intestinal content was also dark red with a mucous appearance. Other lesions included splenomegaly and moderate hemoperitoneum. Histopathology evidenced a severe necrotizing enteritis with myriad of intralesional and intraluminal Gram-positive bacilli. The intestinal content was sampled for anaerobic culture, resulting in isolation of *C. perfringens* with more than 10^6 CFU/g of intestinal contents and positive PCR only for the alpha toxin, characterizing the isolate as type A. **Conclusions:** The characteristic anatomopathological lesions in this case associated with isolation of *C. perfringens* with more than 10^6 CFU/g of intestinal content is highly suggestive of a clostridial infection and enterotoxaemia, which is the first reported case in a giant anteater.

Key words: zoological; pathology; wild animals; enterotoxaemia; Gram positive bacilli.

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Pathological findings of a Collared Anteater (*Tamandua tetradactyla*) attacked by a Brazilian Porcupine (*Coendou prehensilis*)

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Background: Lesions caused by porcupine quills are common in dogs, although other species can also be affected. Mixing different species in the same premises in zoos is a common practice. However, traumatic injuries may be a problematic consequence. This report aims to describe gross and microscopic lesions of a collared anteater (*Tamandua tetradactyla*) that died due to a Brazilian porcupine attack (*Coendou prehensilis*). **Case Report:** A collared anteater and a Brazilian porcupine were kept together in captivity at Belo Horizonte Zoological Garden. In September 2017 the collared anteater was hospitalized for removing porcupine quills, with a history of a fight with a Brazilian porcupine that shared the premise. Physical examination indicated a good condition, however the animal died overnight, and a full necropsy was performed five hours after death. **Results:** Grossly, there were puncture lesions on the foot pad of thoracic limbs and throughout the abdominal skin. One quill was still lodged on the skin of the right thoracic limb. The subcutaneous tissue in all the affected areas had a focally extensive and severe hemorrhage which microscopically contained erythrocytes, neutrophils, and a few macrophages. Moreover, on the puncture lesions, there were focally extensive areas epidermal loss, with abundant crusts, which were composed of serous exudate, cellular debris, and neutrophils, characterizing an ulcer that containing large colonies of coccoid bacteria. Blood vessels in those areas were often ecstatic with severe hypertrophic endothelial cells and surrounded by a moderate population of lymphocytes, neutrophils, macrophages, and scarce fibroblasts proliferation. **Conclusions:** This case described a porcupine attack to an anteater, both kept in the same premises. Keeping different species in the same premise is a common practice. The lesions resulted in the anteater's death, suggesting thus that the porcupine quills might have inoculated bacteria that resulted in septic shock.

Key words: zoological, pathology, wild animals, septic shock, quills.

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In vitro cell viability evaluation of receptor tyrosine kinase inhibitor in primary canine prostate carcinoma cell lines

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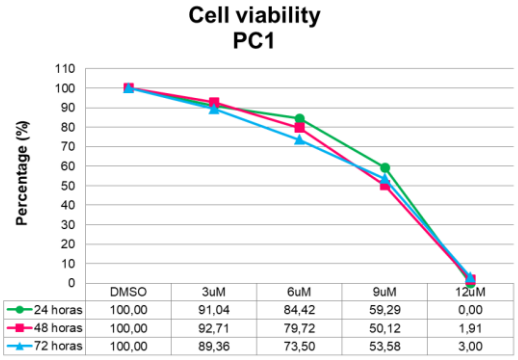
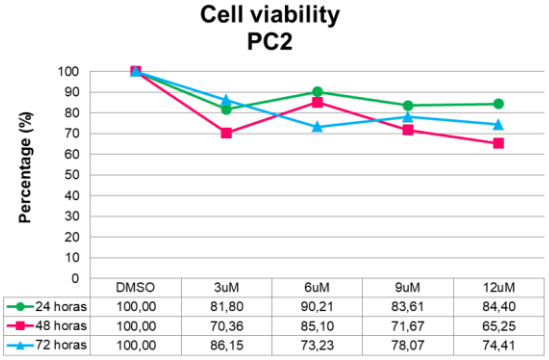
Background: Prostate cancer (PC) has high mortality rates in male dogs, mainly due to metastasis. Several protein tyrosine kinases are involved in carcinogenesis and metastasis in different type of cancers, including PC. Phosphate toceranib is a receptor tyrosine kinase inhibitor, including VEGFR, PDGFR and c-KIT, and can be an additional therapy in canine prostate carcinoma. **Objective:** To evaluate the protein expression of VEGFR2, PDGFRβ and c-KIT in two primary canine PC cell lines and assess their toceranib phosphate in vitro cytotoxicity. **Methods:** Two primary canine PC cell lines (PC1 and PC2) were previously stablished and cultured. Immunofluorescence was performed to identify VEGFR2, PDGFRβ and c-KIT protein expression. *In vitro* cytotoxicity was assessed in both cell lines using the MTT assay and the percentage of viability was calculated with the following equation: $[(A_{treatment}-A_{blank})/(A_{control}-A_{blank})] \times 100$; where A=Absorbance. **Results:** Both cell lines revealed VEGFR2 and PDGFRβ cytoplasmic expression, but no c-KIT expression. PC1 cells were significantly decreased in a dose-dependent manner (IC50: 9µM) (Figure 1), but not in PC2 cells (Figure 2).



	DMSO	3uM	6uM	9uM	12uM
24 horas	100,00	91,04	84,42	59,29	0,00
48 horas	100,00	92,71	79,72	50,12	1,91
72 horas	100,00	89,36	73,50	53,58	3,00

Figure 1



	DMSO	3uM	6uM	9uM	12uM
24 horas	100,00	81,80	90,21	83,61	84,40
48 horas	100,00	70,36	85,10	71,67	65,25
72 horas	100,00	86,15	73,23	78,07	74,41

Figure 2

Conclusions: This study suggested the presence of tyrosine kinase receptors in canine PC. The results of this study showed that neoplastic cells respond differently to toceranib phosphate and demonstrate the importance of personalized therapy.

Key words: toceranib phosphate, MTT assay, VEGFR, PDGFR, c-KIT.

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Metastatic mammary carcinoma in rabbit (*Oryctolagus cuniculus*): case report

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Background: Rabbits have become popular pets, seen most commonly in veterinary practice. The histopathological features of neoplastic and non-neoplastic proliferations of the mammary gland of rabbits are poorly described. Histopathological casuistry in rabbits has been increasing, most of them in pet rabbits. The objective of this work is to report a case of mammary carcinoma in a rabbit. **Case Report:** Rabbit, female, Dutch, 7 years old, showing subcutaneous firm nodules and adhered to the mesogastric and hypogastric region with growth for 3 months. Ultrasonography demonstrated a solid and heterogeneous appearance with intraparenchymal nodular areas, with mixed vascularization, suggesting neoplastic / metastatic infiltration. Nodulectomy was performed, the formations were adhered to the abdominal musculature and were irregular and firm. Histopathological examination revealed papillary tubule simple papillary carcinoma grade II. After 36 days with suspected relapse, the animal was submitted to nodulectomy. Multiple neoplasms spread throughout the abdominal cavity were observed. At the same site of removal of the primary mesogastric node, a very increased neoformation was observed. Euthanasia was performed during surgery due to the impossibility of total nodulectomy. **Results:** During the necropsy, the abdominal cavity was characterized by a solid mass of firm adherence to the peritoneum and several similar masses in the epiplon, as well as nodules in the diaphragm at the insertion of the vena cava, whitish nodules in the mesentery and on the serosa surface of the intestinal loops, and firm nodules in the uterine mucosa. In the thoracic cavity multiple diffuse neoformations were visualized. **Conclusions:** There are few studies on mammary tumors in pet rabbits, with reports similar to the present report. They suggested the hormonal influence on the appearance of these tumors, since hyperplastic and neoplastic lesions of the mammary glands were almost always related to uterine adenocarcinoma. Histopathology is fundamental for the diagnosis, thus enabling an early diagnosis.

Key words: carcinogen, cell, breast.

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Feline cholestasis

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Background: Cholestasis is the bile flow reduction in the biliary tract and the causes may be intrahepatic or extrahepatic. The hepatic bile duct obstruction is a syndrome that may be associated with different etiologies, being uncommon in cats. Its causes are several and unknown. The objective of this work is to report the case of a feline with almost total obstruction in the common bile duct. **Case Report:** Feline, female, undefined, 2 years old and, with a history of prostration, hyporexia, severe hypotension, presence of free abdominal fluid and jaundice. Ultrasound examination revealed biliary mud and enteritis, with no evidence of a specific cause. The analysis of the effusive liquid reports the presence of bacteria. The animal died during hospitalization. **Results:** Necropsy examination revealed decreased liver size with irregular borders, laceration points in some lobes and brownish color. When cutting, organ of friable appearance. Gallbladder enlarged in size, as well as the presence of bile thickened in great quantity. Dilated bile ducts are noticeable. Presence of a soft structure approximately 1 cm in diameter in the common bile duct, causing almost total obstruction of the segment. Kidneys with presence of several firm structures, measuring approximately 0.01 cm in diameter in renal pelvis (calculations?). Bladder filled with yellowish liquid, with several firm structures measuring approximately 0.01 cm in diameter (calculations?). Presence of rounded brownish-colored structures with white edges varying in size from 0.01 to 1 cm in diameter, distributed throughout the mesentery of the abdominal cavity. **Conclusions:** There are few reports of extrahepatic obstruction by colelithiasis in felines. Obstruction of the extrahepatic biliary tract, although uncommon, may have several causes, including inflammation, neoplasia, and foreign bodies.

Key words: obstruction, biliary mud, malnutrition.

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Inclusion body hepatitis in Broiler Breeders

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Background: Inclusion body hepatitis (IBH) is caused by *Aviadenovirus* of species A to E, affecting several avian species, including broiler chickens. Liver lesions include degenerative changes of hepatocytes, infiltration of inflammatory cells and gallbladder hyperplasia. The outbreak here described resulted in decreased performance and increased mortality. **Case Report:** Three-week-old broiler breeder chickens of flock I (n=3) and of flock II (n=5), with mortalities of 4.5% or 1.2%, respectively, were necropsied and the organs were fixed in buffered formalin for histopathological examination. **Results:** The major macroscopic changes for chickens of flock I, were enlarged and pale-red liver (3/3), hydropericardium (1/3), pale-red kidneys, thymus atrophy and cloacal bursa, and pale-red bone marrow (2/3). No macroscopic lesions were found in chickens of flock II. Histopathologically, the livers of chickens of both flocks had scattered multifocal areas with moderate lymphocytic, histiocytic and plasmacytic infiltrations, areas of vacuolar degeneration and lytic necrosis of hepatocytes. There were also numerous hepatocytes with basophilic intranuclear inclusions filling the entire nucleus and displacing the chromatin to the periphery (5/8). In chickens of flock I, intranuclear inclusions in the macrophages of spleen, similar to those observed in the liver and rarefaction of lymphoid follicles (2/8) were present. DNA was extracted from liver, spleen and thymus of three birds of each flock and submitted to PCR for the detection of the *Aviadenovirus* hexon gene. All the sampled organs of flock I had positive results. PCR products were purified and subjected to sequencing, originating sequences identical to those of *Aviadenovirus* E (serotype 8) strains. **Conclusions**: The histopathological and molecular diagnosis of inclusion body hepatitis by *Aviadenovirus* E in broiler breeder chickens is a cause for concern in the poultry industry. Stricter biosecurity of flocks, especially regarding the potential negative effects of infection in the progeny are recommended.

Key words: Aviadenovirus, liver disease, histopathology, PCR, sequencing.

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Avian Poxvirus outbreak in psittacines kept captivity in southern Brazil

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Background: Avian bouba is an infectious disease spread worldwide, affecting domestic and wild birds. The etiologic agent is a Poxvirus and the clinical forms are cutaneous and diphtheritic. **Case Report:** A breeder in São José do Pinhais, PR had 2,000 birds among Canaries, Agapornis, Ring neck, Diamond-of-Gould, Red rumped, Roselas, Goldfinches, Amadinas and Mandarim. In July 2017, Agapornis was purchased from a breeder of São Paulo. This Agarponis was the first to exhibit ocular lesions, which were also observed in the Rosela and Red Rumped, ocular lesions were initially observed, resulting in the of 200 birds, being Roselas the most affected with 70 deaths out of 100 birds in the breeder. The clinical condition started by unilateral or bilateral eyelid infection, anorexia, emaciation and death. The average time of the disease evolution was 10 days. The breeder opted for euthanasia of all the remaining infected birds. **Results:** During the birds necropsy nodulations covered by crusts were observed in eyelid unilateral (36/65) or bilateral (5/65) that occluded partially or totally the eyeball, in beak (18/65), pelvic member (2/65) and oral cavity (2/65). Histopathological examination in conjunctiva, skin in the region of the beak, skin of legs and oral mucosa had epithelium multifocal or diffuse, discrete to severe hyperplasia with necrosis of mucosa focally extensive to multifocal with infiltrate of heterophile, macrophages, lymphocytes and plasma cells, discrete to accentuate. In the epithelium of 13/65 birds there was intracytoplasmic eosinophilic viral inclusion (Bollinger bodies). **Conclusions:** Due to the history, it was suggested that the Poxvirus was spread through the new batch of the purchased Agapornis. This is possibly a species-dependent virus since only a few species of Pscittacines became ill. Macroscopic lesions are characteristic of the cutaneous form of the disease and histological lesions with the presence of Bollinger bodies are pathognomonic of the disease.

Key words: Bollinger bodies, birds, infectious disease.

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Aspiration bronchopneumonia by *Acinetobacter baumannii* in wildlife european hare (*Lepus europaeus*) in Brazil

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Background: *Acinetobacter baumannii* has been described in animals with respiratory infections leading to pneumonia and acute mortality whereas in humans has been related with nosocomial outbreaks worldwide. **Case Report:** An adult male European hare was run over and was found dead. The animal was in regular body condition and in the left femur there were multiple fractures and complete luxation of the tibio-tarsal joint associated with severe and diffuse hemorrhage area. **Results:** Necropsy examination revealed the middle lobe of the lungs were firm, dark-red, there was an abscess measuring 1cm and in the cranial lobes there were 0.5 cm areas of consolidation. On the heart surface, there was a 0.5 cm area of adherence by the pericardial sac with the parietal pleura of the thoracic cavity. After histopathological evaluation of the lungs, there was a moderate multifocal liquefactive necrosis in the middle and cranial lobes associated with heterophilic infiltration, degenerated heterophils, cellular debris, plant fibers and bacterial myriads inside the alveoli, bronchi and bronchioles. These areas were well demarcated and isolated by a fibrous tissue capsule and surrounded by a moderate heterophilic inflammation, macrophages, multinucleated giant cells, lymphocytes and plasma cells. Bacterial growth with the lungs samples was performed and *A. baumannii* and *E. coli* were isolated. The antibiogram tests revealed resistance of *A. baumannii* only for cephalothin and intermediate sensitivity for tetracycline. **Conclusions:** Based on the anatomopathological findings associated with the bacterial growth, the animal died due to hypovolemic and neurogenic shock secondary to trauma. Probably the aspiration bronchopneumonia was produced in free wildlife and due to the dyspnea and weakness caused by the inflammation and lungs alteration, increasing the breathing problems. Therefore, the illness could be related with the accident, being the source of it and an incidental find in this case.

Key words: multidrug-resistant bacteria, Lagomorpha, zoonotic pneumonia.

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Pseudocowpox infection in catle: case report

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Background: The pseudocowpox is a vesicular disease caused by *Pseucowpox virus* (PCPV) of the genus *Parapoxvirus*, being considered a zoonosis. Infection by this viral agent has been described in Brazilian cattle, associated with similar vesicular lesions with foot and mouth disease and vesicular stomatitis. **Case Report:** A 13-month-old Angus male, uncastrated, that had cutaneous lesions and was found dead on the property, with whitish foam in the oral and nasal cavity was submitted to necropsy. The animal was in isolated picket with other animals which also had cutaneous lesions and received high solar incidence. Another bovine, which had similar cutaneous lesions, died and had confirmed diagnosis of Bovine Pseudocowpox by conventional PCR. **Results:** The necropsy was performed and multiples papular and crustal lesions were noted on the skin, with exophytic, soft and warty growth. Some lesions showed ulceration and foci of myiasis. In the *in situ* evaluation of the abdominal and thoracic cavities, there was a large amount of dark red liquid. Fibrinous adhesion among the lung, costal gradient and diaphragm were noticed. Histologically, the lesion of exophytic aspect proliferated from the epidermis and superficial dermis. It was characterized for proliferation pseudocarcinomatous of keratinocytes of the superficial dermis and dermal fibroblasts. In the trachea and nasal shell a moderate inflammatory infiltrate, mucosal epithelium hyperplasia and congestion were noticed. In the lung, neutrophils were observed inside the alveoli. In the alveolar wall, there was accumulation of inflammatory cells, fibrin and fibrosis, associated with severe necrosis, as well as edema and basophilic clumps. **Conclusions:** The animal died due to chronic fibrinous bronchopneumonia, but in parallel had cutaneous lesions compatible with bovine pseudocowpox.

Key words: parapoxvirus, vesicular disease, zoonosis, cutaneous lesion.

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Investigation of vegfr and mTor deregulation in canine mammary gland tumor cell lines

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Background: Canine mammary tumors (CMT) are important in Veterinary Medicine and are considered a model for human Breast Cancer studies. Since no target therapies are available for CMT, studies evaluating drug targets and one of them, tyrosine kinase, are important. **Objective: Investigate** VEGFR and mTOR gene and protein expression in canine mammary gland tumor cell lines and their primary tumors. **Methods:** Six female dogs with mammary gland tumors were included in this study. Immediately after mastectomy surgery, fresh tumors samples were collected to establish the cancer cell lines, according to the previous literature (Costa et al., 2019), and the respective tumors fragment were formalin fixed for histopathological diagnosis. Then, immunofluorescence and qPCR were performed for VEGFR and mTOR in the cell lines and the respective primary tumors. The results were presented in a descriptive way, using percentage of expression for the immunofluorescence results and relative quantification (RQ) for qPCR results. **Results:** Six cell lines were established, CM1, CM5, CM9, CM11, CM60 and MM4. All cancer cell lines (6/6) showed 100% VEGFR and mTOR positive cells. The mean RQ of VEGFR for all the cell lines was 1.04 (±0.337) and 2.2 (±0.54) for mTOR. Regarding the primary tumors, the mean VEGFR protein expression was 65% (±25%) and 43% (±12.5%) for mTOR. The median RQ for VEGFR in the primary tumors was 1.53 (±0.76) and 2.3 (±0.62) for mTOR. **Conclusions:** This study suggests that VEGFR and mTOR are expressed in canine mammary gland tumor, opening a possibility of treatment with tyrosine kinase inhibition drugs. Also, Six CMT cell lines were established that can be a model for testing VEGFR and mTOR inhibitors.

Key words: mammary gland tumors, dog, tyrosine kinase inhibitors, endothelial marker.

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Immunohistochemical characterization of Lysyl-oxidase (lox) expression in mast cell tumours

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Background: Mast cell tumours represent almost one fourth of the malignant neoplasms diagnosed in dogs. Due to their unpredictable biological behaviour, these tumours cause therapeutic frustrations, which lead to intense investigation about prognostic markers. Lysyl-oxidase (LOX) is an enzyme of the extracellular matrix that promotes its structural stability through the collagens reticulation and is related with cell migration, angiogenesis and epithelial-mesenchymal transition. Its expression positively correlates with poor prognoses in human oncologic patients. **Objectives:** To characterize the immunohistochemical expression of LOX in mast cell tumour samples and to compare it among the histopathological grades. **Methods:** Ten canine cutaneous mast cell tumours (6 high-grade and 4 low-grade) were submitted to immunohistochemical analysis for LOX detection. The immunostaining patterns were described and the percentage of positive nuclei and/or cytoplasms were determined in five high-power fields per case. **Results:** All the samples presented high percentage of positive cytoplasms and/or nuclei for LOX. Mast cells, leukocytes, fibroblasts and endothelial cells showed variable positivity. The average percentages for nuclear and cytoplasmic positivity were: 72.71% and 87.47%, for low-grade tumours, and 76.21% and 79.53% for high-grade tumours, respectively. **Conclusion:** Canine cutaneous mast cell tumours express high levels of LOX, but these preliminary results suggest that there are no significant differences between low-grade and high-grade tumours.

Key words: cancer, dog, immunohistochemistry, mastocytoma, prognosis.

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Nuclear morphometry and intratumoral collagen index in canine oral melanomas

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Background: Malignant melanomas (MM) are 7% of the tumours in dogs, occurring more frequently in the oral cavity. Late diagnosis, tumour morphologic variabilities and metastases contribute to poor prognoses and difficulties in treatment. The establishment of precise prognostic markers could guide therapy and increase the cure probability. **Objectives:** To verify the correlation of nuclear morphometric factors, as well as intratumoral collagen index, with nuclear atypia and other known prognostic markers for the disease. **Methods:** Twenty-five histopathological samples of oral canine MMs, stained with H&E or Masson's Trichrome, were evaluated for nuclear circularity and regularity, and intratumoral collagen index (ICI) using an image analysis software. Samples were also graded for nuclear atypia (from 1 to 10), mitotic index and Ki67 index. For nuclear morphometry, three photomicrographs (100x objective) were used, and for ICI, five representative high-power fields (40x objective) were evaluated. **Results:** Circularity and regularity factors did not correlate with histopathological atypia grading and post-surgical survival. The ICIs varied from 0.17 to 12.10% and no statistically significant differences were found regarding pigmentation, nuclear atypia, mitotic index, Ki67 expression and survival. Dogs with higher nuclear atypia (>4) had shorter survival compared with low-atypia group. **Conclusions:** The nuclear atypia grading, although laborious, cannot be replaced by nuclear circularity or regularity morphometric evaluations. Canine oral MMs have small quantities of intratumoral collagen and, therefore, the ICI is not a precise marker to identify more aggressive lesions.

Key words: cancer, dog, extracellular matrix, Ki67, prognosis

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Subcutaneous dracunculiasis in a Brazilian free-ranging cougar (*Puma concolor*)

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Background: Dracunculiasis is the infection by nematodes of the genus *Dracunculus*. In humans, the disease is caused by *D. medinensis* and is characterized by painful blisters mainly distributed on the legs. The life cycle of *D. medinensis* may involve copepods as intermediate hosts that are ingested by humans. Typically, the infective larvae are liberated in the gastrointestinal system and reach the abdominal cavity where copulation occurs. Afterwards, the females migrate into the integument and induce cutaneous blisters through which the larvae are released into the environment[1]. Dracunculiasis has been reported in various carnivore species: raccoons, otters, minks[2] and cougar[3]. To our knowledge, there are no reports of dracunculiasis in Brazilian cougars. **Case Report:** On November 21st, 2018, a juvenile male cougar was killed by vehicular-collision on a highway in Sao Paulo State. Necropsy and histopathological analysis were performed. Results: At necropsy, the main pathologic findings were associated with vehicular trauma (*i.e.*, cutaneous abrasions/lacerations, subcutaneous hematomas, skeletal fractures, pulmonary hemorrhage/congestion/edema and rupture of internal viscera). Additionally, gastric nematodiasis (*Cylicospirura* sp) and multifocal subcutaneous nematodiasis compatible with dracunculiasis were found. Microscopically, the latter were characterized by moderate, focal, chronic (cystic/nodular) histiocytic and fibrosing panniculitis and fasciitis with a single adult nematode. This had a thick and annulated cuticle, thin hypodermis, coelomyeriam musculature and a uterus filled with viviparous larvae. All these characteristics were compatible with Camallanin nematodes[4]. **Conclusions:** The necropsy confirmed vehicular trauma as the cause of death in this cougar. Based on the gross appearance and location, and the histological parasitic features, a diagnosis of subcutaneous dracunculiasis was made. To the authors' knowledge this may be the first evidence of *Dracunculus* sp. in a Brazilian cougar. Molecular analyses aiming at identification of this nematode are underway.

Key words: helminths, parasites; wildlife.

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Canine lymphomas diagnosed in southern Brazil between 2000 and 2017: epidemiology and immunophenotype

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Background: Lymphoma is a neoplasm that originates from solid hematopoietic tissues and is one of the most common tumors in dogs. The lymphoma etiology has been reported to be multifactorial. **Objective:** The goal of the present study was to perform a retrospective study of canine lymphomas diagnosed at Laboratório Regional de Diagnóstico, at Universidade Federal de Pelotas (LRD/UFPel) between 2000 and 2017. **Methods:** The protocols for necropsies and biopsies were reviewed. Epidemiological information, histological descriptions and anatomical locations of the tumors were retrieved. To perform the anatomical classification, the criteria proposed by the World Health Organization (OMS) were used. In addition, 40 cases were selected and classified according to the modified Kiel system. For the immunophenotype B detection, anti-CD79a antibody and for T-immunophenotype, anti-CD3 antibody, were used. **Results**: Lymphoma was diagnosed in 77 dogs. Approximately 37.7% (29/77) of the affected dogs had no defined breed, while dogs with defined breeds accounted for 58.4% (45/77) of the diagnoses. The occurrence in males (40/77) was slightly higher than that in females (36/77), and the mean age was 8.1 years (1.4-17 years). The most affected age group was between six and 10 years old with 31 cases (40.2%). Regarding the anatomical classification, the multicentric form was the most prevalent 71.4% (55/77) of the diagnoses. In 40 cases in which immunophenotyping was performed, B-cell lymphomas represented 62.5% of the diagnoses (25/40), while T-cell lymphomas corresponded to 37.5% of the diagnoses (15/40). The malignancy degree was low in 35% of the lymphomas (14/40) and high in 65% of the cases (26/40). **Conclusions:** The results of the present study demonstrated that canine lymphoma has s mostly immunophenotype B and is multicentric, considering the region of influence of the LRD/UFPel. The immunophenotype identification can improve the quality of life and survival in affected dogs.

Key words: dog, neoplasm, retrospective study.

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Canine cutaneous mast cell tumor: a retrospective study

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Background: Cutaneous mast cell tumor (MCT) is a high frequency tumor in dogs, the percentage can reach 21% of all cutaneous neoplasms in dogs. The cutaneous MCT is a round cell tumor with mast cell proliferation and has an important variation of its metastatic potential. **Objective:** The aim of the study was to evaluate the frequency of canine cutaneous MCT in relation to breed, sex, age, anatomic location and histologic grade. **Methods:** The records of all the cases between 2014 and 2018 in Niterói - RJ were the data source. The data were stored and analyzed using software Excel® and Bioestat® 5.3. Breed, sex, age, anatomic location and histologic grade were the analyzed variables. **Results:** Most of the canine cutaneous MCT cases were from females with 52.1% (37/71) and 8.9 of average age. Mixed breed, Boxer and Labrador with 41.5% (29/71), 14.3% (10/71) e 10% (7/71), respectively, were the most common breeds. The limbs with 34.3% (24/71), anogenital and abdominal area, both with 14.28% (10/71), were the most common locations. Grade I with 49.3% (35/71) was the most common grade. Grade II had 42.25% (30/71) and III 8.45% (6/71) of percentage. Metastasis was found in five cases 83.33% (5/6) of cutaneous MCT grade III than the regional lymph node was also evaluated. **Conclusions:** There was no major difference between the male and female dogs. Adult dogs, with age close to senility were the most affected with cutaneous MCT. The mixed breed due to its high prevalence in the studied canine community was the most affected and the histological grade I is the most frequent in this same locality.

Key words: dog, round cell tumor, skin.

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Sepsis in an aborted foal associated with *Yersinia enterocolitica*

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Background: *Yersinia enterocolitica* is a bacterium with zoonotic potential and there are no previous records of this bacterium being isolated from aborted foals. Therefore, the purpose of this report is to describe a case of sepsis in an aborted equine fetus associated with *Y. enterocolitica*. **Case Report:** A 7-month-old Gypsy Cob aborted fetus was submitted to necropsy. Samples of all the organs were collected, maintained in 10% buffered formalin and routinely processed for histopathology. For bacterial culture, samples of liver, lung, placenta and stomach contents were collected and incubated in blood agar and McConkey agar media, in aerobic culture for 24 hours at 37ºC. **Results:** At necropsy, it was observed an enlarged liver and yellowish heterogeneous color; heart with pale epicardial and myocardial areas; non-collapsed, heavy and shiny lungs; a thickened umbilical cord covered with fibrin and pus. The histopathological analysis revealed a myocardial necrosis, multifocal moderate with mineralization and neutrophilic, histiocytic and lymphoplasmacytic infiltrate, as well as a proliferation of fibrous connective tissue and thrombosis. In the lungs, neutrophilic, histiocytic and lymphoplasmacytic infiltrates, diffuse moderate was observed in the lumen of the alveoli and bronchioles, and in the liver fibrinoid necrosis, multifocal moderate associated with neutrophilic and lymphoplasmacytic infiltrates. In the umbilical cord, there was, diffuse severe necrosis associated with deposition of fibrin and neutrophilic, histiocytic and lymphoplasmacytic infiltration with intralesional bacterial myriads and thrombosis. In the placenta, kidneys, skeletal muscle, bladder and eyelids, a neutrophilic and lymphoplasmacytic infiltrate, multifocal discrete was observed. The microbiological evaluation identified by biochemical tests *Yersinia enterocolitica* in liver, lung and stomach fluid. **Conclusions:** From the literature consulted, it is concluded that this is the first case report of an aborted equine fetus with sepsis associated with *Y. enterocolitica*, an agent of zoonotic importance.

Key words: abortion, equine, yersiniosis, zoonosis.

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Poisoning by *Baccharidastrum triplinervium* in cattle from Itajaí Valley, Santa Catarina

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Background: *Baccharidastrum triplinervium* is a sub-shrub of the Asteraceae family, mainly occurs in southern Brazil and commonly affects the gastrointestinal cattle tract. This study aims to report poisoning by *B. triplinervium* in two cattle from Itajaí Valley region, SC. **Case Report:** The cattle came from properties located in Pouso Redondo and Braço do Trombudo county. In the clinical evaluation, the first animal presented apathy, severe dehydration, ruminal atony, diarrhea, congested mucosa, cold extremities, hypothermia and died less than 24 hours after the clinical signs began, while the second animal presented anorexia for ten days, dry stools, muscle tremors and death. Large amount of the ingested plant in several stages of development was observed in the pasture. **Results:** At necropsy, in the first cow there were detachment and reddening diffuse moderate of rumen, reticulum and omasum (pre-stomachs) mucosa. In the second animal, in the pre-stomachs there was mucosal detachment with diffuse reddening and diffuse transmural edema and omentum with a moderate quantity of clots and fibrin that recovered the gastric complex and the thoracic esophagus and abomasum had ulcerations of the mucosa. After histopathological evaluation, diffuse mucosal necrosis, moderate multifocal neutrophilic infiltrate (bovine 1), marked diffuse transmural necrosis accompanied by hemorrhage, predominantly neutrophilic infiltrate and fibrinous exudation were observed in the pre-stomachs, as well as myriads of intralesional bacterial and vessel thrombosis (bovine 2). In the thoracic esophagus and abomasum, there was multifocal necrosis of the mucosa with a moderate multifocal and transmural infiltrate predominant of neutrophils (bovine 2). **Conclusions:** In this report, an atypical case of poisoning by *B. triplinervium* with subacute clinical evolution was observed, since the cases of this poisoning are acute and the animals die quickly**.** The reported lesions are severe and the toxic principle needs to be studied to help in prevention and in disease control.

Key words: toxic plants, gastrointestinal tract, bovine.

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Persistent right aortic arch (PRAA) in a dog: case report

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Background: The persistent right aortic arch (PRAA) is a congenital anomaly in which the aortic artery develops to the right of the midline from the fourth aortic arch. In this arrangement, a vascular ring is seen on the esophagus and trachea, usually resulting in constriction followed by esophageal proximal dilatation (secondary megaesophagus). Clinical signs tend to appear soon after weaning, when the animal begins to ingest solid food, and regurgitation, followed or not by aspiration pneumonia, is the most common. **Case Report:** A 43-day-old canine Shih Tzu, male, presented a history of regurgitation ten days ago, with progressive weight loss, apathy and dehydration. Signs that, according to the tutors, started soon after weaning. It was suspected of megaesophagus that was confirmed by contrast radiographic examination that showed the organ dilatation near the base of the heart and pulmonary alteration suggestive of aspiration pneumonia. Due to poor prognosis, humanitarian euthanasia was elected by the tutors. **Results:** The animal was subjected to necropsy where it was possible to observe light accumulation of translucent fluid in the thoracic cavity, unfinished lungs, diffuse red and bright, a fibrous ligament was observed on the esophagus and trachea, compatible with a right aortic arch, forming a ring around the esophagus causing extraluminal obstruction and consequent esophageal dilatation from its cervical portion to the base of the heart. **Conclusions:** Based on the clinical signs associated with radiographic findings and necroscopic examination, it was possible to diagnose secondary megaesophagus to persistent right aortic arch.

Key words: anomaly, vascular ring, megaesophagus, congenital.

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Multi-organ metastasis of malignant peripheral nerve sheath tumor in a dog with mammary tumors

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Background: Malignant peripheral nerve sheath tumors (MPNST) are relatively uncommon in domestic animals, although they have been reported in dogs, cats, cattle, goats, sheep, and pigs. These tumors are often locally invasive and rarely metastasize. **Case Report:** A 14-year-old, intact female mongrel dog, weighing 26.0 kg presented multiple mammary nodules, imaging evidence of liver and spleen metastases. Use of abortive product was referred. Euthanasia was elected due to poor prognosis. **Results:** Necropsy examination revealed a subcutaneous nodule next to the right caudal thoracic nipple measuring 1.0 x 0.4 cm and other nodules and masses from 0.2 to 8.0 cm affecting lungs, aortic semilunar valve, sternal lymph node, diaphragm, spleen, liver, pancreas, kidneys, adrenal glands, mammary glands and left inguinal lymph node. The tumors had similar gross features, they were firm, gray to pale tan and sometimes with necrotic areas. *Microscopic* examination revealed two tubular mammary carcinomas grade I, a complex mammary carcinoma grade II with metastasis to the inguinal lymph node and malignant mesenchymal neoplasms. The mesenchymal tumors were composed of a poorly demarcated proliferation of spindle cells in densely grouped interwoven or storiform fascicles and whorls separated by a scant fibrovascular stroma. The neoplastic cells had elongated, eosinophilic, and indistinct borders. The nucleus varied from spindle to oval, with coarse to dispersed chromatin, and evident unique nucleolus. Mitotic figures were rare. The immunohistochemical assay showed strong positive staining for vimentin and CD56 markers and scattered positive staining for S100 and neuron-specific enolase (NSE) markers. **Conclusions:** The necropsy findings and histological evaluation associated with the positive immunohistochemistry labeling for vimentin, CD56, S100 and NSE allowed to establish the diagnosis of MPNST grade II with multi-organ metastasis. This is an interesting case report due to the unusual biological behavior with multi-organ metastasis of MPNST.

Key words: neoplasm, immunohistochemistry, canine.

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Extramedullary hematopoiesis in malignant mixed mammary tumor in female dogs: description of three cases

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Background: Mammary tumors represent 50-70% of the tumors in intact female dogs and 50-66% of these correspond to mixed tumors. In Brazil, data regarding incidence are scarce, however, it is similar to the available literature. Although it is a very common neoplasm, mammary extramedullary hematopoiesis (EHM) is a rare condition in veterinary medicine (~5.5% of the mixed tumors) and can be associated with benign or malignant mixed mammary tumors. Besides, 1.8% reflects EHM regarding the malignant variant. **Case Report:** From December 2018 to March 2019, a 6-year-old Basset Hound, a 13-year-old mongrel dog, and a 14-year-old Poodle, intact females, presented a history of multiple mammary nodules. No use of abortive products or pseudocyesis was referred. **Results:** In all cases, the mammary nodules were subcutaneous, firm, non-ulcerated, not adhered, and on cut surface, they were smooth and predominantly whitish. Histopathological examination revealed a malignant epithelial component arranged in a tubular pattern, with intense anisocytosis and anisokaryosis, moderate pleomorphism and 0-6 mitotic figures in 10 high power fields. The benign component was composed of bone and cartilage, including three myeloid cell lineages (myeloid metaplasia) associated with the osseous metaplasia. Based on these findings the tumors were classified as malignant mixed mammary tumor grade I with extramedullary hematopoiesis. Additionally, metastasis to axillary lymph node and lungs was found in two dogs (Poodle and Basset Hound). **Conclusions:** This report describes three cases of EMH in malignant mixed mammary tumor within a short period (4 months). Mammary EMH is considered a rare condition and reporting new cases becomes important for incidence updating and better comprehension of the biological behavior of this condition.

Key words: canine, neoplasia, metastasis.

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Fowl cholera outbreak in seven domestic ducks (*Anas platyrhynchos domesticus*)

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Background: Fowl cholera (FC) is an infectious disease caused by *Pasteurella multocida*, a Gram-negative bacterium. In avian species, this agent initially infects the mucosa of the upper respiratory tract and may later lead to septicemia and death. The purpose of this study was to characterize the gross, microscopic and bacteriological features of a fowl cholera outbreak in seven domestic ducks (*Anas platyrhynchos domesticus*). **Case Report:** The outbreak occurred in a commercial flock of domestic ducks in Southern Brazil over a period of two weeks. The farm had a total of 50 ducks, of which 20 birds of variable ages developed clinical signs of prostration and anorexia, culminating in death in 48h. These ducks were maintained in high-density facilities among other species (chickens, goats and sheep). Seven adult ducks (five females and two males) were submitted for necropsy, when multiple fragments of organs were collected, fixed in 10% formalin, and processed routinely for histology. Liver and heart samples from six ducks were submitted for bacteriological analysis. **Results:** At necropsy, all birds had a markedly enlarged liver, often covered by fibrin (6/7 cases), with multifocal yellowish pinpoint areas in the parenchyma (5/7). Four birds exhibited multifocal to coalescent petechiae in the epicardium. The liver microscopic analysis exhibited multifocal areas of random necrosis associated with severe fibrin deposits, heterophilic infiltrate and countless bacillary bacteria. Similar microscopic lesions were observed in the spleen, heart, lungs and air sacs. *Pasteurella multocida* was identified through microbiological culture from the liver and heart samples in six cases. **Conclusions:** FC diagnosis was established based on the combination of the pathological and microbiological findings. Since chickens and goats may act as asymptomatic reservoirs for the agent, possibly sharing high-density environments with these species increased the risk of infection for the ducks of the present outbreak.

Key words: *Pasteurella multocida*, septicemia, avian disease, bacteria.

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Epitheliotropic lymphoma involving the penis of a dog

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Background: Lymphomas are common malignant neoplasms of lymphocytes in dogs and cats. Cutaneous involvement is less frequent; however, it may occur in adult to old dogs, exhibiting or not epitheliotropic behavior. The aim of this work was to describe the gross, microscopic and immunohistochemical findings in a case of epitheliotropic lymphoma involving the penis of a dog. **Case Report:** A five-year-old male Pug had a clinical history of anorexia, anuria and dysuria associated with a firm, enlarged penile body surrounded by extensive areas of plaque-shaped ulcers. A biopsy was performed and the diagnosis of epitheliotropic lymphoma was established. Due to the poor prognosis, the dog was euthanized**. Results:** At necropsy, the skin was thickened and firm, mainly in the penile and inguinal regions, often with a bullous and plaque-like appearance. On the cut surface, it was diffusely white and involved the prepuce, glans, and the cavernous and spongy bodies of the penis. There was also focal stenosis of the penile urethra and marked regional lymphadenomegaly. Histologically, the prepuce revealed a neoplastic proliferation of lymphocytes in the epidermis, dermis and adnexal structures, forming countless Pautrier's microabscesses. The cells had scarce cytoplasm, cleaved nuclei, and rare mitotic figures were observed. The cavernous and spongy bodies of the penis were replaced by similar cells, which often extended to and ulcerated the urethral epithelium. Similar cells were also observed in the regional lymph nodes, liver and lungsAt immunohistochemistry cells was positive for CD3 and negative for CD79 antibodies. **Conclusions:** The epitheliotropic lymphoma diagnosis involving the penis was made based on the association of the gross, microscopic and immunohistochemical findings. Epitheliotropic lymphomas involving the prepuce and penis, further causing urethral obstruction, are unusual in dogs. Therefore, they should be differentiated from other conditions that cause urinary retention, anuria and/or dysuria in the referred species.

Key words: canine, cutaneous neoplasms, integument, hematopoietic, round cell tumors.

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Cervical infiltrative lipoma in a filly

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Background: Infiltrative lipoma is a neoplasm with origin of adipocytes and with benign biological behavior. There are reports in humans, dogs, cats, calves and, although there are reports in horses, the prevalence of this cutaneous neoplasia in this species is unknown and the literature is scarce. In the existing reports, a higher incidence is observed in young animals. **Case report:** A 5-month-old filly (*Equus caballus*), 205.4 kg, Crioula breed, with firm and adherent mass measuring 30 cm in length, which extended from the mid-cervical region to the beginning of the left scapular region, with a 3-month evolution, was referred to the Veterinary Hospital of the Federal University of Parana. Ultrasound examination revealed a uniform pattern with hyperechoic interleaved areas. Surgical excision was chosen (mass weighed 4.5kg). **Results:** When cut, the mass had a fat appearance (slightly yellowish and gelatinous in appearance), and on the deep margin there were parallel brownish streaks. Histopathological examination revealed a differentiated neoplastic proliferation consisting of cells with polygonal, large, well-delimited and optically empty cytoplasm. The nucleus was small, peripheral and hyperchromatic. Neoplastic cells extended to the surgical margins interspersing adjacent muscle fibers. According to the histopathological diagnosis, it was infiltrative lipoma. **Conclusion:** Although infiltrative lipoma is a neoplasm of benign biological behavior, depending on the location and dimensions, it can promote great discomfort by the weight or compression of adjacent tissues. Surgical removal is the treatment of choice, however, due to the infiltrative behavior, the exeresis with free margins becomes, in many cases, impracticable, provoking a great chance of relapse. In this case the suspicion of a neoplastic process with origin in adipocytes was performed by ultrasonographic examination and confirmed by the postoperative histology. Thus, infiltrative lipoma must be among differential diagnoses in cases of mass growth with cutaneous location or in the musculature of young horses.

Key words: adipose tissue, equine, histopathology, neoplasm.

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Paraosteal osteosarcoma in cat: case report

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Background: In domestic cats, malignant primary bone tumors are rare. Among them, osteosarcoma is the most common type, and is distinguished by certain peculiarities inherent of its self etiopathogenesis. **Case Report:** A shorthair, nine-year-old, female cat presenting clinical history of claudication, apathy, anorexia, and progressive weight loss was referred to the Veterinary Policlinic in Lorena, SP. The animal had a high degree of dehydration, poor nutritional condition, swelling of firm consistency at radius region and decreased joint movement on affected surface. **Results:** Due to clinical compromise, the animal evolved to death. Necropsy procedure revealed a firm mass of whitish staining and areas of hemorrhage and edema involving compact and spongy bone. There was no evidence of invasion to ridge-ulnar humeral joint. After bone disarticulation, a CT scan of radio and ulna bones was executed on ICAT Next Generation (Imaging Science International, Hatefield, iPA, USA) tomography. Image was acquired in FOV of 8.0 x 16.0 cm with voxel of 0.25mm, parameters of 37mA, 120kV and 26.9sec. Slices were obtained in multiplanar reconstructions: axial, coronal and sagittal planes. Images presented hyperdense exophytic formations, irregular and spicular aspects, allusive to "sun rays", continuous to cortical regions of diaphysis and proximal epiphysis of radius. Those images were compatible with osteogenic sarcoma. Histological sections of fragment, after demineralization process using 5% nitric acid, shows formation of numerous perpendicular bone trabeculae from cortical zone, parallel to each other, containing an irregular arrange of osteocytes and osteoblasts. **Conclusions:** Final diagnosis was osteosarcoma, confirming clinical and tomographic diagnosis.

Key words: sarcoma, feline, neoplasm.

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Overview of ovarian diseases associated with pyometra

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Background: Ovarian diseases in bitches often have a subclinical nature, however they can cause serious damage in the reproduction physiology. The animal may develop metabolic syndromes such as hyperestrogenism, estrous cycle abnormalities, such as anestrus, and uterine diseases such as the Cystic Endometrial Hyperplasia – Pyometra Complex. **Objective:** To describe the occurrence of ovarian diseases associated with cases of pyometra. **Methods:** A retrospective study was carried out between 2014 and 2018 in the Veterinary Anatomic Pathology Laboratory, where 20 cases of pyometra were diagnosed and their respective ovaries were analyzed. **Results:** All ovaries presented some type of lesion. Neoplastic and non-neoplastic lesions were found. Regarding the neoplastic lesions, seven bitches presented Granulosa Cell Tumor (GCT) and there was only one case of ovarian adenoma. Regarding the non-neoplastic lesions, sub-surface epithelial cysts (9/20), cystic hyperplasia of *rete ovarii* (6/20), follicular cysts (6/20), hyperplasia of granulosa cells (5/20), corpus luteum cystic (1/20), haemorrhage (1/20), and oophoritis (1/20) were described. **Conclusion:** This study pointed to a high occurrence of ovarian diseases associated with pyometra in the uterus, mainly related to ovarian cysts and GCT.

Key words: bitches, reproduction, cysts, granulosa cells tumors.

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Canine granulosa cell tumor: an immunohistochemical approach

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Background: Granulosa Cell Tumors (GCT) are classified as ovarian neoplasms of stromal cells. They are of great importance because they are hormonally active and thus might cause reproductive dysfunctions. GCT has been reported as the most common ovarian neoplasia in bitches, but there are still few studies characterizing its aggressiveness. **Objective:** Preliminary study to evaluate the proliferative GCT profile by immunodetection of anti-Ki-67 antibody in neoplastic granulosa cells. **Methods:** Twenty ovaries with a previous histopathological diagnosis of GCT were used. These ovaries were stored in paraffin-embedded blocks in the Veterinary Anatomic Pathology Laboratory and new histological sections were carried out for immunohistochemical processing by the streptavidin-biotin-peroxidase technique using anti-Ki-67 antibody, MIB-1 clone, at 1:50 dilution. The percentage of marked cells was evaluated for the entire tumor extension. Immunohistochemical staining of the anti-Ki-67 antibody was considered high when more than 25% of the cells were marked. **Results:** Only one case showed positive reaction for Ki-67 protein in more than 25% of the tumor cells and was considered of high proliferation rate. **Conclusions:** This was the first study to describe Ki-67 immunohistochemical staining in canine GCT. An efficient protocol was established for immunohistochemical assessment in which GCT was considered a low proliferative tumor as already demonstrated in women.

Key words: ovary, neoplasm, Ki-67, dog.

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Bronchioloalveolar carcinoma in dog

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Background: Primary lung neoplasms are rare in dogs, and the majority of these primary malignant neoplasms have epithelial origin. They may cause metastasis in other lung areas and distant organs. Dogs that have primary lung tumors are in general older animals, and there is no gender or breed predisposition. The bronchioloalveolar carcinoma is a malignant neoplasm originated in the lung alveoli epithelium (type II pneumocyte) and bronchioloalveolar joints (Globet cell and Clara cells) observed as isolated or multiple nodules. **Case Report:** Canine, male, elderly, mixed-breed, showed apathy, cachexia, onychogryphosis and anorexia for weeks, no response to stimuli and medical veterinary treatment, and was submitted to euthanasia. **Results:** In the necroscopic examination, all the lung lobes showed multilobulated masses of neoplastic aspect, the largest one measuring 9.5 cm, of firm consistency to cuts, compact surface, marmoreal aspect and color tone from cream to light brown. Positive hydrostatic docimasia test. In the liver, a reddish-brown area measuring 2.5 cm in diameter. Fragments of organs were collected, fixed in formaldehyde to 10%, and, after cleavage and histological processing, colored with hematoxylin-eosin. In the microscopy, the lung showed extensive malignant neoplasm of glandular, epithelial origin, in a papillary tubule arrangement. Cells showed moderate pleomorphism and apparent nucleoli, with occasional mitotic figures. There were extensive multifocal tumoral necrosis, mineralized foci, and mixed inflammatory infiltrate associated. The liver also showed foci of malignant epithelial neoplasm in tubular arrangement, associated with mild subcapsular and periportal lymphoplasmacytic inflammatory infiltrate. The immunohistochemical evaluation was positive in the neoplastic lung cells for TTF-1 (Thyroid Transcription Factor-1), with intranuclear marking, favoring the pulmonary primary origin of neoplasm. **Conclusions:** Based on the histopathologic and immunohistochemical examination, bronchioloalveolar carcinoma with metastasis in the liver was diagnosed.

Key words: neoplasm; lung; immunohistochemical.

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Intestinal obstruction by *Syzygium* sp. seeds in an adult Tegu lizard (*Salvator merianae*)

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Background: Tegu lizards (*Salvator merianae*) are distributed within all the Brazilian regions and common in anthropic habitat. Tegus are omnivorous reptiles which present different preferences through life: during adult stage, proteins make up most of their diet, unlike when they are young, when fruits and seeds are more consumed. When tegus are kept in captivity, gastrointestinal obstructions by foreign bodies are commonly seen in clinical practice due to their voracious habits. The aim of this paper is to describe an intestinal obstruction by *Syzygium* sp. seeds, popularly known as "jambolão", in a free-range adult male tegu lizard (*Salvator merianae*). **Case Report:** An adult, male tegu lizard was admitted to Núcleo de Conservação e Reabilitação de Animais Silvestres da Universidade Federal do Rio Grande do Sul (Preservas UFRGS) presenting severe prostration, dehydration and solid masses on coelomic cavity palpation. The radiography revealed the presence of spheriform structures into the gastrointestinal tract. Endoscopy showed no presence of foreign bodies inside the gastric lumen. The tegu received intensive supportive care in order to be able to undergo surgery, but died two days after. The reptile was submitted to Setor de Patologia Veterinária of UFRGS for necropsy and fragments of all organs were collected, fixed in 10% formalin and routinely processed for histology. **Results:** Grossly marked dilation of cecum and large bowel were observed. The lumen was filled with foreign bodies, compatible with "jambolão" seeds. The intestinal wall was diffusely thinned, edematous and with multifocal mucosal ulcerations. Microscopically, there was focally extensive fibrinonecrotic and ulcerative typhlocolitis due to the seeds mechanical damage. **Conclusions:** The diagnostic was based on gross and microscopic findings, and seed morphology. Gastrointestinal obstruction is not usual in free ranging reptiles and it is suggested to be included as differential diagnosis in gastrointestinal diseases in this species.

Key words: wildlife, free-range tegu lizard, diet.

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Intraocular osteosarcoma in a cat

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Background: Intraocular sarcomas in cats usually occur after a traumatic episode that leads to the lens rupture. The lens cells then suffer malignant metaplasia and can develop into three morphologic neoplastic variants: spindle cell, lymphoma, or osteosarcoma/chondrosarcoma. This latter one is the rarest type. **Case Report:** A 15-year-old, male, Angora cat with no history of recent trauma was submitted to enucleation of the left eye due to a slow growing tumor. The eye was then submitted to histopathologic evaluation. **Results:** Grossly, the eye was hard with multiple small areas of whitish hard proliferation. Cut surface was white hard and solid. Histologically, the anterior and posterior chamber and the vitreous body were occupied by a non-encapsulated and infiltrative neoplastic proliferation. The neoplastic tissue was predominantly osteoid with some areas of chondroid differentiation. The cellular component was characterized by a few areas from spindle to polygonal cells. There were fragments of the lens between the neoplastic osteoid tissues. **Conclusions:** Based on the histologic findings the diagnosis of intraocular osteosarcoma was made, compatible with post traumatic feline sarcoma.

Key words: tumor, feline, sarcoma, post-traumatic.

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Cutaneous mast cell tumor in a bush dog (*Speothos venaticus*)

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Background: Cutaneous mast cell tumors are the most frequent malignant neoplasm in the skin of domestic dogs. The bush dog (*Speothos venaticus*) is an endangered small canid found in the South America. There are no previous reports of neoplasms in this species. **Case Report:** A male adult captive bush dog (*Speothos venaticus*) had history of perianal cutaneous proliferation. The neoplasm was small (1,4 x 1,3 cm), soft and whitish on its cutting surface. The skin fragment containing the neoplasm was submitted for histopathologic evaluation. **Results:** Histologic examination revealed a mast cell tumor on the perianal skin. Neoplastic cells are well differentiated round cells, organized in sheets and confined to de superficial derm. The cytoplasm was eosinophilic with moderate amount of basophilic granules that were stained by Giemsa (metacromatic granules). Nuclei were round and central, loose chromatin, and up to 3 nucleolus. Three mitosis were observed in 10 high magnification fields. Even though the neoplasm did not surpass the fragments limits, there was evidence of vessel infiltration. Immunohistochemistry was performed to characterize the neoplasm. The neoplastic cells were negative for MAC and CD3. CKit was weakly positive on the membrane and cytoplasm in more than 30% of neoplasic cells. Nuclei were positive for Ki67 in less than 10% of the cells. **Conclusions:** This is the first report of mast cell tumor in a bush dog (*Speotos venaticus*). The morphologic features are compatible with a low grade mast cell tumor according to the classification employed for domestic dog.

Key words: skin tumor, immunohistochemistry, neoplasia, canid.

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Mammary squamous cell carcinoma in two dairy cows

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Background: Primary mammary neoplasms are rare in cattle, and frequently interpreted as chronic cases of mastitis not responsive to treatment. Mammary squamous cell carcinomas can originate from both the squamous epithelium of the teat canal or from the ductal epithelium after having undergone squamous metaplasia. **Case Report:** an adult, Holstein cow (cow 1), presented increase of mammary lymph nodes, hyporexia, progressive weight loss, and died, being subjected to necropsy. The second bovine (cow 2), was an adult, Jersey cow which was sent to slaughterhouse and had its mammary gland analyzed. In both, fragments of tissues were collected for histopathology. **Results:** grossly, both cows had poor body condition and had a large mass in the right mammary hindquarter. The masses were firm, multilobulated, yellowish white, with friable areas, and measured 20x15 cm (cow 1) and 30x25x15 cm (cow 2). Mammary lymph nodes of both cows were markedly enlarged, with nodal architecture replaced by masses similar to those described. In cow 1, small nodules also were observed in the lung and heart. Microscopically, a very similar neoplastic proliferation was observed replacing mammary parenchyma on both cows. It was composed of squamous epithelial cells arranged in nests or trabeculae, with accumulation of lamellar eosinophilic material at the center (keratin pearls), and was interspersed by an abundant fibrous stroma (desmoplasia). There was marked anisocytosis and anisokaryosis, macrocariosis, and on average of two mitotic figures per field (400x). Often, neoplastic cells were observed inside lymphatic vessels. In lymph nodes, the parenchyma was replaced by neoplastic cells similar to those described, as well as nodular metastasis were observed in the lung and heart of the cow 1. **Conclusions:** based on the gross and microscopic findings, the diagnosis of mammary squamous cell carcinoma primary of the mammary gland was confirmed in two cows.

Key words: dairy cattle, mammary gland, neoplasia.

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Histopathology of the central nervous system of green turtles in the capixaba and fluminense coast

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In the last decades there has been an increase of the number of diseases in sea turtles reports, and, in recent years, new diseases have emerged in these species, but for the most part, the etiology and / or pathogenesis remain unknown. The knowledge of the diseases and their anatomopathological alterations, combined to a good sampling, would facilitate the understanding of the agent / host interactions in the sea turtles' health. Thus, this work aims to describe and systematize the main histopathological findings of *Chelonia mydas* nervous system, frequent victims of strandings on the coast of Espírito Santo and Rio de Janeiro. The studied material was obtained from necropsies of the dead beached turtles or those died during treatment, in the period of 2012, totaling 193 animals. Visceral and organ samples collected at necropsies and fixed in neutral buffered formalin at 10% were referred to the histopathology in the Department of Pathology at the Veterinary Hospital of the Northern Fluminense State University Darcy Ribeiro (UENF), where it followed histotechnical processing routine. The lesions in the nervous system of these chelonians represented 22 lesions (4.24%) of the total and were characterized by the presence of parasites eggs surrounded by granulomatous inflammatory infiltrate with predominance of multinucleated giant cells at brain, choroid plexus and cerebellum level, which allowed the diagnosis of Granulomatous Encephalitis Gigantocitary by eggs of parasites. There is evidence, from previous studies in these individuals, developed in the Sector of Animal Pathology / UENF, that the responsible agent is a trematoda of the genus *Spirorchis* spp. Thus, it is concluded that the main finding of green turtles central nervous system, in the studied littoral, is the Gigantocitary Granuloma in response to the intravascular (embolized) eggs of the agents of Spirorquidiose, which can occur in different tissues.

Key words: mycosis, bird, pathology.

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Generalized aspergilosis (*Aspergillus* sp.) in an Emu (*Dromaius novaehollandiae*): case report

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Aspergillosis is the main fungal disease in birds, affecting mostly the respiratory system and, rarely, the brain. Infections are associated with immunosuppression and the main agent is *Aspergiullus fumigatus*. This pathology can be classified as localized or generalized. The diagnosis is possible by the clinical and macro and microscopic lesions, along with fungal isolation. Therefore, the objective was to report the occurrence of aspergillosis in an Emu (*Dromaius novaehollandae*). A 15 day old, female Emu, was referred to the North Fluminense State Laboratory Darcy Ribeiro - UENF for necropsy, whose history was of a neurological condition, with the suspicion of Newcastle disease. During necropsy, multiple nodules were observed in the lungs, intestines, liver and brain. Samples from various organs were collected and processed for histopathology routine. Histopathology, in H/E, in sections of the aforementioned organs showed multifocal granulomatous inflammatory process, presenting necrotic center, surrounded by infiltrates of heterophils, macrophages and lymphocytes, and fibroblasts more externally. In the granulomas, fungal hyphae were observed. Impregnation by silver (Grocott-Gomori) confirmed the septated hyphae with dichotomous branches, compatible with Aspergillus sp., which allowed the diagnosis of fungal miliary pneumonia, focal enteritis and meningoencephalitis. For the isolation of the fungus, culture was carried out, which identification went through macroscopic aspect of the colony and by microscopic observation of the structures, which confirmed the presence of *Aspergillus* sp. in the lesions. This allowed diagnosis of an aspergillosis case in an emu, eliminating the main suspicion (Newcastle), which would require the slaughter of all animals in the breeding stock.

Key words: mycosis, bird, pathology.

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Angiofibroma in green turtle - *Chelonia mydas* (Linnaeus, 1758) (Testudines: chelonidae): case report

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Angiofibroma is a rare, benign tumor, described in human medicine, especially in nasal cavity and nasopharynx. In veterinary medicine there are reports of the tumor in dogs and calopsita (*Nymphicus hollandicus*). Tumors, with the exception of fibropapillomatosis, are rarely described in marine turtle and the present work registers the first case of angiofibroma in Chelonia mydas. A necroscopic evaluation of a female, juvenile C. mydas stranded on the beach of Cicadas in São Sebastião, São Paulo, showed, in the left posterior fin, a 4-cmpendulum tumor on the largest axis versus 1.5 cm wide, smooth-looking and reddish coloration. The tumor was excised and fixed in 10% buffered neutral formalin, for 48 h, referred for histopathological evaluation where the sample was processed by paraffin embedment, using routine histotechnology for subsequent microscopic analysis. Histopathology in H / E, in the tumor sections, showed well circumscribed neoplasm, dermal, formed by small tortuous vessels and coated by well-differentiated endothelocytes, supported by stroma of regular fibrous tissue. The lesion was limited by stratified squamous keratinization epithelium (epidermis). In the tumor periphery the connective tissue was dense, unmodeled with large amount of small vessels while in the base the fabric connective tissue was loose with spindle-like cells and was irrigated by larger vessels and in lower quantity. The coloration of Masson's trichrome was also performed and demonstrated selectively the vascular and fibrocellular structures of the lesion. This study allowed to diagnose and discuss the first case of angiofibroma in a green turtle (*Chelonia mydas*), which contributes to increase the range of pathologies affecting the species.

Key words: osteomyelitis, *Chelonia mydas*, bone.

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Hemangiosarcoma in a dog with rangelia vitalli infection

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Background: Hemangiosarcoma is a mesenchymal neoplasm originating from the vascular endothelium and it is considered a malignant, aggressive neoplasia, which can reach several organs and develop regional or distant metastases. Although jaundice is not a commom clinical sign, it can occur in a few cases. The *Rangelia vitalii* infection is a hemolytic and hemorrhagic disorder that affects dogs in southern Brazil and is the main cause of haemolytic disease of necropsied dogs in the region. The immunomediated extravascular hemolysis occurs in the spleen, with *Rangelia vitalli* present in the citoplasm of endothelial cells. We describe an uncommon case of Rangellia infection in a Hemangiosarcoma. **Case Report:** The spleen of a female Cocker Spaniel with 12 years old, was submitted to histopathologic analysis. The clinical signs were apathy, jaundice and the presence of a splenic mass at ultrasonography. **Results:** The mass was dark brown, firm, multilobulated and with necrotic beige areas. Microscopically, there was neoplastic proliferation of endothelial cells arranged in bundles of irregular vascular structures containing abundant blood. There were extensive areas of hemorrhage and necrosis. The cytoplasm was fusiform, scarce, poorly delimited, eosinophilic and fibrillar. The nuclei were oval, round or irregular, with lumpy chromatin and little conspicuous nucleoli. Cellular and nuclear pleomorphism was moderate. Two figures of mitosis were counted in ten fields of great magnification. In the cytoplasm of endothelial cells there was a large amount of round or oval microorganisms approximately 1 to 2 μm in diameter located within parasitoid vacuoles. These microorganisms have eosinophilic cytoplasm, conspicuous basophilic nucleus and morphology compatible with *Rangelia vitalii*. **Conclusions:** This is an uncommon case of an intraendothelial parasite that found a malignant vascular tumor.

Key words: diseases of dogs, canine tumors, vascular tumors, canine rangeliosis.

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Congenital chagas disease in a dog

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Background: Chagas disease (American trypanosomiasis) is a important disease that affect humans and some animal species. It is caused by Trypanosoma cruzi, an hemoflagellate protozoan. The stercorarian transmission is the major form of transmission in humans. However, oral ingestion of infected insects, blood transfusions, congenital and ingestion of meat or milk from infected animals also are forms of transmission. The disease is chronic and the lesions occurs mainly in the heart. The diagnosis is based on clinical findings, necropsy/histology lesions, antibody detection and molecular genetic tests. We describe a case of congenital infections of *Trypanosoma cruzi* in a dog. **Case Report:** A 2-months-old male French bulldog, presented signs of cardiac failure characterized by heart murmur, pulmonary edema, hypothermia, inappetence and hypoglycemia that evolved to death. Several *Trypanosoma sp*. was observed in blood test. Another dog from the same parturition died the day before. The dog was submitted to necropsy. **Results:** At necropsy, all lymph nodes were markedly increased. In the abdominal cavity, there was 30mL of translucent and yellowish modified transudate. Liver and spleen were moderately to markedly increased with rounded edges. The lungs were purple, highly edematous. The heart was rounded with multifocal to coalescence pale areas on the myocardium. Histologically, parasitic pseudocysts were observed within cardiomyocytes associated with severe inflammatory infiltrate of macrophages, lymphocytes and plasma cell. The pseudocysts were composed of myriad of amastigotes with morphology compatible with *Trypanosoma sp*. Tissue sections were submitted to PCR and they were positive to *Trypanosoma cruzi*. Triatoma sp. was not found where the dogs resided and the parturient was sorologically positive for Trypanosoma sp. **Conclusions:** the uncommon diagnosis of congenital *Trypanosoma cruzi* could be made through clinical, histological and molecular findings.

Key words: *Trypanosoma cruzi*, trypanossomiasis, parasitic myocarditis.

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Rhabdomyosarcoma in rat

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Background: Rhabdomyosarcoma is a rare malignant neoplasm of striated muscle reported in humans and in a variety of animal species. Although these tumors may arise in skeletal muscle, where they are presumably derived from nesting myoblasts, or satellite cells, they can arise in any part of the body, including sites that normally lack striated muscle. Most animals with rhabdomyosarcoma are middle to advanced age, although it is not uncommon in young animals. In humans it is considered to be a disease of childhood. In rats rhabdomyosarcoma can be experimentally induced by murine sarcoma virus or be of spontaneous origin. **Case Report:** A 10-months-old male Wistar rat was sent for necropsy to the Veterinary Pathology sector of UFLA, due to an abdominal volume increase. **Results:** At cytology was observed some groups of elongated cells with oval nucleus, some multinucleate and few macrophages, suggesting that the tumor was of mesenchymal origin. Necropsy examination revealed a five centimeter mass connected to the ventral musculature of the abdominal cavity, involving the kidney, and displacing the gut to the right side. The cut surface was firm, white at center and reddish on the edges. Histologically the mass has cellular proliferation organized in bundles, arranged in different directions, with elongated to round cytoplasm some of them vacuolated; round to oval nucleus, with multinucleated cells and lined nucleus. Also, moderate anisocytosis and anisocariosis and some multifocal necrotic areas were observed. Masson´s trichrome stain evidenced the muscular cells and the tumor cells were positive in immunohistochemistry for *B*-actin. **Conclusions:** The histological aspect and the positive labeling for β-actin allowed the diagnosis of ¨Pleomorphic Rhabdomyosarcoma¨ that are previous reports in rats, more frequently at young age, as spontaneous and experimentally induced rhabdomyosarcomas, although the cellular morphology and arranged observed in this case are more similar with the spontaneous tumors.

Key words: neoplasm, spontaneous, pathology.

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Pathology of fire burned Brazilian free-ranging anteaters

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Background: Thermal injuries are associated with tissue desiccation and carbonization due exposure to a heat source, in humans these affect mainly the respiratory system and the skin. In the skin those lesions may be microscopically classified in four degrees. Initial cause of death is hypovolemic shock and later bacterial or fungal contamination with septic shock, which is most commonly associated with *Pseudomonas aeruginosa* and *Candida* spp. infections. Fire burn injuries are a main threat to conservation of anteaters. **Cases Report:** Ten free-ranging anteaters (Table 1) affected by fire injuries were referred to the Wild Animal Pathology service at the School of Agricultural and Veterinarians Sciences, São Paulo State University and veterinary pathology service of Universidade Federal de Minas Gerais. These animals progressed to death and were subjected to necropsy and histopathological analysis. **Results:** Macroscopic lesions are summarized in Table 2 The most frequent changes were burned skin of feet and members (n=10), other macroscopic findings included mainly pulmonary lesions. Four animals had skin samples that were microscopically evaluated (Table 3). These samples contained bacterial colonies (n=1) and *Candida*-like infection (n=1); other microscopic lesions were mainly interstitial pneumonia, and alveolar hemorrhage and edema (Table 3). Furthermore, multiple septic thrombi (n=1) and multifocal necrotizing hepatitis (n=1) were also observed. **Conclusions:** Burned anteaters may present various gross and microscopic lesions, particularly affecting the respiratory system and the skin. Burned skin in anteaters may be infected with a *Candida*-like organism, and bacterial septicemia is a probable cause of death.

Key words: *Tamandua tetradactyla*, *Myrmecophaga tridactyla*, *Candida* spp.

Table 1. Characteristics of fire burned free-ranging Brazilian anteaters.

	Giant anteater (*Myrmecophaga tridactyla*)	Lesser anteater (*Tamandua tetradactyla*)
Number (n=10)	9	1
Gender		
Male (n=6)	5	1
Female (n=4)	4	
Age		
Adult (n=5)	5	
Juvenile (n=4)	3	1
Stillborn (n=1)	1	
Region		
São Paulo (n=9)	8	1
Minas Gerais (n=1)	1	

Table 2. Macroscopic lesions of fire burned free-ranging Brazilian anteaters.

Skin burns	
Foots and members	10
Head	7
Lateral, trunk and tail	2
Other findings	
Pulmonary hemorrhage	2
Fibrinonecrotic rhinitis and pharyngitis	1
Fibrinous pleuritis	1
Multiple distal phalanx and nails loss	1

Table 3. Microscopic lesions of fire burned free-ranging Brazilian anteaters.

Tegumentar burns (n=4)	
Second degree, deep	2
Third degree	1
Fourth degree	1
Pulmonary lesions (n=8)	
Interstitial pneumonia	6
Alveolar hemorrhage	6
Alveolar edema	6
Trombi	4
Septal hemosiderophages	4
Bronchopneumonia	2
Soot at bronchiolar epithelium or alveolar space	2
Other	
Multiple vascular fibrin thrombi with bacteria	1
Multifocal necrotizing hepatitis	1

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Pathology of road killed Brazilian anteaters

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Background: motor vehicle accident affecting wildlife is a global emerging threat, with loss of animals as well as health and economic consequences for drivers. The "Sistema Urubu" reports 475 millions deaths due motor vehicle accidents being 5 millions affecting large sized animals, which includes anteaters. The road killed animals represents the major threat to conservation of anteaters. **Case Reports:** 42 free-ranging anteaters (Table 1) road killed, victims of motor vehicle accidents, were found in highways and referred to the Wild Animal Pathology service at the School of Agricultural and Veterinarians Sciences, São Paulo State University and the Veterinary School at the Universidade Federal de Minas Gerais. These animals were necropsied and histologically evaluated. **Results:** macroscopic findings included fractures (Table 2), organ ruptures (Table 3), and other lesions including abrasions, hematomas, and evisceration (Table 4). **Conclusions:** high numbers of fractures and internal organs rupture demonstrates the relevance of road killed anteaters, as a major risk for them, suffering multiple types of lesions as a result of the motor vehicle induced trauma. Adult males are more often affected, which is probably a consequence of a sexually-driven behavior.

Key words: *Tamandua tetradactyla*, *Myrmecophaga tridactyla*.

Table 1. Characteristics of free-ranging Brazilian road killed anteaters.

	Giant anteater (*Myrmecophaga tridactyla*)	Lesser anteater (*Tamandua tetradactyla*)
Number (n=42)	23	19
Gender		
Male (n=27)	16	11
Female (n=12)	4	8
Not reported (n=3)	3	
Age		
Adult (n=31)	15	16
Juvenile (n=8)	5	3
Not reported (n=3)	3	
Region		
São Paulo (n=41)	22	19
Minas Gerais (n=1)	1	

Table 2. Fractures (n=30) in road killed free-ranging Brazilian anteaters

Skull	12
Ribs	7
Cervical vertebrae	2
Thoracic vertebrae	2
Lumbar vertebrae	2
Sacral vertebrae	1
Vertebrae/unspecified region	2
Pelvis	5
Femur	6
Tibia	10
Radioulnar	8
Humerus	10
Tibio femoral patellar joint	1
Mandible and maxilla	2
Phalanx and metacarpus	3
Nasal conchae	2
Hard palate	2
Broken and lost nails	7

Table 3. Internal organ rupture (n=36) in road killed Brazilian anteaters

Liver	25
Kidney	17
Spleen	16
Pericadial sac	8
Diaphragm	8
Trachea	8
Stomach	8
Cardiac large vessels	8
Myocardium	7
Lung	4
Esophagus	5
Pancreas	2
Large intestine	2
Urinary bladder	2
Small intestine	1
Uretra	1

Table 4. Other lesions in free-ranging road killed anteaters.

Macroscopic and/or microscopic pulmonary hemorrhage	32
Skin abrasion and laceration	11
Subcutaneous hematoma	10
leptomeningeal hemorrhage	7
Tongue laceration	5
Rectal prolapse	2
Thoracic evisceration	1
Abdominal evisceration	1

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Systemic aspergillosis in a dog

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Background: *Aspergillus* spp. are saprophytic organisms that are ubiquitous and opportunistic pathogens, being cause localized or disseminated infection in animals and in humans. In dogs, unlike humans, the localized form is most commonly seen than the disseminated form. **Case Report:** A male border collie dog was referred to the small animal veterinary hospital from UFLA, with clinical signs of hematuria and sepsis. Euthanasia was chosen because of the severity of the dog's clinical conditions and poor prognosis. The animal was referred to the Veterinary Pathology Sector for necropsy. **Results:** The necropsy revealed the liver with an irregular surface, randomly distributed pale areas, some of them friable or liquefied. The right kidney had reduced size, capsule adherence, and sequestration of the medullary parenchyma, which was embedded in liquefied, turbid, pinkish-yellow material. The left kidney was pale and showed softened cortical areas from which yellowish material was flowing at removing the renal capsule, as well as multiple softened foci. The histologic analysis of the kidneys showed extensive areas of necrosis surrounded by infiltrates of neutrophils, macrophages, plasma cells, and lymphocytes. There were numerous hyphae in the necrotic areas and in glomerular capillaries. These hyphae had around 6 µm diameter and parallel sides, were septated, branch at 45° and stained positive in Periodic acid–Schiff (PAS) and Grocott's methenamine silver stain. Marked fibroplasia and thrombosis were also visualized. In the renal pelvis, there was diffuse necrosis, with multifocal mineralization and intralesional hyphae. Severe necrosis associated with hyphae was also seen in liver, pancreas, and omentum. **Conclusions:** The gross and histologic findings defined the diagnosis of disseminated mycosis. This nosological entity occurs more commonly in immunosuppressed individuals and those undergoing prolonged antimicrobial therapy. Systemic mycosis should be considered in dogs with nonspecific serious clinical signs or those related to the urinary or gastrointestinal systems.

Key words: disseminated mycosis, mycotic nephritis, *Aspergillus*.

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Splenic rupture in cattle: retrospective study in Santa Catarina state

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Background: The most common causes of splenic rupture in veterinary medicine are trauma, splenomegaly, hematoma, and neoplasia; however, it is an uncommon finding in cattle. The aim of this work is to describe the cases and the causes of splenic rupture in cattle diagnosed by the Veterinary Pathology Laboratory of the Instituto Federal Catarinense C*ampus* Concordia. **Methods:** the data between January of 2015 and March of 2019 were evaluated, totalizing 665 cattle submitted to necropsy. **Results:** Among the 665 analyzed cases, eight (1,20%) had splenic rupture as diagnosis, which presented a history of sudden death. In the necropsy examination revealed a large amount of free blood clots in the abdominal cavity in all cases. The cause of the hemoperitoneum was a splenic rupture varying from 5 to 10 cm in the splenic capsule. In two of these cases, splenomegaly occurred due to babesiosis, whereas other two cases were due to lymphosarcoma. In one case, was suggested that trauma was the cause of the splenic rupture and in three other cases, the primary cause was not established. The trauma was suggested as the primary cause of the splenic rupture due to presence of a subcutaneous hematoma measuring 25 cm x 10 cm and the history of fight between cattle. Babesiosis was established by the visualization of large amount of the hemoparasites inside erythrocytes in the kidneys during the microscopic exam. Lymphosarcoma (bovine enzootic leukosis) was grossly characterized by lymphadenomegaly, splenomegaly and replacement of the normal parenchyma of lymph nodes and spleen by yellowish neoplastic nodules that, in the microscopy was characterized by neoplastic proliferation of lymphocytes. **Conclusions:** The primary cause of splenic rupture was established in five of eight cases. This is an uncommon cause of death in cattle; babesiosis and lymphosarcoma should be listed as differential diagnosis.

Key words: babesiois, leukosis, lymphosarcoma, tick fever.

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Mesothelioma of the tunica vaginalis testis in a dog

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Background: Mesotheliomas are tumors of low grade malignancy originating from mesothelial cells covering coelomic cavities such as pleura, peritoneum, and pericardium. In domestic animals, mesotheliomas are more frequent in dogs and cattle, mostly as congenital neoplasms in bovine fetuses and calves. In dogs, they are usually reported involving the peritoneum and pleura, with rare cases described in the tunica vaginalis. Here we report on a case of mesothelioma of the tunica vaginalis testis of a dog. **Case Report:** A 10-year-old male Brazilian terrier dog with ascitis was submitted to sonographic evaluation and a cryptorchid irregular right inguinal testicle measuring 4.0 x 2.0 x 3.0 cm was detected. The patient underwent surgical removal of the testicle and the organ was submitted for pathological evaluation. **Results:** Grossly, multifocal nodular yellowish lesions could be observed over the testicular surface. On cut surface, nodular lesions were firm, yellow/tan, and well delimited. Histologically, clusters of epithelioid cells limited to the inner leaflet of the outer vaginalis without vegetation were observed. Occasional mitotic figures were also present. Immunohistochemistry for cytokeratin and vimentin revealed positive diffuse cytoplasmic reaction in atypical cells. **Conclusions:** Based on the microscopic morphologic findings and immunoreactions patterns, a diagnosis of mesothelioma of the tunica vaginalis testis was made. Such tumor is rare in all mammalian species including dogs and new data regarding its characteristics can readily enrich the knowledge about the neoplasm.

Key words: mesothelium, reproductive pathology, testicular tumors, canine tumors.

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Retroperitoneal peripheral nerve sheath tumor in a young dog

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Background: Peripheral nerve sheath tumors are relatively common neoplasms in dogs and usually are associated with nerve plexi near the skin or within organs, such as the spleen and those of the gastrointestinal tract. Such tumors are more frequent in older dogs and rarely present in young animals. Here we report on a case of retroperitoneal peripheral nerve sheath tumor in a young dog. **Case Report:** A 10-month-old male French Bulldog with signs of inappetence was submitted to cross sectional sonographic evaluation and a 5 x 4 x 4 cm mass was detected near the pancreas. **Results:** After surgical removal, the tumor was histologically evaluated and cells with narrow, elongated, and wavy cytoplasms with tapered ends interspersed with collagen fibers were observed. Tumors cells had ill defined cytoplasm, dense chromatin, and often displayed degenerative nuclear atypia. Mitotic figures were rare. Immunohistochemistry revealed positive results for vimentin and S-100 protein. The patient recovered well and is under follow-up. **Conclusions:** Based on the microscopic morphologic findings and immunoreactions patterns, a diagnosis of peripheral nerve sheath tumor was made. Such tumor is uncommon in young animals and the location for its occurrence was not reported until date. Consequently, it has to be included in the differential diagnosis of intra-abdominal masses in dogs.

Key words: canine tumors, retroperitoneum, neurilemmoma, schwannoma.

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Arterioesclerosis in green turtle – *Chelonia mydas* (Linnaeus, 1758) (Testudines: Chelonidae): case reports

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Arteriosclerosis is a degenerative vascular disorder, represented by altered architecture of the arteries, leaving them thickened, stiffened and with loss of elasticity, sometimes due to the deposition of diverse substances and fibrocellular proliferation in the tunica intima - "Atherosclerosis", sometimes due to fibromuscular proliferation of the tunica media arterioles and / or small arteries - "hyaline and / or hyperplastic arteriolosclerosis" - and, finally, by calcification of the tunica medica - "Monckberg medial sclerosis". These sets of findings characterize the three major types of arteriosclerosis. Its etiological bases and training mechanisms are known in Atherosclerosis, but all have a multifactorial character. This job aimed to describe the pathology of Arteriosclerosis in sea turtles. The material consisted of samples of large vessels of the base of the heart, of 15 animals, that exhibited thickly transmural and stenosis. These were fixed in neutral buffered formalin 10% and referred to the Department of Anatomy Pathology of the Veterinary Hospital of Universidade Estadual do Norte Fluminense Darcy Ribeiro (UENF), where it followed the histotechnical processing routine. Histopathology in HE of the arterial sections revealed fibrous hyperplasia, whose myocytes and fibrocytes were organized in bundles in the intima and muscular layers, concomitant to the deposit of hyaline material that, in the vascular lumen, often in a papillary arrangement designed to the lumen. These findings refer to the type "Arteriolosclerosis", in a mixture of "hyaline" and "Hyperplastic", except for the great caliber of vessels. The present study allowed the diagnosis of vascular disease as the first cases of arteriosclerosis in *Chelonia mydas* in Brazil, which amplifies the range of pathologies that can affect the species.

Key words: vascular pathology, sea turtle, histopathology.

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Histopathology of the circulatory system of green turtles in the cost capixaba and fluminense

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Sea turtles are reptiles of the Testudines order and the origin of these animals is not well known, although they are known to have arisen about 220 million years ago. Currently researches involving these animals have been growing, since diseases in turtles have been recurrent without the complete establishment of their etiology and pathogenesis. Therefore, this work aims to describe and systematize the most expressive histopathological findings in circulatory system of sea turtles victims of strandings, found dead or who died during treatment and necropsied on the coast of Espírito Santo and Rio de Janeiro, in a total of 193 animals. The circulatory system of the chelonians presented 3 lesions (0.58%), the heart was the only organ affected and the revealed lesion was a granulomatous inflammatory infiltrate to eggs of parasites (Spirorchis spp.), trematoda taxonomically identified in previous studies carried out in our Sector. Thus the findings characterized "Cardiac Spirorchidiosis". Most injuries observed in the other organs and viscera were associated with this parasitosis. Most chelonians stranded and necropsied were Chelonia mydas, probably because it is the most abundant specie in the areas where the study was carried out.

Key words: sea turtles, lesions, heart.

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Extraskeletal osteosarcoma in a dog

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Background: Extraskeletal osteosarcoma is a malignant mesenchymal neoplasm that does not involve the bone. This type of osteosarcoma is considered rare in dogs and cats, accounting for 1% of all osteosarcomas diagnosed in domestic animals. It has no predilection for breeds or sex and usually occurs in dogs between 10 and 11 years (1). **Case Report:** A 10-year-old male Cimarron presented submandibular volume increase, anemia and loss of hind limb movement, with muscular atrophy and respiratory discomfort. The animal went into respiratory agony and died. He was referred to the Laboratório Regional de Diagnóstico of the FV of the UFPel for necropsy. **Results:** Macroscopically, extensive submandibular edema was observed. In the thoracic cavity there was a large amount of bloody serous exudate and, in the mediastinum, there was a white mass, with yellow areas of necrotic appearance, measuring 15cm on the largest axis. The lung exhibited whitish umbilicated nodules, multifocal to coalescing. The liver had a yellowish-white elastic nodule, measuring 5.5cm. In the region of the parietal and occipital cortex, a wine and elastic mass of 2.3 cm was observed on the largest axis. In the histology of the mediastinal mass, pulmonary nodules, liver and brain masses, it was observed polygonal mesenchymal cells with marked pleomorphism. Neoplastic cells exhibited rounded to oval nucleus, with evident nucleolus and non-delimited eosinophilic cytoplasm. They were arranged in nests and bundles and there were three figures of mitosis per field (40x). The neoplasia exhibited invasive growth, formation of osteoid and bone matrix, as well as multinucleated giant cells of the osteoclast type. Neoplastic emboli were also observed in the lung and encephalon, areas of necrosis and haemorrhage. **Conclusions**: On the basis of necropsy findings and histological evaluation, the diagnosis of extraskeletal osteosarcoma with metastasis in the lung, liver and central nervous system was established.

Key words: bone neoplasm, lung, brain, liver.

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Comparative study between cytology and histology of breast neoplasms in female dogs

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Background: Breast tumors (BT) correspond to the vast majority of neoplasms reported in dogs. The fine needle aspiration cytology (FNAC), promotes faster and cheap results without anesthetic risk. However, the final diagnosis should be based on histopathological examination, allowing histomorphological analysis with classification, tumor grading and evaluation of the excision. **Objective:** The objective is to establish the efficacy of FNAC of BT compared to the histology of samples sent to the Laboratory of Veterinary Pathology of the Federal University of Paraná - Palotina. **Methods:** A review was carried out from January 2017 to December 2018, followed by the cytological and histopathological reports. **Results:** A total of 86 cytological and 100 histopathological exams were performed. In cytology, 71 samples were neoplastic alterations, six hyperplasias or inflammatory and nine were insufficient for diagnosis. Only 46 patients were referred for a biopsy after the cytological report. In histopathology, 44 samples were primary mammary neoplasms, two other samples were related to mammary hyperplasia. They presented cytological diagnoses in accordance with the histology 84,7% (39/46) of the tumors studied and differed by 10% (5/46) which were defined cytologically as inflammatory processes, and in the histopathological examination as neoplasms and another 4.3%(2/46) were described in the cytology as mesenchymal neoplasms and in the histology as hyperplasias. Of the neoplasms observed in cytology, in 45.2% (19/42) it was possible to classify the tumor, while in 54.8% (23/42) the embryonic origin can only be suggested. **Conclusions:** Inflammation proved to be a negative factor in the use of FNAC, which may mask the tumor etiology. Morphological heterogeneity of the cells was frequently observed in different areas of the tumors, different degrees of tumor malignancy and presence of necrosis and inflammation, highlighting the importance of performing the collection of several points in the same patient, associating the histopathological analysis.

Key words: breast neoplasms, cytopathology, histology, oncology.

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Cutaneous solid-cystic apocrine ductular carcinoma with pulmonary metastasis in blonde capuchin monkey (*Sapajus flavius*)

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Background: Solid-cystic apocrine ductular carcinoma has been described in frequently in dogs and cats and rarely described in other species. At last rare cases of Solid-cystic apocrine ductular carcinoma was related in non-human primates. The lesion is variable but nodules can be 1 cm up several centimeters in the dermis or subcutaneous. Neoplasic cells can be infiltrate in lymphatic vessels and nodes promoting metastasis. Histologically this neoplasia can be solid, tubular or cistic and it's variants. **Case Report:** A 15-year-old, macaco-prego (*Sapajus flavius*), female, passed away during surgery to remove a cutaneous nodule on ear, measuring 3,5 cm in diameter. **Results:** Histologically, the neoplasia is focally extensive and moderately delimited in the dermis, characterized by the proliferation of basaloid epithelial cells arranged in semi-solid nests, occasionally containing intraluminal necrotic material and surrounded by fibrous tissue. Neoplastic cells exhibit poorly delimited and basophilic cytoplasm, round, oval and basophilic nuclei, hyperchromatic chromatin, and multiple nucleoli evident. Anisocariasis is remarkable, discrete pleomorphism and high mitotic index, characterized by 27 mitoses in 10 fields of greatest magnification (400x). Necropsy examination revelead pulmonary metastasis similar to that seen on the skin, moderate and diffuse hepatic macrovacuolar degeneration, mild lymphoplasmacytic gastritis, mild to moderate lymphoplasmacytic enterocolitis, moderate multifocal lymphoplasmacytic interstitial nephritis, ovarian cysts and perivulvar acrochordon. **Conclusions:** Based on the histologic findings it is possible concluded the diagnosis of Solid-cystic apocrine ductular carcinoma with pulmonary metastasis.

Key words: wild animals, neoplasia, Cebidae.

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Primary malignant peripheral nerve sheat tumor in liver of a dog

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Background: Primary hepatic neoplasm is rare in dogs and represents between 0.6% and 1.3% in all canine neoplasia, however, primary hepatic sarcoma accounts for less than 10% of hepatic neoplasia. **Case report:** A 2-year-old, Dogo Argentino (*Canis lupus familiaris*), male, history of clinical of appetite loss and progressive weight loss. The ultrasonographic examination revealed numerous areas amorphous circumscribed in liver parenchyma without changes in other organs and no metastasis at thoracic radiographic. **Results:** At exploratory laparotomy, there was an only nodule in the liver and more organs there was not masses. Then was realized cytology of nodules in the liver and the cytological diagnosis was from malignant mesenchymal neoplasia. The histopathology findings were neoplastic malignant spindle cells characterized by poorly defined cytoplasm, elongated nuclei and one or more nucleoli. Immunohistochemistry the neoplastic cells expressed GFAP (glial fibrillary acidic protein), S-100 and neural adhesion marker (CD56) and negative to DOG1 and KIT, confirming diagnosis of malignant tumor of nerve sheath peripheral. After some months, the dog passed away and at necropsy observed icteric mucous, thinness, distended abdomen and drained 5 liters of hemorrhagic content. The liver exhibit destruction of the architecture without definition of the hepatic lobes with the multiple formations dispersed by the outer and inner surfaces, the largest measuring approximately 25 cm in diameter, with a pseudoencapsulated appearance, smooth and shiny surface, soft consistency, sometimes firm, and at the cut showed irregular surface with cavity multifocal areas of consistency friable as well as fibrosis and multifocal necrosis. Observed nodules in lung, spleen, stomach and intestine where there was not nodules at image exams and laparotomy then it nodules considered as metastasis. **Conclusions:** Based on the cytopathological and histopathological findings associated with positivity and immunohistochemistry for GFAP, S-100 and CD56 can be concluding the malignant peripheral nerve sheat tumor.

Key words: hepatic neoplasia, sarcoma, GFAP.

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Cutaneous neoplasms in dogs: systematic analysis of 703 cases

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Background: Cutaneous neoplasms are some of the most common casuistic in histopathology laboratories. Due to being located in the skin, they are often seen by owners and are easily removed by the veterinarian. **Objective**: Gather data of the cutaneous neoplasms diagnosed in the Laboratório Regional de Diagnóstico da Universidade Federal de Pelotas (LRD/UFPel), between the years 2010 and 2019 and determine the most frequently diagnosed types. **Methods:** A systematic search of all cases of cutaneous tumors diagnosed during the period of 2010 and 2019. The diagnoses were made by analysis of samples fixed in formalin blocks, originated from necropsies and biopsies, and processed with standard staining of hematoxylin and eosin, special stains and immunohistochemistry. **Results:** A total of 703 cutaneous neoplasia diagnosis were made during the studied period. Of these diagnoses, 57.2% were of mesenchymal origin, 35.0% were of epithelial origin, and 7.8% were of melanocytic origin. The most common diagnoses were: Mast Cell tumor (n=117; 16.6%), squamous cell carcinoma (n=68; 9.8%), hemangiosarcoma (n=58; 8.2%), melanoma(n=42; 5.9%), perianal glad carcinoma (n=32; 4.5%), trichoblastoma (n=29; 4.1%), hemangioma(n=28; 3.9%), fibrosarcoma (n=26; 3.7%), lipoma (n=25; 3.5%) and sebaceous adenoma (n=22; 3.1%)**.** The mast cell tumors were classified as, according to Patnaik's scale, Grade I (n=39; 33.3%), II (n=55; 47.0%) and III (n=23; 19.7%). **Conclusion:** The cutaneous tumors most commonly diagnoses were mostly malignant, being mast cell tumors particularly common. This data is similar to previous retrospective studies (1).

Key words: neoplasms, skin, canine, dermatopathology, retrospective study.

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Plasmacytoid transmissible venereal tumor with metastasis in a dog – case report

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Background: Transmissible Venereal Tumor (TVT) is a malignant neoplasm that, rather than originating from mutations on the host's cells, occurs due to transmission by implantation of live tumoral cells during coitus from one dog to another. TVT has rapid growth, round to oval cells with sparse cytoplasm, and typically occurs as single masses on the external genitalia, though implantation on other mucosae may also happen. Metastases are usually in regional lymph nodes but may also occur in other organs (1). Some authors proposed a morphological classification of TVT according to the predominant cell pattern, describing the types as lymphocytoid, plasmacytoid and mixed, the latter being an intermediary pattern. Plasmacytoid TVT has greater malignancy in extragenital locations and shows poor response to chemotherapy (2). **Case Report:** A male dog of mixed breed from Pelotas, Rio Grande do Sul, was sent to the Hospital de Clínicas Veterinárias of the Universidade Federal de Pelotas, with history of intense pain, vocalization, locomotion difficulty, urinary and fecal incontinence, with several palpable subcutaneous masses. X-ray and ultra-sound revealed masses on the liver. Cytological examination the subcutaneous mass was positive for TVT. Due to the clinical condition of the animal, the owner opted for euthanasia. Macroscopically, it was observed subcutaneous nodules near the caudal portion of the scapula, and masses on the spleen and base of the penis. Multiple irregular, soft to the cut, whitish nodules were also present on the capsular surface of the liver. Microscopically it was observed proliferation of round pleomorphic cells with abundant anphophillic cytoplasm, round nucleus, evident nucleolus, occasionally karyorrhexis and with four to five mitotic figures per field (40X). The neoplastic cells were in all masses. **Conclusions:** Based on the macroscopic and histomorphological findings, plasmacytoid TVT with metastasis on the liver and spleen was given as diagnosis**.**

Key words: canine, neoplasm, rare, malignant.

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Silage intake with stones causes death of dairy cows

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Background: Foreign bodies in the digestive system are common to necropsy of cattle. Nutritional deficiencies have been associated with the depraved appetite in this species. However, foreign bodies mixed with food can be ingested due to the low food selectivity of these animals. **Case Report:** From a total of 60 lactating dairy cows located in the state of Minas Gerais, during a 12-month period, 10 cows presented anorexia, decrease in milk production and diarrhea with evolution from 5 to 20 days until death. At the food inspection, it was found that the corn silage used in the feed contained a large quantity of stones. The forage was acquired from another property that used the same machinery for both stone and sand transport and for the transport of silage, a fact that justified the presence of the stones in the silage. Two of the animals that died were necropsied. **Results:** At necropsy, a large number of stones of different sizes (0.1 to 5 cm) were observed inside the abomasum and duodenum of both animals. Associated with the presence of stones, in the first animal, there was multifocal ulcers with focal perforation of the abomasum, which resulted in intense diffuse peritonitis. The accumulation of stones in the duodenum resulted in lumen obstruction. The second animal presented intense multifocal ulcerative abomatitis and in the duodenum, enteritis with intense distension of the affected portion, both caused by the ingestion of the stones. **Conclusions:** Based on the macroscopic findings, it is concluded that the ingestion of stones may be associated to inadequate food handling, can causing, by trauma and irritation, inflammation, obstruction, perforation of the digestive tract and even death, affecting several animals in the same property and causing considerable economic losses.

Key words: foreign bodies, cattle, alimentary system.

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Diagnosis of canine visceral leishmaniasis in skin lesions of seroreagents dogs through cytopathology and immunocytochemistry

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Background: Canine visceral leishmaniasis (CLV) is a disease caused by protozoa and it affects several organs, including the skin, tissues involved in the transmission via vector. **Objective:** To correlate the skin lesions of serum reagent dogs through cytopathological and immunocytochemistry (ICC) exams. **Methods:** 20 biological samples of serum reagent canines were used for CVL in the ELISA test from the epidemiological surveillance service of the city of Lavras, Minas Gerais, Brazil. After external examination of the euthanized animals, skin scrapings samples from distal region of the pinna were colleted, stored in glass slides for cytopathology, stained with fast panoptic. Samples of the same biological material were conditioned in a test tube containing 1 ml of formaldehyde solution in 10%, centrifuged, taken in filter paper and processed in histological cassettes to be included in paraffin. The blocks were cut to 4 µm thick and the material was packed in a signalized slide for ICC. **Results:** Of the 20 animals analyzed, 80% presented alopecia and skin scaling on the face, in different degrees, 75% presented ulcerations and crusts mainly in the distal portion of the pinna. In the cytopathological exam, only 7 of the 20 dogs (35%) were positive, the same result was obtained in ICC technique. **Conclusions:** Although a large part of the studied dogs had leishmaniasis ulcerations on the skin, the cytopathological and immunocytochemical exams may show negative results. This may occur because of the intense inflammatory process caused by local infection without necessarily observing amastigotes forms in the analysis of these tests.

Key words: visceral leishmaniasis, dermatological lesions, protozoan disease.

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Case report of *Sula leucogaster* with suspected traumatism in the central-south coast of São Paulo

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Background: The *Sula leucogaster*, also known as Brown booby, belongs to the Sulidae family, seabirds that nest in several Atlantic and coastal islands. This species consumes a great diversity of prey captured in dips, however, the human fishing activity interferes in the feeding of these animals, as the intense discard of the ichthyofauna provides food with less energy consumption. However, this situation makes them susceptible to aggression and trauma may occur as they approach the boats to get this available food. **Case Report:** An adult cachectic female *Sula leucogaster* was attended at the Biopesca Institute Wild Animal Rehabilitation Center (CRAS IBP), rescued during one of the monitoring programs required by Brazil's federal environmental agency, IBAMA, for the environmental licensing process of the oil production and transport by Petrobras at the Santos Basin pre-salt province. The animal had neurological signs such as paresis of the pelvic limbs, nodal movements, decreased proprioception, ataxia, intention tremors and protection of the right side of the skull. After apparent clinical improvement during treatment, the animal started to feed voluntarily. However, he died on the fifth day. **Results:** Necropsy revealed injuries suggestive of trauma, such as cervical vertebrae with concave curvature at C5 to C7, presence of caseum in right pectoral muscles enlarging to the bone, lung with generalized and severe hemorrhage. Pallor organs have also been observed, such as liver, kidney and thyroid. The gastrointestinal tract presented generalized gastritis, fecaloma that was diffuse in the small intestine and generalized in the large intestine, both associated with enteritis. **Conclusion:** The sum of the neurological signs and necroscopic alterations allowed confirmation of the diagnostic as cervical spine trauma. It could be inferred the fecaloma found was caused by the trauma.

Key words: trauma, brown booby, fecaloma.

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Infection by *Renicola* sp. (Digenea: Trematoda) in manx shearwater (*Puffinus puffinus*)

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Background: The *Puffinus puffinus*, a migratory oceanic bird belonging to the order Procellariformes, has a wide distribution in the Atlantic Ocean. The species reproduces from May to September, mainly in islands of Great Britain and Ireland, and performs transequatorial migration passing annually in the Brazilian coast, from September to November. This migration causes energetic wear and culminates mainly in signs of muscular fatigue, parasitosis and low body score. The genus *Renicola* composes a group of parasites found in the kidneys and urethras of aquatic birds, with 28 known species. **Objective:** The objective was to evaluate the presence of renal endoparasites in *P. puffinus*. **Methods:** The 46 fresh or moderately decomposed carcasses analyzed came from stranding in the south-central coast of São Paulo, from 08/2016 to 10/2018 during one of the monitoring programs required by Brazil's federal environmental agency, IBAMA, for the environmental licensing process of the oil production and transport by Petrobras at the Santos Basin pre-salt province. **Results:** From the 46 carcasses, 26% had skinny body score (12/46) and 74% were cachectic (34/46). In macroscopic examination, the parasite *Renicola* sp. in the medullary region of the kidneys occurred in 39% (n = 18) of the individuals, from these, 50% (9/18) presented two other associated alterations, pallor 38.9% (7/18) and renal hypertrophy 11.1% (2/18). Histopathological examination showed renal parasitosis in 60.8% (28/46) of the individuals. Additionally, renal necrosis was observed in 34.8% (16/46), being associated (7/16) or not (9/16) to parasitosis. The cause of the death was respiratory failure 19.6% (9/46), renal failure 8.7% (4/46), bacterial septic shock 2.2% (1/46), undetermined 52.2% (24 / 46) or inconclusive 17.4% (8/46). **Conclusions:** *Renicola sp*. presented a relationship with necrosis and renal insufficiency, which shows that this parasitosis can lead to debilitation that could evolve to death.

Key words: parasite, kidney, marine bird, kidney failure.

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Bacteria and fungi detection in granulomatous inflammation in *Chelonia mydas* off Paraná state, Southern Brazil

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Background: *Chelonia mydas* are considered environmental sentinels and their health monitoring, including pathological agents, may reflect hazards to marine ecosystem. **Objective:** The aim of this study was to evaluate the affected organs and the respective bacteria and fungi infection in granulomatous lesions in *C. mydas* stranded off Paraná state, southern Brazil. **Methods:** From 2015 to 2018, 229 specimens of *C. mydas* were found stranded during daily beach monitoring (Santos Basin Beach Monitoring Project- PMP/BS**) and autopsied, according to fresh and moderate stage of decomposition. Tissue samples were collected and fixed in 10% buffered formalin solution, routinely processed, and stained with HE for histological analysis. Histochemistry analysis as Gram modified (Brown and Brenn Stain) for bacteria, Ziehl-Neelsen for acid-fast bacteria, and Grocott for fungi detection were performed. **Results:** The granulomatous lesions were observed in 42 (18.3%) cases, distributed exclusively in lung (19 cases), kidney (five cases) and liver (two cases), but in 16 cases, lesions were observed in multiple organs. Considering the multiple organs infection, granulomatous pneumonia was associated with the digestive system (esophagus, stomach and intestine) and liver granulomatous lesions in 11 (68.7%) cases. The histochemistry analysis was possible in 36 (85.7%) cases (Table 1). From the total, multiple infectious agents were observed in three cases. Higher prevalence of granulomatous pneumonia associated with fungi infection was observed (18/27; 66.7%), but bacteria and fungi sepses may occur (3/36; 8.3%). **Conclusions:** The molecular analysis may elucidate the species of infectious agents affecting *C. mydas* and the possible hazards to human and marine ecosystem.

Key words: infectious diseases, sea turtles, environmental health.

Table 1. The absolute number of granulomatous lesions associated with infectious agents in *C. mydas* stranded off southern Brazil.

Organ	Infectious agent				
	Fungi	Bacteria	Acid-fast Bacteria	Not Detected	Total
Lung	18	3	0	6	27
Liver	1	3	0	4	8
Kidney	0	3	0	2	5
Digestive system	1	4	1	3	9

* The Santos Basin Beach Monitoring Project (*Projeto de Monitoramento de Praias da Bacia de Santos* - PMP-BS) is one of the monitoring programs required by Brazil's federal environmental agency, IBAMA, for the environmental licensing process of oil production and transport by Petrobras at the pre-salt province (25º05'S 42º35'W a 25º55'S 43º34'W).

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The nutritional status obtained by body score: the first step for health assessment of *Chelonia mydas* populations

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Background: The evaluation of animals' nutritional status (NS) is a useful tool for health assessment in wild populations, including ecological parameters and disease prognosis. For sea turtles, NS is usually evaluated by subjectively visual analysis (veterinary observer), considering the plastron curvature (shape), volume of muscles and adipose tissue throughout the body. **Objective:** The objective of this study was to classify the NS of *Chelonia mydas* stranded off southern Brazil, according to an objective numerical index. **Methods:** From 2015 to 2018, 283 specimens of *C. mydas* were found stranded during daily beach monitoring (Santos Basin Beach Monitoring Project- PMP/BS*). All specimens were autopsied and the curved carapace length (CCL; cm) and body mass (BM; Kg) were obtained. The NS was classified in cachectic, poor, fair and good conditions. The correlations among CCL, BM and NS were analyzed using the Spearman's test (SPSS software; alpha level = 0.05). **Results:** A positive correlation was observed between CCL and BW ($p<0.01$; $R = 0.892$), and between BM and NS ($p<0.01$), but in this case the correlation was considered low ($R = 0.303$). It may be explained owing to increased BM average in poor condition, caused by greater number or large animals (36/71; 51%). Therefore, considering that CCL may affect the relation among BM and NS classification, the BM was distributed in quartiles according to CCL (5 cm interval) (Table). **Conclusions:** The *C. mydas* were considered juveniles, and as the BM and CCL of the animals may vary according to stage of life, seasonal variation and even geographically, comparisons among populations are necessary.

Key words: sea turtle, health parameters, southern Brazil.

	25.6-30.5 **(n=30)**	***30.6-35.5*** **(n=106)**	***35.6-40.5*** **(n=82)**	***40.6-45.5*** **(n=28)**	***45.6-50.5*** **(n=23)**	***>50.6*** **(n=14)**
First quartile: Cachectic	<2.0	<3.6	<5.6	<7.3	<10.3	<13.8
Second quartile: Poor	2.1-2.6	3.7-4.0	5.7-6.1	7.4-8.3	10.4-12.0	13.9-16.7
Third quartile: Fair	2.7-3.3	4.1-4.7	6.2-7.1	8.4-9.5	12.1-13.5	16.8-21.9
Fourth quartile: Good	>3.3	>4.7	>7.1	>9.5	>13.5	>21.9

* The Santos Basin Beach Monitoring Project (*Projeto de Monitoramento de Praias da Bacia de Santos* - PMP-BS) is one of the monitoring programs required by Brazil's federal environmental agency, IBAMA, for the environmental licensing process of oil production and transport by Petrobras at the pre-salt province (25º05'S 42º35'W a 25º55'S 43º34'W).

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Use of cellular embedding in the immunocytochemical technique for diagnosis of LVC

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Background: The diagnosis of canine visceral leishmaniosis (CVL) can be done through serological examination, molecular and parasitological tests, and immunochemistry develops a important role in the detection of leishmaniasis in samples of positive animals. **Objective:** Compare two fixation techniques of biological material in slides of glass, submitted to immunocytochemistry (ICQ). **Methods:** Two techniques have been used to fixation of samples of lymph nodes, bone marrow and skin of 20 seropositive animals to CVL. In technique 1, agarose cellblock, the samples were placed in tubes containing 2 ml of alcohol 70 ° and centrifuged for 10 minutes. For precipitation was added 2 ml of 2% agarose, with homogenization and centrifugation for 10 minutes. The pellet formed was deposited on a histological cassette. In technique 2 the samples were diluted in test tubes containing 1 ml of buffered formaldehyde solution and centrifuged for 10 minutes. The precipitate was placed on absorbent paper and placed on a histological cassette. Samples of the two techniques were processed in histotechnical, embedded in paraffin and cut at 4μm thickness. The material was placed in silanized blades and ICQ technique was performed. Amastigote forms were counted in 6 fields of 400x and their averages were calculated. **Results:** For bone marrow the ICQ in cellblock technique obtained 12 positive results in dogs and for formaldehyde were 11. The amastigote average counted was 9 and 6 respectively. For skin were 6 positives in the first technique and 7 in the second, with averages of 14 and 12 amastigotes respectively. In lymph node samples, both techniques were positive in 7 samples, and the cellblock technique presented a mean of 12 and the formaldehyde technique 13 amastigote. **Conclusion:** The techniques obtained similar results in relation to positivity, but the amastigote count was slightly higher in the cellblock technique.

Key words: parasitic diseases, leishmania, zoonosis, immunochemistry.

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Sporadic case of malignant catarrhal fever in the western Santa Catarina

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Background: Malignant catarrhal fever (MCF) is a highly infectious and lethal disease caused by a Rhadinovirus that affects more than 30 ruminant species and occasionally swine. In Brazil, bovine MCF is mainly caused by Ovine Herpesvirus type 2 (OvHV-2), and the sheep plays an important role as asymptomatic reservoirs, by shedding and transmitting the virus to the herd. The disease is characterized by fever, nasal and ocular discharge associated with erosions and ulcerations of mucosae, cornea opacity with keratoconjunctivitis, hemorrhagic enteritis, diarrhea, and neurological disorders. MCF may occur as outbreaks or sporadically. **Case Report:** A five-month-old Friesian heifer was presented with severe cornea opacity, nasal ulcerations and severe nasal discharge and sialorrhea. Then, it became unable to eat due to total blindness and the oral mucosa lesions. There were nearly 50 bovines in this farm in Concórdia city, west area of Santa Catarina state and the owner reported three other animals with similar clinical signs in the past four months. Additionally, there were sheep pasturing among the cattle. After two weeks of disease progression, euthanasia was elected due to the unfavorable prognosis. **Results:** Necropsy examination revealed multiple crusts and ulcers of 0.5-1 cm on nasal and oral mucosae, and diffuse cornea opacity. At histological examination, moderate multifocal fibrinoid necrosis in muscular layer of arteries, associated with lymphoplasmacytic inflammatory infiltrate were observed at *rete mirabiles*. In the mucocutaneous junctions, there was severe focally extensive epidermis necrosis associated with neutrophlic and lymphoplasmacytic infiltrate in the dermis. In the brain, moderate mononuclear perivascular cuffing was observed. **Conclusion:** Based to necropsy and histopathological lesions, the MCF diagnosis was established. Also, the close contact between cattle and sheep corroborate the diagnosis. This was the first case report of bovine MCF in the Western region of Santa Catarina state.

Key words: ovine herpesvirus type 2, bovine pathology, cattle viral diseases.

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Luteoma in a rabbit (*Oryctolagus cuniculus*)

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Background: In rabbits, ovarian tumors are considered an incidental finding during surgery or necropsy and have the potential to be hormonally active. Luteomas are tumors derived from cells similar to those of the corpus luteum and have rarely been reported in this species. **Case Report:** Tissue samples from a New Zealand female adult rabbit (*Oryctolagus cuniculus*) kept by Fundação de Parques Municipais e Zoobotânica de Belo Horizonte were sent to histopathological analysis. The animal was pregnant with two fetuses. **Results:** Macroscopically, one of the ovaries was oval, yellow and soft. The medulla and cortex were replaced by a solid neoplastic proliferation composed of polygonal cells with well-defined and abundant cell borders, eosinophilic and finely vacuolated cytoplasm. Nuclei were round, central or peripheric, with condensed or loose chromatin and few prominent nucleoli. There was also mild heterophilic hepatitis, moderate diffuse vacuolar degeneration, moderate sinusoidal leukocytosis, acute moderate heterophilic interstitial pneumonia with moderate pulmonary edema and mild multifocal renal tubular degeneration with mild focal fibrosis. **Conclusions:** The pathological findings support the diagnosis of a luteoma in the ovary of a New Zealand pregnant rabbit, a rare tumor in this species.

Key words: ovary, tumor, lagomorph.

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Soft tissue mineralization in lesser anteaters (*Tamandua tetradactyla*)

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Background: Optimal nutrition is a historical challenge for captive Xenarthra, specially for anteaters. Little is known about nutritional requirements of these animals. Five cases of vertebral hyperostosis in lesser anteaters and Northern tamanduas (*Tamandua mexicana*) have been reported and association of hypervitaminosis D and hypervitaminosis A have been suggested. **Cases Report:** eight lesser anteaters (*Tamandua tetradactyla)* necropsied in the Wild Animal Pathology service at the School of Agricultural and Veterinarian Sciences, São Paulo State University and the Veterinary School at the Federal University of Minas Gerais. **Results:** Lesions are summarized in Table 1. All animals had some degree of soft tissue mineralization, observed macroscopically and/or microscopically. Cardiac vessels, including aorta and kidney were the most frequently affected organs. **Conclusions:** Soft tissue mineralization may occur in lesser anteaters which may indicate the need for advances in nutritional management for these species.

Key words: xenarthra, hypervitaminosis D, hypervitaminosis A.

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Hepatic injury in wistar rats after mate tea consumption (*Ilex paraguariensis*)

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Background: Mate tea is used as a phytotherapic because of its hypocholesterolemic, antioxidant and reducing fat accumulation effects. There is evidence in rats that oral consumption of mate tea may promote mild congestion of the hepatic sinusoids and the centrilobular vein dilatation, alterations that may progress to hepatocyte damage. **Objective:** To test the hypothesis that the mate tea consumption promotes liver injury in Wistar rats. **Methods:** A randomized and masked clinical study was performed with 18 *Rattus novergicus albinus*, males and homogenous regarding weight and age. The rats were randomly divided in two groups: a control group (n=9) and another composed of animals treated with mate tea (n=9) orally at the dose of 20 mg/kg/day (the equivalent to the human consumption of 2 cups of Mate tea per day). In order to identify the hepatic lesion, the plasma levels of the enzymes alanine aminotransferase (ALT) and gamma glutamyl transferase (GGT) were measured. The concentration of tissue reactive to thiobarbituric acid (TBARS) was quantified in liver homogenate collected after the animals euthanasia to evaluate the tissue peroxidation. All biochemical analyzes were performed in duplicate and in a previously calibrated automated biochemical analyzer. **Results:** The ALT, GGT and TBARS values were significantly higher in rats treated with mate tea ($p < 0.0001$) when compared to the control group. **Conclusions:** In rats the continuous ingestion of mate tea (20 mg / kg /day) causes liver damage associated with tissue peroxidation. The hepatotoxicity of this phytotherapic needs to be better evaluated and considered, especially in liver disease patients.

Key words: alanine aminotransferase, gamma glutamyl transferase, TBARS, hepatotoxicity.

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Juvenile sporadic leukosis in a calf

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Background: Lymphoma is the most frequent neoplasm in dairy cattle, but it is rare in beef cattle. These neoplasms can be divided into two major groups: sporadic and enzootic. Enzootic tumors are associated to bovine leukemia virus, while sporadic tumors have not been associated to any etiology. Sporadic leukosis are rare, and may have three distinct presentations: juvenile (or multicentric), thymic and cutaneous forms. **Case Report:** a 60-days-old male Braford calf had a one month history of generalized lymphadenomegaly. This was the only calf affected in the herd of 160 beef cattle. Due to the poor prognosis, euthanasia was elected. **Results:** At necropsy, there was marked generalized superficial and visceral lymphadenomegaly. All lymph nodes were enlarged, soft to firm, and on the cut surface showed loss of cortico-medullary distinction by a diffuse whitish mass. Marked hepatomegaly and splenomegaly were observed, in addition to marked thickening of the small intestines mucosa. Multifocal whitish nodular areas were observed on the liver, kidneys, spleen and thymus parenchyma, as well as a focal white firm area involving the left ventricle papillary muscle. Microscopically, the lymph nodes, thymus, kidneys, spleen, pancreas, liver, abomasum, small intestines, myocardium, *rete mirabile* and pituitary were partially to totally replaced by a poorly limited and infiltrative neoplastic proliferation of lymphocytes arranged in mantles. These cells had round, occasionally cleaved, nuclei, granular chromatin, and inconspicuous nucleoli. Anisocytosis and anisokaryosis were moderate, and 3-5 mitotic figures were noted per high-power field, in addition to several apoptotic cells. Real time polymerase chain reaction (qPCR) for the detection of enzootic bovine leukemia virus was negative. **Conclusions:** The pathological and virological findings were essential to obtain a final diagnosis of juvenile sporadic leukosis. Therefore, this condition should be considered as a differential diagnosis in cases of generalized lymphadenomegaly in calves.

Key words: cattle, lymphoma, multicentric neoplasm.

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Spina bifida and diplomyelia along with multiple congenital malformations in a texel lamb

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Background: Malformations of the central nervous system (CNS) are common in domestic animals, and major causes include hereditary and in utero exposure to viral agents. Spina bifida is characterized by the absence of the vertebrae dorsal portions. *Diplomyelia* is a rare spinal cord malformation in which the cord is duplicated. Depending on the severity, these malformations may be asymptomatic or fatal. **Case Report:** A seven-day-old Texel lamb presented at birth a skin opening defect in the lumbar region and paresis of the hind limbs, with normal consciousness and suckling reflexes. Due to poor prognosis, euthanasia was elected. **Results:** At necropsy, there was an extensive skin opening on the dorsal lumbar region occurring in association to the absence of all lumbar and sacral vertebrae dorsal portions (spina bifida). The spinal cord of this segment had diplomyelia. The thoracic and lumbar spinal cord segments had mild hydromyelia. The brain had moderate dilatation of the mesencephalic aqueduct, third and lateral ventricles (hydrocephalus). Histologically, the dorsal lumbar region had a focally extensive area of ulceration of the epidermis associated to marked fibrin exudate and degenerate neutrophils. Protruding through the dermis there was a duplicated and well-differentiated spinal cord lined by a single meninges layer (diplomyelia). This tissue had also extensive hemorrhage, marked hyperemia, multifocal neutrophilic perivascular cuffing, moderate amounts of axonal spheroids, and numerous chromatolytic neurons. RT-PCR for the detection of Pestivirus, Schmallemberg virus and Blue Tongue virus was negative. **Conclusion:** The diagnosis of spina bifida and diplomyelia along other multiple malformations in a Texel lamb was obtained through the pathological findings. Nevertheless, possible viral etiologies were not involved, and, thus, a hereditary cause seems more likely in this case.

Key words: spina bifida, diplomyelia, hydrocephalus, hydromyelia.

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Complete dental intrusion into the nasal cavity in a dog

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Background: Chronic nasal discharge is a clinical sign often observed in several dogs' diseases, such as neoplasias, fungal infections, rhinitis, periodontal disease, parasites, foreign bodies, palate affections and primary bacterial diseases. **Case Report:** A 5-year-old, neutered female, pinscher, 1.5 kg was presented with 3-month history of severe dyspnea and bilateral nasal discharge, predominantly in the left nostril, irresponsive to antibiotics. A 5-month facial trauma was also reported. The general examination findings were unremarkable, except for inspiratory stridor with a clean pulmonary auscultation. At nasal palpation, it presented pain in almost all the extension of the nasal plane, especially on distal portion. Oral cavity was marked by intense periodontitis, halitosis, dental calculus in all the teeth, and absence of some of them. **Results:** The full blood count, biochemical profile and urinalysis were normal. Intraoral and a lateral cephalometric radiography were performed. The findings showed the presence of the left canine tooth in the nasal cavity and exodontia was executed. The dog responded well to antimicrobial management with clindamycin 10 mg/kg PO every 12 hour for 10 days. Several factors contributed to the abnormal tooth localization including periodontal disease leading to dental instability, the pressure suffered in the trauma can easily lead to tooth loss. **Conclusions:** Although the clinical signs were not pathognomonic, foreign bodies should be included in the differential diagnosis for nasal discharge in dogs. For this reason, in chronic and recurrent cases further diagnostic procedures may be needed, such as biopsies, bacterial and fungal culture, rhinoscopy, nasal cytology, and, like in this case, imaging exams, leading to appropriate diagnosis.

Key words: discharge, secretion, odontology, foreign body.

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Mesothelioma in a dog: a case report of a rare disease

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Background: Mesothelioma is a rare aggressive tumor that affects all animal species. It is originated from mesothelial cells of the serous membranes, such as pericardium, pleura, peritoneum and tunica vaginalis and account for less than 0.2% of canine neoplasms, being older animals more susceptible. **Case Report:** A 02-year-old, intact female, blue heller, 12 kg was presented with 2-week history of severe abdominal distension, dyspnea. On physical examination dehydration, abdominal pain and apathy were also observed. **Results:** The blood count, biochemical profile and urinalysis were marked by normocytic normochromic anemia, leukocytosis by neutrophilia, thrombocytopenia, hypoalbuminemia and isthenosuria. Cytological examination of the peritoneal effusion revealed specific gravity of 1.032, and protein +++ (>500mg/dL). The nucleated cells count: 160.000/mm³, differential counting: non-degenerated neutrophils (70%), macrophages (20%), mesotelial cells (6%), lymphocytes (2%) and masthocyts (1%), and bacteria-filled neutrophils. The effusion was classified as septic exudate. Postmortem examination was performed. The abdominal cavity was filled with about 2L of sero-sanguineous fluid. Numerous, often confluent, 0,5–3 mm wide, irregular, white fibrous nodules were disseminated on the diaphragm, and extended up to liver, mesentery and omentum. Results from the histopathologic examination revealed a malignant epithelioid peritoneal mesothelioma, without evidence of metastasis in other coelomic cavities. In animals, three mesothelioma histological types are described: the epithelioid, the sarcomatoid and the biphasic types. All of them are associated with a very poor overall survival. Although the clinical signs were not pathognomonic, they were consistent with cases of peritoneal mesothelioma reported in the literature, which are usually secondary to the accumulation of hemorrhagic or milky fluid, due to the exudation of the neoplasm itself or by provoked lymphatic compression. **Conclusions:** We recommend that epithelioid mesotheliomas should be included in the differential diagnosis for ascites, even in young dogs. Moreover, cytology showed nonspecific findings and biopsy is necessary to establish diagnosis.

Key words: dogs, peritoneal effusion, malignancy, neoplasm.

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Cryptococosis in a canine: case report

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Background: Cryptococcosis is a zoonosis distributed worldwide, and it is not frequently described in dogs when compare to cats. The fungus can be isolated in bird feces and soil, and transmission can occur through the agentinhalation. *Cryptococcus* spp has tropism for nervous and respiratory tissue. Meningoencephalomyelitis is the lesion most frequently described in dogs with cryptococcosis. The diagnosis of this disease can be performed through microscopic visualization of the yeast in tissues or secretions, using routine and special stainings. **Case Report**: A canine, female, mixed breed dog, with motor incoordination, vocalization and dyspnea, died five days after the beginning of clinical signs. With clinical suspicion of distemper, it was referred to the Laboratory of Animal Pathology, for necropsy. **Results:** At necropsy, there was reddish nasal discharge, the lungs were firm, rough and red, with diffuse pinpoint nodules distributed throughout the pulmonary parenchyma; in addition, the tracheobronchial lymphnodes were enlarged. The encephalon was hyperemic and at cut, after fixation in formalin, a 0.4 cm cystic lesion in the thalamus was seen, which was filled with viscous and amorphous material. Cytologic imprint from the lungs demonstrated ovoid structures of approximately 10μm with translucent halo and slightly basophilic nucleus, sometimes containing budding, morphologically compatible with *Cryptococcus* ssp. Histologically, there were large numbers of yeast structures distributed diffusely in the pulmonary parenchyma, characterized by ovoid, slightly basophilic, evidenced capsules and centralized nuclei and positively stained with PAS and silver methenamine from Grocott-Gomori. In the brain, a well-demarcated area of malacia was observed in the thalamus and telencephalon, which contained yeast structures similar to those described above and necrotic debris. **Conclusions:** The diagnosis of pulmonary and encephalic Cryptococcosis was based on anatomopathological changes with the observation of structures compatible with Cryptococcus spp. evidenced by PAS and Grocott-Gomori.

Key words: nervous system, *Criptococcus* spp., meningoencefalomielite.

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"*In vitro*" evaluation of phagocytic potential of tumor giant cells of canine malignant fibrous histiocytoma

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Background: Malignant Fibrous Histiocytoma is an uncommon neoplasm in dogs, but it can appear in many types of tissues in the body and has an unfavorable prognosis, making its advanced studies relevant. **Objective:** The present work aimed to investigate the phagocytic potential of canine malignant fibrous histiocytoma cells and compare it with monocyte-derived cells from peripheral blood. **Methods:** As study tools, DH82 cells from an original dog histiocytoma in their mononuclear form received interleukin 4 (IL-4) inoculation in the culture medium to become multinucleate giant DH82 cells. In addition, normal monocytes were collected from the peripheral whole blood of a healthy dog, also cultured in both forms, for comparison with the neoplastic cells. In order to evaluate the phagocytic potential of this neoplastic cell type, these cells were exposed to Zymosan particles conjugated to fluorescent molecule FITC and obtained on a flow cytometer. Cytometry results were expressed in percentage of cells that internalized or not the Zymosan particles. **Results:** As a result of the experiment, a mean of 99.6% and 69.2%, respectively of monocyte-derived cells and DH82 cells phagocytosed Zymosan particles, as well as 97.4 and 76.6%, respectively of monocyte-derived giant cells and DH2 giant cells, with no statistical difference between the two types of cells. **Conclusions:** With this study it was possible to determine that the phagocytic potential of its original cells, the monocytes, is present in DH82 cells as well as in multinucleate giant DH82 cells, which showed that this potential is probably responsible, at least in part, for the unfavorable prognosis of this disease.

Key words: DH82, giant DH82, monocytes, neoplasia.

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DH82 cells as a tool to study the formation of tumor giant cells

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Background: Multinucleated giant cells appear in several neoplasms in domestic animals. Despite the malignant fibrous histiocytoma being an uncommon neoplasm in dogs it has a bad prognosis, which makes advanced studies about it relevant. In order to investigate the mechanisms involved in the formation of this tumor and the giant cells that constitute it, DH82 cells cultures from malignant histiocytosis were used throughout the experiment. Objective: To verify how the fusional process of the neoplastic histiocytes works to form giant cells. Methods: Cell culture was carried out in 75 cm² disposable polystyrene bottles with Dulbecco's Modified Eagle Medium (DMEM) plus 10% fetal bovine serum maintained in a humidified incubator at 37°C with 5% CO_2 tension. After cultivation and expansion of the DH82 cells, they were adapted in a new bottle at the concentration of 0.5 x 106 cells/mL for 20 hours, and thereafter received the inoculation of IL-4 (25 ng/mL) and were incubated for other seven days, with an exchange medium plus IL-4 on the second culture day. Results: It was observed the appearance of multinucleated cells already two days after the IL-4 inoculation, being fully formed with seven days of culture. Conclusions: For the first time the formation of in vitro multinucleated giant cells was performed from neoplastic cells derived from this neoplastic DH82 cell type. This possibility of obtaining these cells allows studies about their role in this tumor to be explored, and that in the future they serve as a basis for studying the general giant cells functioning present in several neoplasms.

Key words: DH82, giant DH82, monocytes, neoplasia.

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Heartworm in a female dog in Lavras-MG

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Background: *Dirofilaria immitis* is an important nematode responsible for heartworm disease, which has different prevalences in tropical and subtropical regions around the world. Dogs are the main definitive host and mosquitoes of the genus *Aedes*, *Culex* and *Anopheles* when ingesting blood containing microfilaria participate as intermediate hosts. The clinical signs refer to cardiovascular dysfunction, due to the parasites location. Humans can be infected, although it is not fatal. **Case Report:** A 10-year-old Jack Russell bitch from the state of Rio de Janeiro and residing a few months in Lavras – MG, showed clinical signs of cough, exercise intolerance and ascites. At clinical examination, cardiac murmur, pulmonary edema and limb edema were identified. The dog had spontaneous death and was sent for necropsy at the Veterinary Pathology Sector of UFLA. **Results**: At the necropsy generalized subcutaneous edema was observed, with a positive Godet signal in the limbs, as well as an abundant amount of free red fluid in the abdominal cavity. Liver with severe chronic passive congestion; lugs with edema and multifocal, firm and whitish nodules of 0.1 cm in diameter in the parenchyma. The heart was rounded with dilated pulmonary artery. Upon surface cut, the right antimer had hypertrophied musculature and thin, elongated parasites in the lumen of the right ventricle and pulmonary artery. Histologically the pulmonary artery and its tributaries in the pulmonary parenchyma were hypertrophy with thrombosis associated with parasites compatible with *Dirofilaria immitis* composed of thick cuticle, celomiarial musculature and uterus full of microfilariae. Macrophages filled with hemosiderin in the lung and enlarged nuclei in the left cardiac musculature were also seen. **Conclusions**: The diagnosis of heartworm disease was possible through necropsy and histopathological exams. The epidemiological information contributed significantly to differentiate this report from an autochthonous case.

Key words: *Dirofilaria immitis*, worm, microfilarie, zoonosis.

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Unilateral renal agenesis in a domestic dog

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Background: Renal agenesis, characterized by the complete failure to develop renal structures, has been described in dogs and commonly occurs in predisposed breeds, such as beagles and Doberman pinscher. In other breeds, the onset of this condition is infrequent. **Case Report:** A five months year-old, Labrador cross canine, diedat the emergency care and a full necropsy was performed. The clinicians noted at physical exam an enlargement at the nasal region and they suspected of renal dysplasia and renal secondary hyperparathyroidism. **Results:** During the necropsy procedure, the absence of the right kidney and ureter was noted. The left kidney had irregular surface, was firm and there was pelvis mild dilatation to the cut. The skull bones, thoracic and pelvic limbs, and ribs, were soft and pliant, and the jaw and mandible bones were thickened. Microscopically, in the kidney, there was the parenchyma replacement by fibrosis and a lower number of glomeruli were atrophied or hypertrophied. Mineral was seen in the tubular epithelium, glomerular basement membrane and gastric mucosa. In the bones, replacement of the mineralized trabeculae by fibrous tissue was constantly observed. **Conclusions:** The diagnosis of unilateral agenesis and chronic renal failure was made through macroscopic and microscopic findings. The bone alterations were due to fibrous osteodystrophy secondary to renal disease. Soft tissues mineralization confirmed the occurrence of extrarenal lesions of uremia.

Key words: anomalies of development; renal aplasia; fibrous osteodystrophy; *Canis familiaris*.

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Contribution of astrocytes to immune-mediated canine encephalitis caused by the distemper virus

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Background: In the central nervous system (CNS), homeostasis is maintained through cell-to-cell contact, which keeps the microglia in a quiescent state. Astrocytes contribute towards this process and to the maintenance of local immunotolerance. In injury situations, astrocytes may have a deleterious effect, since they activate an immune response and neuroinflammatory effects. In canine distemper this condition may lead to demyelination and inflammation in the CNS. **Objective:** The objectives of the present study were to evaluate the astrocytes role in the encephalitis caused by the canine distemper virus, through immunodetection of MHC-II, CD3 T lymphocytes, MMP9, MIF and GFAP in demyelinated areas of the encephalon, in order to ascertain whether these findings might be related to the encephalic lesions severity. **Methods:** A retrospective study on archived paraffinized blocks was conducted, in which 21 dogs encephala that had been naturally infected with the canine distemper virus (infected group) and five from dogs that had been free from systemic or CNS-affecting diseases (control group) were used. **Results:** In the immunohistochemical analysis on the samples, the marking degree by GFAP, MHC-II, MMP9 and MIF was greater in the demyelinated areas and in the adjacent neuropil, and this was seen particularly in astrocytes. CD3 detection was limited to perivascular cuffs. In areas of liquefactive necrosis, Gitter cells were positive for MMP-9, MIF and MHC-II. **Conclusions:** Hence, it was concluded that activated astrocytes influenced the afflux of T lymphocytes to the encephalon, thus resulting in encephalitis, which contributed towards worsening of the viral lesions in the dogs of the infected group. In more advanced phases, activated phagocytes the liquefactive necrosis areas (Gitter cells) continued to produce inflammatory mediators even after the astrocytes in these localities had died, thereby worsening the encephalic lesions.

Key words: demyelination, neuroinflammation, virus, immune response, dog.

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Serum levels of vitamin D in female dogs with mammary neoplasm

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Background: The 25 levels of 25-hydroxyvitamin (25(OH)D) are predisposing factors to the neoplasms development in humans, especially breast cancer. Plasma chains of (25(OH)D) may be decreased in dogs with tumor. However, publications are scarce in dogs. Changes in the levels of (25(OH)D) in dogs with other types of neoplasm stimulated the study of the relation of (25(OH)D) to mammary neoplasms in bitches. **Objective:** To correlate serum levels of (25(OH)D) with the mammary neoplasms development in female dogs. **Methods:** Female dogs without predilection for breed or age were used, from the Veterinary Hospital of FCAV-UNESP, Jaboticabal, São Paulo State, Brazil. Dogs were divided into control group (CG, n = 10) with females without mammary neoplasm and the group with mammary neoplasm (NG, n = 10). Dogs blood samples were collected in a 12-hour fasting meal, by means of the jugular vein puncture, under aseptic conditions, prior to mastectomy, to analyze the values of 25(OH)D by the enzymatic colorimetric method. After surgical excision, the mammary gland containing the neoplasm and inguinal lymph node were collected for histopathological examination to confirm the mammary neoplasm diagnosis. **Results:** CG had a serum vitamin D variation of 17 Ng / dL to 154.2 Ng / dl (70.3 Ng / dL ± 42, 59901 Ng / dl). The NG presented variation from 25.5 Ng / dl to 66.7 Ng / dl (40.36 Ng / dl ± 14.15527 Ng / dl). **Conclusions:** Reference values for serum levels of vitamin D for dogs are not defined in the literature. In the present study, NG showed a significantly lower mean than CG, confirming the hypothesis that low levels of 25 (OH) D predispose the mammary neoplasm development in female dogs.

Key words: 25 hydrovitamin D, neoplasm, histopathology, pets.

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Cryptococcus neoformans and *Cryptococcus gattii* – case report

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Background: Cryptococcosis is a systemic fungal disease associated with immunosuppression and caused by the pathogenic species of *Cryptococcus neoformans* and *Cryptococcus gattii*. Felines are more susceptible to infection than humans and consequently are considered a sentinel species for fungus exposure. **Case Report:** A feline, female, young (case 1) and a feline, male, adult (case 2), both undefined and with suspected fungal infection were euthanized and sent to necropsy in the Veterinary Pathology Sector of the Faculty of Veterinary Medicine of UNESP- Araçatuba-SP. **Results:** At necropsy in case 1, there was in nasal plan a ulcerative cutaneous lesion, red, with gelatinous exudate extending to the upper lip, gingiva and nasal sinuses; in case 2, the submandibular lymph nodes were enlarged and firm. In the lesion cytological examination in nasal plane and of the submandibular lymph node there were a lot of leveduriform structures, round to oval and with non-stained thick capsule, suggestive of *Cryptococcus spp*. In the histopathological analysis of the nasal plane, submandibular lymph nodes, brain and cerebellum of case 1, the presence of lymphohistiocytic inflammatory infiltrate and yeast microorganisms surrounded by a non-stained gelatinous capsule, compatible with *Cryptococcus* were found. Case 2 presented inflammation and similar fungal structures in submandibular lymph nodes and lungs; however, in the cerebrum and cerebellum absence of inflammation was observed, but there was cryptococcal proliferation. Samples were sent to fungal culture, with methods for differentiation between pathogenic species, identified *Cryptococcus gattii* in case 1 and *C. neoformans* in case 2. **Conclusion:** Cryptococcosis is an important systemic fungal disease in felines. In both necropsied felines the association of macroscopic and microscopic findings and fungal culture were essential for the definitive diagnosis of the pathogenic species of Cryptococcosis.

Key words: cat, pathology, fungus.

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Outbreak of eimeriosis in an extensive cattle production system in Rio Grande do Sul

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Background: Eimeriosis is a parasitic disease caused by coccidians, being *Eimeria bovis* and *Eimeria zuernii* the most pathogenic species for cattle. The condition usually affects young animals in overcrowding situations, particularly calves moved from pasture to feedlot. Morbidity is usually high, and lethality is low. **Case Report:** In a beef cattle farm in the municipality of Triunfo, Rio Grande do Sul state, Brazil, with extensive breeding and good availability of forage, eight out of thirteen cattle, aged around two years old, became ill (morbidity of 61.5%) and two died within two days (lethality of 25%). The clinical signs observed were bloody diarrhea with fibrin strands, apathy, abdominal pain, dehydration, and conjunctival pallor. One bovine was subjected to necropsy and histopathological examination. Four stool samples were subjected to coproparasitological examination, and the sporulated oocysts were measured to determine the *Eimeria* species. **Results:** At necropsy, the colon and rectum mucosa was thickened, wrinkled, and red, and there was mucosanguineous content in the lumen. In addition, the carcass exhibited moderate pallor (anemia), and reddish stools adhered to the perineal region hair. At histopathological examination of the large intestine, a large number of parasite structures compatible with merozoites, macrogamonts, microgamonts, and oocysts of *Eimeria* spp. were observed inside the enterocytes and sometimes free in the crypts lumen. There was also multifocal necrosis and hemorrhage in the mucosa, as well as mild inflammatory infiltrate in lamina propria, composed of lymphocytes, plasma cells, macrophages, and eosinophils. At coproparasitological examination, the necropsied bovine presented 650 oocysts per gram of feces (OoPG), and the others, 600, 1,200 and 1,450 OoPG. The *Eimeria* species identified were *E. zuernii* (87.5% of the oocysts) and *E. bovis* (12.5%). **Conclusions:** *Eimeria* sp. can cause severe clinical disease and death of young adult cattle in extensive production systems.

Key words: enteric disease, bovine pathology, coccidiosis, diarrhea.

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Eosinophilic enteritis in a bovine

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Background: Eosinophilic enteritis is part of the complex of idiopathic inflammatory bowel diseases. This disease is characterized by inflammation predominantly of eosinophils in the lamina propria and submucosa of the small and large intestines portions. The affected cattle show chronic, persistent or intermittent diarrhea, without fever. **Case Report:** A three-years old, male, Brangus bovine belonging to a group of eleven bulls, presented progressive weight loss with six months of evolution. In the last weeks before death, diarrhea was evidenced. The bulls were fed a balanced diet (oats, ryegrass grazing, concentrate, and mineral salt) and they received vermifuge eight months ago. After treatment attempts, the bull was submitted to euthanasia followed by necropsy. Tissue fragments were collected, fixed in 10% formaldehyde, routinely processed for histology and stained with hematoxylin and eosin (HE). **Results:** At necropsy, liquefied contents were observed throughout the lumen of the small and large intestines and parasites were not observed. In the jejunum and colon there were extensive areas with discrete intestinal wall thickening, sometimes associated with red mucosa coloration. The mesenteric lymph nodes were mildly enlarged and, upon the cut, flowing translucent liquid. The liver was diminished in size and the abomasum had moderate edema. Histological intestines examination revealed a moderate diffuse inflammatory infiltrate, composed predominantly of eosinophils and a smaller number of lymphocytes, plasma cells, mast cells, and macrophages in the lamina propria and sometimes extending to the submucosa. Other findings included atrophy of the hepatic lobules and marked submucosal edema in the abomasum. **Conclusion:** The eosinophilic enteritis diagnosis was based on the history, macroscopic and microscopic findings, associated with the exclusion of other causes of chronic diarrhea with progressive weight loss in cattle.

Key words: inflammatory enteritis, diarrhea, eosinophils, pathology.

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Pyogranuloma associated to foreign body of uterine stump in a female dog

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Background: Ovariosalpingohisterectomy is considered a simple surgical technique with low-risk at the procedure, but some postoperative complications may occur, such as bleeding, dehiscence, and pyogranulomas. Pyogranulomatous formations are relatively common among all the post-surgical complications of hysterectomy and occur most often as reactions to non-absorbable surgical thread and seals. **Case Report:** A five-year-old poodle bitch neutered when one-year-old, attended a veterinary clinic of Belo Horizonte, Minas Gerais, presented clinical signs of inappetence and abdominal pain. The physical examination revealed a hard mass at the back-antimere in the abdominal cavity. The Ultra-sound examination showed a 5.0 cm size mass near the uterine cervix. Mass surgical withdrawal was performed, which was submitted to histopathologic exam. **Results:** In the macroscopic examination a hard mass was observed with an irregular surface measuring 5.0 x 3.0 cm. At the cutting surface a solid, thick and brownish structure was observed, with some white foci, and a cystic area filled with cotton-gauze. The histological evaluation revealed a severe diffuse inflammatory infiltrate composed predominantly of neutrophils, histiocytes with a wide and poorly stained cytoplasm and multinucleated giant cells associated to amorphous, basophilic and filamentous matters. The wound periphery was comprised by a capsule of fibrous connective tissue. **Conclusions:** The histopathological findings consisted of a chronic inflammatory process with high fibroplasia. The infiltrate and fibroplasia were associated with the foreign matter found in the lesion, where it remained for four years until being found and removed. The excessive collagen deposit caused adherences to the surrounding organs, that may also cause consequences to the animals' health.

Key words: ovariosalpingohisterectomy, chronic, Inflammation, canine.

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Alimentary T-cell lymphoma in a coati (*Nasua nasua)*

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Background: Lymphomas are commonly reported neoplasms in a wide range of domestic and wild species, and can be classified according to their clinical, pathological, and immunophenotypic findings. This is a second case of lymphoma diagnosed in coati and the first affecting the alimentary tract of this specie. **Case Report**: A 10-year-old, female coati (*Nasua nasua*) from the Brasília Zoo presented history of apathy, thinness and dehydration. Ultrasonographic examination revealed soft tissue mass in the mesogastric region. The animal died eight days after the onset of the clinical signs. Pathological findings included soft, smooth, and white nodules ranging from 0.5 to 2.0 cm in diameter on the small intestine wall, adjacent mesentery, and mesenteric lymph nodes. Samples of the affected tissues were collected, fixed in 10% neutral, buffered formalin, routinely processed, and stained with hematoxylin and eosin. To identify the origin of neoplastic cells, immunohistochemical analysis was performed using antibodies anti-CD79 and anti-CD3. Histologically, the nodules consisted of non-encapsulated neoplastic proliferation, constituted by numerous small malignant lymphocytes (7-8μm) arranged in mantles, and affecting all the organs layers. The cells were round, with distinct cell borders, sparse and basophilic cytoplasm, and round and hyperchromatic nuclei. Anisokaryosis and anisocytosis were moderate, and there were occasional mitoses in fields of great magnification (400x). Neoplastic lymphocytes were strongly positive for CD3 and negative for CD79. **Conclusions**: Based on morphological and immunohistochemical findings, the neoplasm was classified as alimentary T-cell lymphoma. To the authors' knowledge, this is the first case of lymphoma affecting the alimentary tract of a coati.

Key words: lymphosarcoma, neoplasm, T lymphocytes, wild animals.

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Canine non-neoplastic proliferative mammary lesions in females from Goiânia metropolitan area, Goiás, Brazil

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Background: Canine mammary lesions represent a large part of the casuistry of veterinary clinics. Among them, non-neoplastic one consists of cell proliferation disorders and may be related to the risk of developing breast neoplasms. **Objective:** Determine the frequency of non-neoplastic proliferative mammary lesions in a bitch. **Methods**: Histopathological lab files between 2015 and 2016 in a private veterinary pathology laboratory in Goiânia- Goiás were analyzed. Morphological diagnosis[1] of the lesions, age, and animal breed were collected. **Results**: In the period evaluated, 45 (8.3%) of the 542 canine mammary gland samples referred to non-neoplastic proliferative mammary lesions. Of the six types of lesions found, lobular hyperplasia with secretory activity (48.8%) was more prevalent, followed by duct ectasia (37.7%), epitheliosis (4.4%), and regular lobular hyperplasia (4.4%). Epidemiological aspects of each lesion are summarized in the table. **Conclusions**: Female canine non-neoplastic proliferative lesions had a low frequency. Of all types, lobular hyperplasia with secretory activity was the most prevalent lesion.

Table. Prevalence, mean age, and breed of non-neoplastic proliferative mammary lesions in a bitch diagnosed in Goiânia, Goiás.

Tumor	Number (%)	Mean age (years)	Breed (%)
Lobular hyperplasia with secretory activity	22 (48.8)	8.2	Poodle (22.7)
Duct ectasia	17 (37.7)	9.6	Poodle (17.6)
Epitheliosis	2 (4.4)	8	Poodle/Pit Bull (50)
Regular Lobular hyperplasia	2 (4.4)	6	Rottweiler/Mixed (50)
Lobular hyperplasia with atypia	1 (2.2)	10	Pastor Belga (100)
Lobular hyperplasia with fibrosis	1 (2.2)	Not informed	Not informed

Key words: canine, dysplasia, histopathology, hyperplasia.

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Cryptococcosis in two gerbils (*Meriones unguiculatus*)

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Background: Cryptococcosis is an infectious disease caused by the fungi *Cryptococcus neoformans*, which can be found in soil, pigeons or other avian guano and decaying organic matter. The infection is described in several species, like felines, birds, dogs, and even in humans, and is mainly acquired by basidiospores inhalation (yest cells) from contaminated dust. Infected animals may present anorexia, emaciation, dyspnoea, cough, ulcerated skin wounds and lymphadenomegaly. The infection is associated with severe granulomatous inflammation that can be focal or may spread to other organs. **Case Report**: Two adults gerbils (*Meriones unguiculatus*), one male and other female, were sent for necropsy at the Veterinary Pathology Sector of the Federal University of Lavras, MG. The animals were kept in cages with bed of sawdust and chopped newspaper, and fed with commercial feed. The gerbils presented progressive weigth loss and apathy. The female had a spontaneous death two week after the onset of clinical signs and the male was euthanized a few days after. **Results**: At necropsy abundant quantity of viscous yellowish material in the thoracic cavity was observed, lung markedly increased in volume, grey yellowish with gelatinous appearance and irregular surface. Histologically, lots of ronded leviduriform structures were observed (yeast), with thick non-staining capsular material lends a “soap bubble” appearance in alveoli and bronchioles, associated with moderate inflammatory infiltrate of macrophages, lymphocytes and plasma cells. The cell body was stained with metanina silver and PAS. **Conclusions**: The cryptococcosis diagnosis was based on the histologic typical lesion appearance. The lungs were the only affected organs, demonstrating that the infection route was the respiratory tract, suggesting that the probable infection source was the bed with shavings and chopped newspaper.

Key words: *Cryptococcus*, pneumonia, fungi.

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Juvenile nephropathy in two dogs

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Background: Commonly, the cases of chronic renal failure are visualized in elderly animals. When this syndrome is observed in young animals there is a relationship with developmental disorders like hereditary alterations, familiar or acquired factors. Juvenile nephropathy is considered an hereditary disease, described in several breeds, characterized by interstitial fibrosis, lymphocytes and plasma cell infiltrates and dilated tubules, which may present atrophy areas and glomerular hyperplasia. The objective of this work is to describe two cases of canine juvenile nephropathy. **Case Report:** Two canines, mixed breed, females, aged 1 and 2 years, had a clinical presentation compatible with chronic renal failure and clinical signs of uremia. **Results:** At necropsy it was observed that in both cases the kidneys were diminished, pale, irregular and with a discrete adherence of the renal capsule. Upon the cut it was possible to observe corticomedullary decrease with small dots and whitish streaks. In canine 1, extra-renal uremia lesions were also seen, such as mineralization of the gastric wall and intercostal muscles. Histopathologically, in both cases, there was a varying degree of fibrosis of the renal parenchyma, as well as areas of glomerular atrophy and glomerular cysts. In addition, areas of glomerular hypertrophy, slight atrophy of the tubular epithelium and sometimes a rudimentary epithelium lining the tubules were noted. Randomly, areas of atrophied tubular epithelium mineralization were visualized. **Conclusions:** Based on histopathological changes and epidemiological data, it can be concluded that the factor causing renal failure in both cases occurred due to the great renal impairment due to a hereditary disease. The cases of progressive juvenile nephropathy are usually related to certain breeds, and in some of them the gene that can determine these alterations has already been established, but in mixed breed animals there are few reports describing this condition.

Key words: kidney, canine, hereditary disease.

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Canine oral neoplastic lesions from Goiânia metropolitan area, Goiás, Brazil

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Background: Oral neoplasms are commonly diagnosed in dogs and can be divided according to their origin in odontogenic and non-odontogenic. **Objective:** To determine prevalence and epidemiological aspects of oral neoplasms in dogs. **Methods:** Histopathological lab files between 2015 and 2016 in a private veterinary pathology laboratory in Goiânia, Goiás were analyzed. Data regarding sex, age, breed and morphological diagnosis[1] were collected and evaluated through a descriptive statistical analysis. **Results:** Of the 133 examinations performed of canine oral cavity samples, 75 (56.3%) were diagnosed as neoplasm. Non-odontogenic tumors (57.3%) represented the majority of cases, followed by odontogenic (42.6%). Among all the eleven types of neoplasm recognized, melanoma was higher prevalence (24.0%), followed by acanthomatous ameloblastoma (22.6%), peripheral odontogenic fibroma (20.0%), squamous cell papilloma (13.3%), and squamous cell carcinoma (5.3%). Epidemiological aspects of most prevalent neoplasms were summarized in the table below. **Conclusions**: Most lesions in canine oral cavity were diagnosed as neoplasm, and melanoma had the highest prevalence.

Table. Prevalence, mean age, sex, and breed of the five most prevalent oral neoplasms in dogs diagnosed in Goiânia, Goiás.

Neoplasm	Number (%)	Mean age (years)	Sex (%)	Breed (%)
Melanoma	18 (24.0)	12	M (55.5)	Poodle (33.3)
Acanthomatous ameloblastoma	17 (22.6)	8.3	M (64.7)	Poodle (17.6)
Peripheral odontogenic fibroma	15 (20.0)	8.4	F (53.3)	Mixed (40.0)
Squamous papilloma	10 (13.3)	7.3	F (60.0)	Mixed (40.0)
Squamous cell carcinoma	4 (5.3)	11.2	M/F (50.0)	Poodle/Mixed (50.0)

Key words: canine, histopathology, oral cavity, oral lesions.

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Toxoplasmosis in cats: A case report

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Background: Toxoplasmosis is one of the most common parasitic diseases that can affect several animal species, including man and is of great zoonotic importance. It is caused by *Toxoplasma gondii*, a protozoan whose definitive host is the feline, which eliminates oocysts in feces and is considered the only infection source for intermediate hosts (mammals, including man and birds). **Case Report:** A feline, male, uncastrated, without undefined breed, was attended at the Veterinary Hospital of UNESP / FCAV-Jaboticabal, with liquid diarrhea, fever and dyspnea. This picture evolved to death. **Results:** Necroscopic examination revealed hypocorous mucosae, adipose tissue and pale musculature. In the *in situ* evaluation of the thoracic cavity a marked quantity amount of yellowish liquid was noted (edema). Lung, spleen, liver and kidney were diffusely reddish, and drained a moderate amount of blood to the cut. In the encephalon the meningeal vessels were evidenced. In the histological analysis of the lung, heart, spleen, liver and kidney, rounded basophilic structures were observed in the macrophages (tachyzoites), always associated with areas of necrosis, hemorrhage and the moderate mononuclear inflammatory infiltrate. In the brain, the presence of basophilic cysts (bradyzoites) was noted after the blood vessels. In the spleen, there was still marked lymphoid rarefaction in the white pulp. In the small intestine numerous intermediate forms of the protozoa were observed inside the enterocytes (sexed and asexual stages). **Conclusions:** The animal died due to interstitial pneumonia associated with intralesional parasite compatible with *Toxoplasma gondii*. The microscopic changes observed in the spleen, together with the animal's clinical condition, suggest a clinical sign of immunosuppression, which probably favored infection by the protozoan. Coinfections by immunosuppressive viral diseases, such as IVF and FELV, are common in cats.

Key words: protozoan, zoonosis, feline, definitive host.

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Kisspeptin treatment restores the cyclicity and ovarian dysfunction caused by hypothyroidism

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Background: Hypothyroidism is the main endocrinopathy that causes ovarian dysfunction and infertility in women and animals because it compromises the GnRH and LH release. However, thyroid hypofunction causes hyperprolactinemia, which is associated with infertility in women by reducing the kisspeptin (Kp) hypothalamic expression, the key reproduction neuropeptide that stimulates the GnRH release. **Objective:** To evaluate the therapeutic Kp potential in ovarian dysfunction caused by hypothyroidism. **Methods:** Adult female Wistar rats were divided into the control, hypothyroid and Kp10-treated hypothyroid groups (CEUA Nº 036/16). Hypothyroidism was induced by propylthiouracil administration (1mg / rat / day) for three months. In the last month, half of the hypothyroid animals received Kp10 (2µg / rat / day). Cyclicity was assessed daily and during treatment with Kp10 all rats were exposed to male rats for 15 days to evaluate the male effect on estrus cycle manifestation under the influence of hypothyroidism and Kp10 treatment. At the end, the serum profile of LH and prolactin, ovarian weight and number of corpora lutea were evaluated. Data were analyzed by the SNK test. **Results:** Hypothyroid and Kp10-treated rats had an increase in prolactin concentration ($P < 0.05$), confirming the hyperprolactinemia caused by hypothyroidism in these animals. Hypothyroidism compromised the animals cyclicity ($P < 0.05$), keeping the animals predominantly in diestrus and acyclic. Exposure of the hypothyroid rats to males promoted incomplete cycles and without proestrus. In contrast, treatment with Kp10 promoted complete and regular estrous cycles both in the presence and absence of the male rats. Hypothyroidism reduced ovarian weight and number of corpora lutea ($P < 0.05$), and Kp10 treatment reversed these changes in the ovaries ($P < 0.05$). **Conclusions:** The present findings reveal that kisspeptin treatment restores the cyclicity and ovarian dysfunction of hypothyroid rats, proving a new therapeutic target in female infertility caused by hypothyroidism.

Key words: fertility, female, thyroid, ovary, rat.

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Grade I transitional meningioma located in the sellar region in dog – case report

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Background: Meningiomas are the most common intracranial and intraspinal neoplasms in dogs and cats, but there are no data regarding their prevalence according to sex or breed. They are commonly found in the frontal or basal telencephalic region and less frequently in the sellar region. Common manifestations include signs such as seizures, alterations in mental state, the involvement of the cranial nerves and gait abnormalities. Meningiomas may be classified and graded (grade I, II and III) according to the cytomorphological characteristics, the presence of cellular pleomorphism, mitoses, tissue invasion, and differentiation. **Case Report:** Female, mixed breed, 13-years-old dog presenting clinical signs for 3 months including diminished response to threatening stimuli, walking compulsively and in circles, head pressing against obstacles, evacuation disorders, seizures, and aggressiveness. The animal was euthanized after one month due to the seizures and forwarded to necropsy. **Results:** The necroscopic examination revealed a neoformation located in the sellar region with adherence to the hippocampus, with multilobulated aspect, off-white coloration, soft and measuring approximately 3.0 cm in diameter. The histopathological analysis revealed a non-infiltrative proliferation of meningothelial cells, arranged in concentric spirals and bundles, supported by a scarce fibrovascular stroma associated with discrete areas of hemorrhage, necrosis and polymorphonuclear inflammatory infiltrate. The cells presented a fusiform shape, discrete to moderate, well-defined, eosinophilic cytoplasm, oval-shaped nucleus, finely granular chromatin, and inconspicuous nucleolus. Mitoses and malignancy criteria were not observed. **Conclusions:** This case report describes a case of grade I meningioma in an uncommon location.

Key words: meninge, dog, tumor, intracranial.

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Renal myxoma in feline – Case report

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Background: Myxomas are benign neoplasms of mesenchymal origin in which fusiform cells are found within an abundant myxomatous matrix created by the excessive production of mucopolysaccharides. There are few case reports in the veterinary literature about this type of neoplasm and only one report of a myxoma in the feline genitourinary system, particularly in the ureter. **Case Report:** 9-months-old, male, feline of mixed breed, with signs of apathy, vocalization, lack of coordination, spasms on the limbs, twitching, adipsia, anuria and inability to defecate. The examination revealed low temperatures (< 33ºC) and moderate dehydration. The serum biochemistry assay presented results compatible with slight uremia 65.5 mg/dL (42.8-64.,2 mg/Dl). Results: The necroscopic assay reveled kidney injuries observed through the tissue pale coloration, irregular surface with multiple off-white small nodules distributed in a marked and diffuse way. The same injury pattern was observed markedly in the lungs and discretely in the spleen and liver. Histopathological examination revealed multiple focuses of pyogranulomatous injuries in the kidneys, lungs, spleen, uvea and leptomeninges, corroborating the diagnosis of feline infectious peritonitis (FIP). However, a benign mesenchymal neoplasm was also noted in the renal interstitium, characterized by extensive, well-outlined areas with proliferation of elongated and star-shaped cells with cellular pleomorphism and absent mitoses, associated with myxoid material confirmed with the Alcian Blue stain. Immunohistochemistry revealed that neoplastic cells were positive for Vimentin (Figure 3) and negative for pan-cytokeratin and p63. Conclusions: This study reports the first case of renal myxoma in a young feline afflicted by granulomatous nephritis by FIP (Feline Infectious Peritonitis).

Key words: neoplasm, kidney, myxoid, immunohistochemistry.

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Folicular tumors in dogs: Retrospective study

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Background: The study analyzed the cases of follicular tumors diagnosed in the period between 2013 and 2018. In 51 cases evaluated of follicular tumors in dogs, the most common animal was mixed breed (28.9%), frequently females (65.7%), the head is the most affect location (35.1%) and the most frequent neoplasm was trichoepithelioma (52.9%). **Objective**: The objective of this study was to analyze the frequency of canine follicular tumors diagnosed between 2013 and 2018. **Methods**: The data were obtained from 38 cases diagnosed as follicular tumors, in some cases were observed more than one nodule, totalizing 51 nodules, and recorded in data base of Excel® software and analyzed with the support of Bioestat® version 5.3. The variables analyzed were five: neoplastic type, anatomic location, breed, sex and age. **Results**: From the analyzed data, 38 were originated from canines with mean age of 9, mostly female. The most affected location were head (35.1%), dorse (29.8%) and cervical (13.5%). The most common animals were mixed breed (28.9%), Poodle (18.4%) and Daschund (13.1%). According to neoplasm types, 52.9% was trichoepithelioma, 33.3% trichoblastoma and 13.8% pilomatricoma. **Conclusions**: Trichoepithelioma was the most common follicular tumor, affecting animals with mean age of 9, female and mixed breed. The most affected location was the head.

Key words: cutaneous nodes, dogs, neoplasm.

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Endogenous lipid pneumonia in a feline: A case report

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Background: Endogenous lipid pneumonia is a pulmonary disease characterized by foamy macrophages accumulations in alveoli and associated with hypercholesterolemia. The pathogenesis is unknown, but may be related to the lipids accumulation from surfactant and degenerate cells. The most frequently reported diseases concomitant with endogenous lipid pneumonia are neoplasia, renal failure, liver failure, pancreatitis and heart failure. **Case Report**: A 13-year-old female, mixed breed feline, was admitted at the Veterinary Hospital - FMVZ-USP with history of chronic renal failure and pancreatitis, cachexia, anorexia and moderate dehydration. Thoracic ultrasound revealed a mass in the right lower lobe. Due to poor prognosis, with progression to convulsion and intense prostration, the animal was euthanized and submitted to necropsy. **Results:** The lungs were red with multifocal to coalescent white poorly demarcated areas. There were areas of adhesion between the visceral and parietal pleura. Microscopically, there were diffuse alveoli necrosis, type II pneumocytes hyperplasia and increase of intraluminal alveolar macrophages. There were multifocal to coalescent areas with loss of alveolar architecture, characterized by the presence of cholesterol clefts, necrosis, mineralization, fibrosis, neutrophilic infiltrate and aggregates of xanthomatous macrophages. Lining the pleura, there was hyperplasia of mesothelial cells and presence of fibrin deposits. In the kidneys, it was noted global membranous glomerulonephritis, glomerulosclerosis and severe lymphoplasmocytic interstitial nephritis. The pancreas presented interstitial lymphoplasmacytic infiltrate, mild perilobular fibrosis and necrosis in the peripancreatic adipose tissue. **Conclusion:** Macroscopic and microscopic features are compatible with endogenous lipid pneumonia. Chronic pancreatitis and chronic renal failure observed in this case may be related to changes in cholesterol levels, which may explain the lesions observed in the lungs.

Key words: cholesterol pneumonia, feline pathology, lung disease.

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Invasive pulmonary aspergillosis associated with acute enterocolitis in horses

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Background: Invasive pulmonary aspergillosis (IPA) is an uncommon disease whose main predisposing factor is the loss of the gastrointestinal tract integrity, usually due to acute enterocolitis, mainly associated with Salmonella spp. The objective of this work is to describe two cases of IPA associated with enterocolitis. **Case Report:** Two horses, a three-month-old male PSI, and an adult mare, mixed breed, died after presenting a clinical picture of acute diarrhea. The foal, from a horse farm, presented diarrhea and fever that was not responsive to the antibiotic. The mare was hospitalized under penicillin therapy because of a face laceration. After three days, it presented diarrhea and hemoglobinuria. **Results:** At foal necropsy, there were multiple pulmonary nodules distributed multifocally by the natural surface. It had a brownish cut surface bounded by a red halo. From these nodules *Aspergillus fumigatus* was isolated. The intestine was filled with fluid and covering the mucosa there was a yellowish content that sometimes had red areas. At the mare necropsy, the colon was the only site affected. It was filled with fluid, with the diffuse greenish mucosa to markedly swollen. In both horses, the lungs histopathological findings were consistent with accentuated multifocal acute necrosuppurative pneumonia with thrombosis associated with myriads of intralesional hyphae (morphology consistent with *Aspergillus* sp.). In the intestines, there was villi and crypts necrosis with the submucosa exposure. To confirm the diagnosis, immunohistochemistry was performed for *Aspergillus* spp., showing intense immunostaining. **Conclusions:** Based on the clinical, pathological and microbiological findings, API associated with acute enterocolitis was diagnosed. Manifestations of respiratory clinical signals are rare observed in horses with IPA. Thus, this disease must be considered as a differential disorder for horses that have acute enterocolitis not responsive to the antibiotic.

Key words: *Aspergillus fumigatus*, fungal pneumonia, diarrhea, *Salmonella* spp.

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Urethral adenocarcinoma in a female dog

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Background: Primary urethral tumors are rare in animals. Adenocarcinoma is even less frequent if compared to transitional cell carcinoma or squamous cell carcinoma. Thereby, the aim of this study is to report a case of urethral adenocarcinoma in a female dog. **Report:** A 14-year-old female, spayed, mixed-breed dog had a history of strangury, pollakiuria and hematuria for 15 days. At physical examination, pain sensibility at urinary bladder palpation and partial urethral obstruction were detected. Urinalysis revealed proteinuria and hematuria. The cytological analysis of material obtained from the urethra collected by a urethral catheter was suggestive of adenocarcinoma, characterized by the presence of epithelial cells free or in aggregates, with intense pleomorphism, prominent nucleolus, binucleated cells and typical mitotic figures. Due to the poor prognosis, the animal was euthanized. **Results:** At necropsy, the entire urethra presented increased volume and was partially obstructed by a lobulated neoplastic mass; it was pale and had a firm consistency. The neoplastic mass also affected the region of the trigone bladder. The bladder was empty, and the kidneys were apparently normal. The other organs did not show any significant abnormalities. Samples of the abdominal and thoracic organs, including the urinary tract and the urethral tumor, were fixed in 10% buffered formalin and processed by a paraffin inclusion technique. The histopathological slides were stained with hematoxylin and eosin. Microscopically, an acinar proliferation of neoplastic epithelial cells, presenting one or two oval nucleus, coarse chromatin, multiple nucleolus, anisokaryosis and moderate mitotic index was detected. These cells sometimes formed papillary projections to acinar lumen formation. Neoplastic cells with similar features were observed in the trigone bladder. Metastasis was not found in other organs. **Conclusion:** According to the gross and microscopic features, a diagnosis of urethral adenocarcinoma was detected.

Key words: oncology, urethra, adenocarcinoma.

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Unilateral adrenocortical carcinoma in an assintomatic dog

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Background: Adrenocortical carcinomas are uncommon neoplasms in dogs, in most cases they are functional producing glucocorticoids and Cushing's syndrome typical clinical signs, such as polyuria and polyphagia. **Case Report:** A 7-year-old, 15.5-kg-weight, healthy, mixted breed, spayed dog underwent through routine exams. **Results:** On the abdominal ultrasound a 2.85 x 1.41 cm irregular nodule on the surface of the left adrenal gland was found. The low dose dexamethasone suppression test revealed normal values, indicating absence of hyperadrenocorticism. Adrenalectomy of the left gland and histopathological evaluation were performed. Histopathological revealed multinodular, expansive, infiltrative and partially lined fibrous capsule neoplastic transformation. The neoplastic cells were large, polyhedral, with abundant cytoplasm, clear eosinophilic and often rich in lipids. They had central, spherical and regular nucleus and puntiform nucleoli. The neoplastic cells had similar characteristics to the adrenal gland cells of the cortical layer, forming trabeculae separated by discrete fibrovascular stroma. The nodule analysis showed anisokaryosis, anisocytosis, discrete desmoplasia and a mitotic figure in 10 fields (400x), as well as infiltration of neoplastic cells in the fibrous capsule. **Conclusions:** Based on the histopathological findings, the diagnosis of well-differentiated adrenocortical carcinoma was confirmed. This report disagrees with the existing literature, since the animal did not have increased glucocorticoids or clinical signs related to adrenocortical carcinoma. Adrenocortical carcinomas occur less frequently than adenomas, and in elderly dogs compatible with the animal in this report.

Key words: stomach, clinical emergency, dog.

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Granulomatous enteritis by *Paracooperia sp.* in a buffalo

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Background: *Paracooperia sp*. comprises a genus of nematodes that parasitize the small intestine of buffalo. There are three species that parasitize buffaloes: *P. nodulosa*, *P. maltoffi* and *P. petrowi*, *P. nodulosa* being the most common and pathogenic (1). **Case Report:** A 6-month-old male buffalo, body score 3/9, was referred to the Departament of Veterinary Pathology (FCAV/Unesp) for necroscopic examination. **Results:** At necropsy there was severe ectoparasitism (ticks), ocular and oral mucous membranes were congested and there were feces adhered to the perineal region (diarrhea). In the small intestine there were multiple punctate nodules blackened on the wall, at all length. The intestinal contents were yellow-greenish and the serosa vessels were evident. In the microscopic analysis there were moderate multifocal nodular areas (granuloma) which extend from mucosal to muscle layer, and these were composed of foamy macrophages, lymphocytes, plasma cells, cellular debris and giant cells surrounding nematodes (*Paracooperia sp.*). The disclosure of Peyer-Plaques is also noteworthy, but with lymphoid rarefaction and apoptosis. The mucosa had lymphocytic inflammatory infiltrate, crypts necrosis and villi atrophy. **Conclusions:** The lesions observed are compatible with endoparasitism by *Paracooperia sp.*, which are highly pathogenic and cause immunosuppression in buffaloes. The cause of death is related to severe dehydration secondary to diarrhea of parasitic origin.

Key words: endoparasitism, enteritis, buffaloes, diarrhea.

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Extranodal lymphoma in a dog's brain: case report

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Background: The appearance of an isolated lymphoid tumor in any organ, which does not belong to the lymphoid tissue, should be considered as an extranodal lymphoma. This form is seen as a solitary tumor, which can mainly affect the skin, kidneys and spinal canal (1). **Case Report:** A male dog, Labrador retriever, body score 7/9, was admitted to the Veterinary Hospital of the FCAV / Unesp, with neurological signs, such as ataxia, ambulation, sialorrhea, vocalization and rigid limbs during seizures. Clinical therapy was not responsive and, therefore, euthanasia was performed. **Results:** At necropsy, mucous membranes were congested and encephalon was observed with evidence of meningeal vessels. Neoplastic malignant proliferation of round cells, densely cellular, poorly demarcated, unencapsulated and infiltrative growth in nervous tissue was observed under microscopy. The cells were arranged diffusely, in a focally extensive area of the cerebral cortex, arranged in sheets. Individually, the cells had distinct forms and boundaries, with scant and acidophilus cytoplasm and nucleus: cytoplasm ratio increased. The nuclei were round, sometimes cleaved, hypochromatic and paracentral, with coarse chromatin and unique and evident nuclei. Moderate anisokaryosis and anisocytosis, discrete binucleation and karyomegaly. Fifty-five mitotic figures were observed in 10 fields with a 100x objective lens. In addition, there was a focal area with axonal swelling (Wallerian degeneration). C**onclusions:** Based on the histopathological findings, this is an extranodal small cell lymphocytic lymphoma, an unusual metastatic neoplasm in dogs, especially in the central nervous system. This corroborates with the animal's clinical alterations, since the neoplasia had a compressive effect on the neurons adjacent to the lesion.

Key words: lymphoid tumor, metastasis, Wallerian degeneration.

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Expression of metalloproteinase 9 and 14 and correlation with tumor aggressiveness in oral and cutaneous canine melanomas

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Background: Melanoma, the melanocytes malignancy is a highly metastatic tumor with aggressive behavior and high resistance to treatment. In dogs are located at different anatomical sites such as oral cavity, skin and digits; many studies confirm that oral melanomas are more aggressive and have a worse prognosis when compared to cutaneous. Degradation of basement membrane and extracellular matrix for matrix metalloproteinases (MMPs) is an essential step in melanoma progression. Increased concentrations of MMPs are associated with migration, invasion and metastasis in numerous human malignancies including lung, breast and melanoma. **Objective:** Characterize the metalloproteinase 9 and 14 expression and correlate with histological characteristics of aggressiveness in oral and cutaneous canine melanomas. **Methods:** 40 cases were used of canine melanoma (20 oral cavity and 20 cutaneous) from the LCC-ICB/UFMG collection, performed histopathological evaluation, immunohistochemistry for MMP9 and MMP14 (semi-quantitative evaluation of the percentage of labeled cells and intensity of labeling) and Ki67 (percentage of positive nuclei in 500 cells counted). **Results:** In the cutaneous cases, percentage of labeled cells for MMP14 correlated with junctional activity ($p<0.05$; $r= -0.5641$), the intensity of labeling for MMP14 was positively correlated with embolus ($p<0.05$; $r=0.5860$) and correlation between percentage of labeled cells for MMP9 with the presence of ulceration ($p<0.05$; $r=0.6024$). In the oral cases, intensity of labeling for MMP9 correlated with junctional activity pagetoid ($p<0.05$; $r=0.5803$) and Ki67 ($p<0.05$; $r=0.5207$), and still the percentage of labeled cells for MMP9 correlated with percentage of labeled cells for MMP14 ($p<0.05$; $r=0.6585$). **Conclusions:** In this study, apparently in cutaneous canine melanomas the metalloproteinase 14 is associated with histological characteristics of aggressiveness, while in canine oral melanomas this association occurs with metalloproteinase 9.

Key words: veterinary, dog, oncology.

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The presence of macrophages in relation to tumor angiogenesis in canine oral melanomas

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Background: Canine neoplasms are a model for several neoplasms study in human, including melanoma. Melanoma is the most common neoplasm in the oral cavity of character and aggressive nature, and metastases are present in 90% of the cases, depending on the stage and place of involvement. The inflammatory process was well studied because it is related to tumor initiation, development and progression. Different works demonstrate an ambiguous role of macrophages in tumors, exerting pro and antitumor facilities. It is described that the presence of macrophages is related to an increase in tumor aggressiveness, by the increase of angiogenesis and the production of non-tumor microenvironmental growth factors. **Objective:** Thus, the present work aims to evaluate the non-microenvironmental macrophage infiltrate and its relation with angiogenesis in oral canine melanomas. **Methods:** Twenty-one canine melanomas were reviewed from the Laboratory of Cell Behavior Laboratory of the Biological Sciences Institute of the Federal University of Minas Gerais. Histological analysis and immunohistochemical technique for the identification of macrophages were performed with the use of antibody: MAC387 (1: 400 Clone dilution MCA874G; AbDSerotec, Kidlington, UK), and antidote using Factor VIII antibody (dilution 1: 2000, Polyclonal, Dako, Glostrup, Denmark). Macrophages immunoblotting was identified by the observation of a large cytoplasmic and nuclear marking. **Results:** Macrophages were separated by intratumor and peritoneal cell groups, and were not predominantly intratumoral microanthropes, but were also observed at the tumor periphery. Immunoblotting for Factor VIII was identified in endothelial cells, with no homogeneous pattern in brown staining. Immunostaining quantification for Factor VIII was performed from the identification of endothelial cells in the microvessels. **Conclusions:** The results found showed correlation between peritumoral and angiogenic macrophages, suggesting that the macrophages may play an antitumor role in the oral canine melanomas.

Key words: inflammation, dog, veterinary, oncology.

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Kisspeptin treatment reverts hyperprolactinemia and improves testicular dysfunction caused by hypothyroidism

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Background: Endocrine dysfunctions, particularly hypothyroidism, have been considered the main causes of male infertility because they compromise the gonadotrophins release. However, thyroid hypofunction causes hyperprolactinemia, which is also associated with infertility in men by reducing the hypothalamic expression of kisspeptin (Kp), the key reproduction neuropeptide that stimulates the GnRH release. **Objective:** To evaluate the therapeutic potential of Kp in testicular dysfunction caused by hypothyroidism. **Methods:** Adult male Wistar rats were divided into control, hypothyroid and Kp10-treated hypothyroid groups (CEUA Nº 003/19). Hypothyroidism was induced by administration of propylthiouracil (1mg / rat / day) for three months. In the last month, part of the hypothyroid animals received Kp10 (3µg / rat / day). The gonadal and sex glands weight, the testicular morphology, the spermogram and the serum levels of luteinizing hormone (LH) and prolactin (PRL) were evaluated. Data were analyzed by the SNK test. **Results:** Hypothyroidism reduced serum levels of LH and increased PRL, and Kp10 treatment reversed hyperprolactinemia presented by hypothyroid animals. Hypothyroidism also reduced gonadal and sex glands weight ($P < 0.05$), while Kp10 treatment increased the prostate and vesicular gland weight ($P < 0.05$). Hypothyroidism caused moderate multifocal testicular degeneration and reduced the seminiferous epithelium height ($P < 0.05$). The Kp10 treatment reduced the number of degenerated tubules and recovered the seminiferous epithelium height. Hypothyroidism reduced sperm motility and the plasma and acrosomal membranes integrity, as well as reducing total sperm motility and vigor in the thermoresistance test ($P < 0.05$). The Kp10 treatment, on the other hand, improved these parameters ($P<0.05$), presenting no statistical difference in relation to the control animals ($P>0.05$). **Conclusions:** The present findings reveal that the Kp10 treatment reverses hyperprolactinemia and improves testicular dysfunction of hypothyroid rats, proving a new therapeutic target in male infertility caused by hypothyroidism.

Key words: fertility, male, testis, thyroid, rat.

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Muscular and collagenous cerebellar choristoma in a dog

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Background: Choristomas are non-neoplastic lesions consisting of a mass of any histologically normal tissue, lying in an abnormal anatomical location. Although uncommon, there are reports in humans and domestic animals. The choristoma origin is a congenital error in pluripotent cells, being generally diagnosed in adult animals. **Case Report:** A 10-year-old female mixed breed (SRD) dog was examined at the HVU-UFSM, presenting limb claudication and ataxia of the four limbs. After the first consultation, it showed lateral decubitus, vocalization, vertical induced nystagmus, divergent strabismus and anisocoria. The clinical condition evolved to stupor and death. **Results:** At necropsy, performed in the LPV-UFSM, there was a white and irregular increase of volume of the cerebellar vermis. At the surface cut, there was a well-circumscribed area of 0.5 centimeters in diameter, white with sandy material. In histological analysis, a well circumscribed, unencapsulated mass was observed in the cerebellum, consisting of fibers of striated skeletal muscle and collagen fibers, mostly mineralized. Hemorrhage areas were observed mainly in the molecular and granular layers of cerebellum and cerebellar meninges. In the thalamus, there were areas of perineuronal vacuolization interspersed with neutrophilic inflammatory infiltrate and multifocal hemorrhage areas. Masson's Trichrome stain was used in cerebellum histologic sections to better demonstrate muscle fibers stained in red and collagen bands stained in blue. **Conclusions:** Based on histopathological and histochemical findings, a diagnosis of muscular and collagenous cerebellar choristoma was performed. It is important to note that the choristoma was considered an incidental finding because the animal had no clinical signs related to this lesion. The neurological clinical signs were attributed mainly to the lesion observed in the thalamus (neutrophilic encephalitis), whose cause was not determined.

Key words: canine, nervous system, tumor-like lesion.

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Mammary carcinoma arising in a fibroadenoma in a pet African pigmy hedgehog

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Background: The African pigmy hedgehog (*Atelerix albiventris*) has gained recent attention as a pet is the last years in different countries. Accordingly, reports on diseases that affect the species are encouraged in order to increase knowledge regarding such animals. Mammary tumors are common in different mammalian species, but few data are available regarding such neoplasms in African hedgehogs. Here we report a case of a mammary carcinoma arising in a fibroadenoma in a pet African pigmy hedgehog. **Case Report:** A 1-year-old female pet African hedgehog (*Atelerix albiventris*) was presented for clinical examination with an inguinal mass measuring 3 x 2 x 1.5 cm and submitted to regional mastectomy. **Results:** Grossly, the tumor was encapsulated with a few infiltrative areas and yellow/tan. Microscopically, the tumor consisted of neoplastic epithelial cells with eosinophilic cytoplasm arranged in tubules, with single, round to oval, central to eccentric nuclei with hyperchromatic chromatin, compressed by fibromyxoid stroma associated with sclerosing adenosis, with no mild atypia, in an intracanicular pattern. A few atypical epithelial cells with anysokariosis, one to several prominent nucleoli, bi or multinucleation, and occasional mitotic figures presenting an infiltrative growth pattern were observed at the tumor periphery. Surgical margins were positive. After two months the patient had local recidivism. The animal died during the surgery in order to remove the mass, but necropsy was not performed due to owner's decision. **Conclusions:** Based on the microscopic morphologic, a mammary carcinoma arising in a fibroadenoma diagnosis was made. Although fibroadenomas usually are not expected to be associated with malignancy, the signs present should raise concerns about the disease in African hedgehogs and new data regarding their characteristics can readily enrich the knowledge about the neoplasm.

Key words: *Atelerix albiventris*, exotic animals, mammary tumors, pathology.

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In situ and invasive mammary pleomorphic lobular carcinoma-like neoplasm in a dog

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Background: Mammary neoplasms are the most frequent tumors of non-spayed adult female dogs. Such tumors have high tissue-based heterogeneity and new histotypes have been described in the recent years, including pleomorphic lobular carcinoma-like tumors. Reports on such cases are highly encouraged in order to increase knowledge regarding clinicopathologic aspects of such tumors. Here a case is reported of an in situ and invasive mammary pleomorphic lobular carcinoma-like tumor in a dog. **Case Report:** A 13-years-old female American pit bull terrier dog was presented for clinical evaluation with tumors at the cranial (0.5 cm in diameter) and caudal (5 x 4 x 4 cm) thoracic mammary glands, and subsequently submitted to surgical mastectomy along with axillary lymph node removal. **Results:** Microscopically, both tumors revealed in situ/expansive and invasive/infiltrative growths characterized by the presence of polygonal to round pleomorphic cells arranged in nests and cords, respectively. The cells s had scarse cytoplasm, oval eccentric nuclei, coarsely stippled chromatin, and prominent nucleoli. Mitoses were frequent. Metastatic cells could be observed inside the regional lymph node. Two months later, the animal died due to a fight. **Conclusions:** Based on the microscopic morphologic, an in situ and invasive mammary pleomorphic carcinoma-like diagnosis was suggested. Since there are few similar cases reported and no report on in situ pleomorphic lobular carcinoma in dogs, a next step is to understand whether such heterogeneity can be related to a potential biological mechanism or prediction of cancer risk.

Key words: canine neoplasms, mammary tumors, pathology.

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Intestinal candidiasis secondary to canine parvovirus infection

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Background: *Candida albicans* is a commensal fungus of the alimentary, upper respiratory and genital tracts of mammals. When in contact with mucosal surfaces, *Candida* occurs in the yeast form. A predisposing condition is generally necessary for the establishment of gastrointestinal candidiasis, for instance, antimicrobial and anti-inflammatory therapies, systemic immunosuppression and any concurrent primary disease that leads to changes in mucosal microbiota and surface integrity. **Case Report:** A two-months-old Golden Retriever, male dog showed clinical signs of vomiting, salivation and diarrhea. Treatment with metronidazole, sulfamethoxazole and trimethoprim failed to revert the clinical condition and the animal died. Moreover, the dog was positive in ELISA haemagglutination test for canine parvovirus. **Results:** Necropsy showed segmental haemorrhage of the intestinal serosa, with a granular aspect. The whole intestinal wall was thickened and the intestines contained fibrinous exudate within the lumen, with areas of yellow-white pseudomembrane formation. There were multiple depressed oval areas. Histologically, the small intestines had severe segmental villi fusion with necrosis and loss of mucosal epithelium, loss of intestinal crypts and stromal collapse. Remaining crypts showed epithelial hyperplasia characterizing regeneration. A moderate inflammatory infiltrated (lymphocytes, plasma cells and macrophages) was also seen within the intestine. In the enteric luminal surface, there were numerous oval to round, 3-6 μm diameter yeasts, and many filamentous pseudohyphae invaded the necrotic mucosa. Periodic acid-Schiff (PAS) and Grocott-methenamine silver (GMS) stains revealed the agent's morphology with more detail, and immunohistochemistry (IHQ) using anti-*C. albicans* antibody was positive. **Conclusions:** The intestinal lesions were consistent with enteric canine parvovirus infection while yeasts and pseudohyphae morphologically compatible with *Candida* spp. and positive for *C. albicans* in IHQ. In this case, the viral infection was the most probable predisposing factor for the development of enteric candidiasis.

Key words: mycotic, dog, *Candida albicans*, yeasts, pseudohyphae.

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Valvular endocarditis in three adult sheep – retrospective study

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Background: Valvular endocarditis is an inflammation affecting heart valves, caused mostly by bacteria. It is unusual in all domestic species, although cases affecting dogs are more frequently reported. In sheep, it is uncommon to rare, and it usually affects lambs, which are more prone to develop endocarditis secondary to septicemias. **Case Report:** Three cases of valvular endocarditis in sheep were diagnosed during necropsy examination in LPV-UFSM (2004-2018). A 6-year-old mixed-breed ewe (sheep 1) with a two-month history of apathy and decubitus was euthanized after being treated with antibiotics without success. A 21-month-old Corriedale ram (sheep 2) with a chronic vaccination-induced myositis and secondary bilateral swelling of carpus joint was euthanized after several treatment attempts. Moreover, a 4-year-old Corriedale pregnant ewe (sheep 3) with a five-day-history of inappetence, apathy and lameness of the right hind limb died during clinical examination. **Results:** Necropsy revealed multiple white, vegetative masses attached to the tricuspid valve and pulmonary valve in sheep 2 and 3. In sheep 1, tricuspid, mitral and aortic valves were affected. Histologically, a fibrinosuppurative and histiocytic endocarditis with intralesional gram-positive bacteria was seen. The lesion was surrounded by immature granulation tissue. *Trueperella* sp. and *Staphylococcus* sp. were isolated from heart lesion of sheep 1 and 3, respectively. It was not possible to identify the etiologic agent in case 2. **Conclusions:** Endocarditis is considered a rare condition in sheep. Additionally, bacterial culture of lesions from sheep 1 and 3 revealed organisms considered rare in adult sheep with this kind of condition. The origin of bacteremia was uncertain in sheep 1 and 3, while in sheep 2, a chronic vaccination-induced septic myositis was the most probable primary site of infection.

Key words: ruminants, vegetative heart disease, bacteremia.

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Feline pancreatic pseudocyst: a case report

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Background: Pseudocysts are liquid collections containing pancreatic enzymes and debris, circumscribed by a wall of fibrous tissue or granulation, with no epithelial lining characteristic of true cysts. They are not commonly described and are usually a pancreatitis complication or sequel. **Case Report:** In January 2018, a cat approximately 8 months old with no defined breed weighing 2,240 kg was seen at the DoctorVet Clinic located in the city of Teresina, PI, Brazil. A physical examination indicated an active animal, with normal palatine mucosa coloration, 38.7ºC rectal temperature, poor nutritional status, bilateral breast enlargement (breast hyperplasia), absence of abdominal pain sensitivity, absence of ectoparasites and normal ambulation. The animal was referred for sterilization and, during the right flank approach, two right circumscribed pancreatic structures comprising approximately 1 cm of fibrous tissue with fluid accumulation were observed, one progressing to the intestinal loop. **Results:** Pseudocyst drainage was performed with careful pancreas manipulation and slides were prepared for microscopic evaluations. The analyzed sample presented moderate quantities of macrophages with a foamy cytoplasm, some phagocyting neutrophils and the coexistence of intact, poorly degenerated neutrophils and rare lymphocytes. The slide background was composed of red blood cells and a thin layer of light pink amorphous material (compatible with proteinaceous content). The fluid analysis of a pseudocyst obtained by fine needle aspiration, usually indicates a modified transudate, characterized by the presence of amorphous debris, some neutrophils and macrophages similar to the findings of the sample analysis of this case report, as well as small quantities of fibroblasts. Cytology is able to differentiate pseudocysts from true cysts, which contain many neutrophils. **Conclusions**: Such alterations may be infrequent in felines due to a real low prevalence or lower disease diagnosis rates, and may present increased occurrence based on suspicions associated to diagnostic methods and information.

Key words: aspiration, pancreatitis, differentiation.

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Equine ocular squamous cell carcinoma attended in HOVET-UFRPE Metropolitan Region of Recife-PE

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Background: Ocular squamous cell carcinoma (SCC) representes the most common carcinoma in horses. Intrinsic factors predisposing to SCC include ocular pigmentation, age and genetics. These tumors are usually unilateral, but bilateral lesions may occur. When the cornea is involved, it often affects the lateral eye portion, and involves the limbu and bulbar conjunctiva. Rarely produces metastases from this site. **Objective**: To report and characterize macro and microscopically ocular SCCs in four equines attended in the HOVET-UFRPE. **Case Report:** Four equines, being one a quarter horse and three without defined breed were attended by the HOVET-UFRPE ophthalmology team from March to December 2018. These animals were 5 to 12 years old and had nodules located in the pre-ocular region, third eyelid, lower eyelid and intraocular eyelid. An ophthalmological, cytopathological evaluation was perfomed and referred for surgery. Nodules fragments were collected for histopathology. **Results**: Macroscopically, in three animals the nodules presented similar aspects with differences only in size and location, neoplastic masses with vegetative aspect, irregular and rough, with firm consistency and of easy delimitation, in addition to infiltrating adjacent ocular structures. In cytopathology, epithelial cells with malignant characteristics for neoplasia were observed. Microscopically, proliferative and invasive lesions of the neoplastic squamous epithelium were observed for the adjacent dermis, in a solid arrangement, divided by thin conjunctive trabecules with accentuated cellular and nuclear pleomorphism. Neoplastic cells had eosinophilic hypochromated, vesicular cytoplasm, and multiple nucleoles. Neoplastic cells with eosinophilic cytoplasm, hypochromatic nucleus, and multiple nucleolus, with rare mitosis figures and in some areas had squamousdifferentiation, necrosis, haemorrhages and fibroplasia. **Conclusions:** Based on ophthalmological, cytopathologic al and histopathological findings, it can be concluded that lesions are compatible with equine ocular squamous cell carcinomas.

Key words: neoplasia, SCC, histopathology, ophthalmology, cytopathology.

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Occurrence of coinfections in dogs seropositive for *Leishmania infantum*: influence on *L. infantum* load and histological skin alterations

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Background: Canine visceral leishmaniasis (CVL) is caused by *Leishmania infantum* in Brazil. Coinfections may increase the severity of CVL. **Objective:** The aims of this study were to evaluate the occurrence of coinfections in dogs seropositive for *L. infantum* and their influence on *L. infantum* load and histological skin alterations. **Methods:** Serum samples of 59 dogs from the city of Barra Mansa, RJ, which tested seropositive for anti-*L. infantum* antibodies by a rapid immunochromatographic Dual Path Platform test and by enzyme immunoassay, were examined. These serum samples were tested by the ELISA 4DX® for the detection of antibodies against *Ehrlichia* spp., *Anaplasma* spp., *Borrelia burgdorferi sensu lato*, and antigens of *Dirofilaria immitis*. Skin samples were collected for histopathology and immunohistochemistry to examine and quantify inflammatory cells and amastigote forms of *Leishmania* using a 1-mm^2 optical grid at x400 magnification. **Results:** Forty-one (69.5%) of the 59 dogs were coinfected. Of these 41 dogs, 47.5% were coinfected with *Toxoplasma gondii*, 44.1% with *Ehrlichia* spp., 16.9% with *Anaplasma* spp., and 1.7% with *Dirofilaria immitis*. In the skin, the median number of inflammatory cells was 199.5/mm^2 in dogs monoinfected with *L. infantum* and 144.0/mm^2 in coinfected dogs (p=0.758). Amastigote forms were detected in the skin by immunohistochemistry in 61.0% of coinfected dogs and in 55.5% of monoinfected dogs. The median load of *L. infantum* amastigote forms in the skin was 3.1/mm^2 in monoinfected dogs and 1.4/mm^2 in coinfected dogs (p=0.856). **Conclusions:** Coinfections of dogs are common in the studied area. However, these coinfections do not seem to substantially interfere with the skin parasitism of *L. infantum*, and thus with the potential of the skin as an infection source for the vector.

Key words: visceral leishmaniasis, zoonosis, infection, skin.

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The influence of nitric acid 5% decalcification in the Ki-67 immunoexpression in dog melanoma

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Background: The histopathological analysis of calcified biological tissues such as bone metaplasia in soft tissue or the bone itself can be challenging. The nitric acid 5% decalcification method maintains the cellular morphology and tissue architecture, but the tissues immunohistochemical properties can be affected. **Objective:** To describe the influence of routine decalcification with nitric acid 5% on the immunoexpression of Ki-67 in dog melanoma. **Methods:** Two cases were selected from the archives of Veterinary Anatomical Pathology with histopathological diagnosis of melanoma in dogs. The samples, with origin in digit and neck, had lysis of third phalanx, and bone and cartilaginous metaplasia, respectively. The histopathological and immunohistochemical analysis were performed from sections of paraffin blocks of samples previously fixed in 10% formalin and also decalcified in nitric acid 5%. Immunohistochemistry was performed following the streptavidin-peroxidase technique for detection of primary antibody anti-Ki-67. As a positive control, a sample of dog lymph node without alteration, was used. and for negative control the primary antibody was omitted. **Results:** Hematoxylin-eosin stained samples showed preserved tissue and cellular morphology. In the immunohistochemical analysis, although the positive control showed immunostaining in proliferating cells, there was no immunostaining in the decalcified melanomas samples, and in these cases, the loss of antigenicity was related with the samples descalcification by nitric acid 5%. **Conclusion:** Preliminary decalcification by nitric acid 5% interfered in the immunoreactivity of the canine melanoma samples, resulting in a false negative Ki-67 immunostaning and, therefore, compromising the prognostic value of the method.

Key words: bone metaplasia, decalcify, immunohistochemestry, melanocytic tumors.

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Evaluation of mitotic count and Ki-67 immunoexpression in dog melanoma

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Background: In dogs melanoma, the mitotic index is one of the most commonly evaluated factors in the histopathological routine, being the main parameter for malignant and benign neoplasia classification. The Ki-67 immunostanning index, evaluates cell proliferation, and also provides prognostic information such as growth factor and tumor progression with increasing values negatively related to the animal survival. **Objective:** To compare the mitotic count and Ki-67 cell proliferation index with the melanomas anatomical location in dogs. **Methods:** Three melanomas were selected, one in the oral cavity, one in the nail bed epithelium and one in the dogs haired skin, belonging to the archives of Veterinary Anatomical Pathology Laboratory. Histopathological and immunohistochemical analyzes were performed in sections fixed in 10% formalin and embedded in paraffin. The count of mitoses in the samples stained in hematoxylin and eosin, was performed in 10 high power fields (HPF). Analysis of the cell proliferation marked by Ki-67 protein consisted of counting 500 neoplastic cells and cells that showed nuclear immunostaining were considered positive. Counts were made avoiding areas close to the ulcers and sites with intense inflammatory infiltrate. **Results:** The melanoma of the nail bed epithelium presented the highest percentage of immunostaining (38.8%) and also the number of mitoses (32/10 HPF), followed by oral cavity melanoma (36% and 23/10 HPF). The haired skin melanoma showed a lower percentage of cell proliferation (18.8%) and mitosis count (6/10 HPF). **Conclusion:** In this study, Ki-67 expression and mitosis counts were proportional suggesting mitosis as a parameter for routine prognosis of melanocytic neoplasia. In addition, the percentage of cells immunostained by Ki-67 washigher in oral cavity and nail bed epithelium than in haired skin, demonstrating a better prognosis of cutaneous melanoma.

Key words: cell proliferation, melanocytic neoplasia, prognostic.

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Acute renal failure in a horse following bee sting toxicity

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Background: Although common in dogs, bee stings-associated disease is rare in horses. Clinical signs occur due to allergic reaction or systemic intoxication, and main findings include disseminated hemorrhages, congestion and edema, muscle necrosis followed by renal failure, and dark-brown urine. The aim of this work was to report the clinical and pathological features of a case of acute renal failure associated with bee sting toxicity in a horse. **Case Report:** A four-year-old Criollo mare was attacked by a large number of Africanized bees, and presented clinical signs of severe muscular pain, bilateral epistaxis and dark-brown urine (myoglobinuria) in a four-day course. Blood tests revealed marked increase in creatinine (8.98 mg/dL) and urea (172 mg/dL) serum levels. The horse did not respond to therapy, and euthanasia was elected. **Results:** At the necropsy, severe mucosae cyanosis and large amounts of foamy fluid and blood on both nostrils were observed. The skin had generalized nodular lesions (0.5 to 1 cm in diameter) associated to subcutaneous edema and hemorrhages. The abdominal cavity showed mild ascites and both kidneys had marked perirenal fat tissue edema. In addition, both kidneys were dark-brown and friable, and the urinary bladder had mild quantities of red urine intermixed with blood clots, as well as reddened mucosa with multifocal ecchymosis and petechiae. The trachea had large amounts of foamy fluid, which extended into the lungs, that were dark-red and edematous. Microscopically, the kidney had marked multifocal intra-tubular deposition of globular eosinophilic material (hyaline casts), as well as mild epithelial tubular cell necrosis. Moreover, disseminated hemorrhages and congestion were observed in multiple organs (stomach, adrenal glands, lungs, skeletal muscle, liver, spleen, and lymph nodes). **Conclusions:** The clinical and histopathological findings were essential to confirm bee sting envenomation as a cause of acute renal failure and death in a horse.

Key words: *Apis mellifera*, histopathology, kidney, intoxication, mass envenomation.

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Ocular neoplasm in dog: Iridociliary adenoma

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Background: Ocular tumors are important diseases in ophthalmology and veterinary oncology, representing from 0.87 to 2.5% of all tumors in canine neoplasms. Despite the low metastatic potential, the damage may be irreversible, affecting the animal's vision. Iridociliary adenoma is a neoplasm that originates from the iris epithelium and ciliary body. The biological behavior is benign, rarely taking infiltrative form in tissues beyond the iris, choroid membrane and ciliary processes. **Case Report:** An eye sample was received of a male dog. Macroscopic analysis showed that the eyeball sample had the outer surface of distinctive appearance. In the cutting section, the sample showed soft consistency and creamy tone with black spots. Afterwards, the sample underwent routine histological processing, hematoxylin and eosin staining, and subsequent Periodic acid–Schiff stain. **Results:** Histopathological analysis showed neoplasic proliferation in epithelial cells, in predominantly solid arrangement with cystic areas. The cells had a moderate pleomorphism, abundant to moderate cytoplasm, volumous and light nucleus, chromatin either finely dotted or either dense, clear nucleoli, and sometimes more than one. There was no extra-uveal infiltration of neoplasic cells. Finally, there was a linear deposit of extracellular materials PAS-positive. **Conclusions:** Iridociliary adenoma was diagnosed from the dog eye. Due to the tumor benign behavior, it is not infiltrative and with the surgical enucleation performed, it was possible to affirm that the prognosis is favorable.

Key words: ocular neoplasm, oncology, ophthalmology, iris.

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Solid cellular thyroid carcinoma – case report in dog

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Background: Thyroid tumors are rare, accounting for 1 to 2% of all neoplasms in dogs, but are still the most common endocrine system neoplasms for the species. These tumors, 90% of which are carcinomas and 9% of which are adenomas, are classified according to cellular origin into follicular, parafollicular (C cells) and thyroglossal duct remnant. **Case Report:** Female, 12-years-old, mongrel dog presenting dyspnea and dysphagia associated with progressive weight loss and the presence of a mass in the cranial ventral cervical region for eight months. **Results:** The necropsy revealed an infiltrative mass in the right cranial ventral cervical region. The mass, which was off-white and multinodular, measured 9.0 cm in length and approximately 6.0 cm in width, and also infiltrated the pharyngeal cartilages. To classify the injury, fragments were collected for the routine assays (H&E) and immunohistochemistry for Calcitonin and KI-67. The histopathological assay revealed epithelial cells arranged in mantles and interspersed with vascular fibrous tissue. There was no immunohistochemical marking for Calcitonin in the neoplastic cells, confirming a follicular origin, while the mantle-like arrangement and the cells disposition directed the diagnosis towards solid carcinoma. KI-67 presented immunoreactivity in approximately 30 cells in a field with 400x magnification, pointing towards accelerated proliferation. **Conclusions:** The microscopic and immunohistochemical examinations were needed to reach a definitive diagnosis and correctly classify the thyroid tumor.

Key words: canine, endocrine, neoplasm, compact.

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Rhodococcus equi PVAPN type causing pneumonia in a dog coinfected with Canine Morbillivirus (Distemper virus) and *Toxoplasma gondii*: case report

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Background: Canine morbillivirus is a highly contagious infectious disease-causing agent that produces immunosuppressive infections and multiple clinical signs. Canine toxoplasmosis is an opportunistic disease characterized by enteric, pulmonary, and neuromuscular signs that might be confused with CDV-induced infections. *Rhodococcus equi* is an opportunistic bacterium and causes pyogranulomatous infections in humans and animals, although canine rhodococcosis is rare or recognized. The pathogenicity is related to the presence of plasmid-encoded virulence-associated proteins (Vap). Nevertheless, data regarding the detection of host-adapted virulence plasmid types of *R. equi* isolated from companion animals are scarce. This report describes a case of an uncommon coinfection due to *R. equi*, *T. gondii* and CDV, which was diagnosed in a pet dog with respiratory distress**. Case Report:** 3-month-old, male mongrel dog with a 2-week history of anorexia, prostration, respiratory distress, and bilateral oculonasal discharge. The dog clinical status worsened and the resuscitation and critical care procedures were not successful, resulting in the animal death. It was immediately submitted to a routine necropsy and collected sample for histopathology, immunohistochemistry, and microbiology. **Result:** The urine sample subjected to the RT-PCR assay confirmed that the obtained sequence was CDV. Histopathology revealed numerous Gram-positive, intracytoplasmic rods or coccobacilli organisms within macrophages from sections of the lungs, liver, and brain. In addition, phagocytic cells contained blue to purple intracellular rod or coccobacilli organisms consistent with *R. equi.* There was positive immunolabeling for CDV antigens in the lungs, brain, and liver, while *T. gondii* antigens were detected in the organs mentioned above and in the lymph nodes. **Conclusion:** It was described an uncommon case of *R. equi*, CDV, and *T. gondii* infection in a puppy from Brazil in which CDV most likely induced immunosuppression, which facilitated opportunistic infections by *R. equi* and *T. gondii*.

Key words: canine, rhodococcosis, emerging infectious diseases, immunocompromised patients, bovine-associated plasmid type pVAPN.

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Heterophilia in *Cariama cristata* by flow cytometry

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Background: Seriema (*Cariama cristata*, Order Gruiforme, Family Carimidae) is a species with no sexual dimorphism, solitary habits and omnivorous diet that occurs in South America, since Central Brazil to Northern Uruguay. Flow cytometry is a technique that allows cellular studies by cellular phenotype - by staining or antibodies - and requires small samples. It can help in avian hematology, because sampling is an important limitation, since the amount of blood that can be drawn is 1% of the patient weight (in kilograms). **Case Report:** An adult Seriema, approximately 76cm high, weighting 1.1 kg was referred to the Veterinary Hospital of Sao Paulo State University (Unesp), Campus of Jaboticabal. During physical examination, the animal presented difficulty staying in bipedal position, digits laceration and bone exposure in right hind limb, partial amputation of left hind limb and bone exposure of distal tibiotarsus, besides poor body condition, hypothermia (T= 36,5ºC), pale mucosa and 6% dehydration. In tibiotarsus exposure, there was dirt in medullary canal and soft tissue necrosis, removed by scarification and medication. Whole blood was collected in lithic heparin and used for complete blood count (CBC) and leukocyte phenotype by flow cytometry (technique described by Inoue *et al*., 2002) used the 3,3-dihexyloxacarbocyanine ($DiOC_6$) fluorescent stain performed in flow cytometer BD FACS Canto II. **Results:** CBC revealed normocytic normochromic anemia (RBC: 3.18 /mm^6; Hb: 6.27 g/dL, PCV: 23%), leukocytosis (27,336/mm^3) by heterophilia (23,783/mm^3). Flow cytometry results showed gates of granularity X fluorescence (SSC-H X FITC-H), 68% cellular population in gates of granulocytes, 3.4 % monocytes, 15.7% lymphocytes. **Conclusions:** The use of $DICO_6$ stain in flow cytometry methodology evidenced heterophilia that was shown in differential WBC, this method can be used in future studies of avian hematology and immunology to evaluate immune response.

Key words: blood count, color phenotyping, FACS, Seriema.

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Undifferentiated gastric adenocarcinoma with metastasis in a dog

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Background: Although gastric adenocarcinomas are common in humans, in domestic animals they are rare, and typically develop in dogs older than 10-years-old. These neoplasms may be exophytic, sessile or erosive inside the stomach. Histologically, papillary, tubular, signet-ring cell, mucinous or undifferentiated tumors may occur. This work aimed to describe the clinical and pathological features of a case of undifferentiated gastric adenocarcinoma with metastasis in a dog. **Case Report:** An eight-year-old neutered Boxer bitch was referred for clinical evaluation due to weight loss and gastrointestinal foreign body obstruction. Endoscopic evaluation revealed ulcerated areas over a hypertrophic mucosa, which obstructed most of the gastric lumen. Due to the poor prognosis, it was euthanized. **Results:** At necropsy, poor body condition was observed, and the stomach exhibited a focally extensive firm area at the antropyloric region, measuring 11 x 6 x 5 cm. On the cut surface, the stomach wall was thickened (1.5 cm) by a poorly-limited whitish firm mass which branched into the muscular layer (linitis plastica) and ulcerated the adjacent mucosa. The draining gastric lymph node was enlarged, with a focal firm whitish area. Microscopically, there was a neoplastic proliferation of epithelial cells arranged individually, and rarely in acinus, extending from the mucosa into the muscular layer, which was associated to marked desmoplastic reaction. The cells were pleomorphic, polygonal, with eosinophilic cytoplasm, rare mitotic figures, and lymphatic vessels had numerous neoplastic emboli. Similar neoplastic cells were observed in the gastric lymph node and in the lungs. At immunohistochemistry, neoplastic cells were positive for cytokeratin, and negative for vimentin. The desmoplastic reaction was positive for vimentin. **Conclusions:** The pathological neoplasm characteristics were essential to obtain the final diagnosis of undifferentiated gastric adenocarcinoma. This should be differentiated from other gastric tumors in dogs, such as pythiosis and scirrhous eosinophilic gastritis.

Key words: alimentary tumors, canine, immunohistochemistry, neoplasm.

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Lafora-like bodies in a Beagle – case report

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Background: Lafora bodies are polyglucosan bodies that accumulate in Lafora disease (LD). LD is an autosomal recessive myoclonic epilepsy caused by mutations in the EPM2A or the EPM2B gene. Clinical signs in dogs are spontaneous and reflex myoclonus, hypnic jerks and generalized tonic-clonic seizures. It is more frequent in Miniature Wirehaired Dachshunds, Bassett Hounds and Beagles. The pathogenesis of this disease remains unknown, but absence of malin's function (from the mutation in the EPM2A) or the absence of laforin (from the mutation in the EPM2B), leads to an insoluble glycogen (polyglucosans), which accumulates in neuronal compartments into Lafora-like bodies leading to neurodegeneration and progressive myoclonic epilepsy. **Case Report:** A 16-year-old male Beagle, brought to Veterinary Pathology Department of UNESP/FCAV with clinical history of tonic–clonic seizure, motor incoordination, intention tremors, weakness in pelvic limbs, hypermetria, decreased pelvic limb proprioception and frequent falls. At the beginning (with 12 years old), the convulsive episodes were quarterly, with the evolution, the crises became monthly and the signs more exacerbated with decrease in quality of life and preceding to death, had worsening in the clinical signs, with paresis of limbs, and it was opted for euthanasia. **Results:** The necropsy findings were hemothorax, pulmonary edema and congestion, renal congestion and mitral endocardiosis. Microscopy showed membranous glomerulonephritis with glomerulosclerosis and in the nervous tissue, there was axonal swelling, presence of lipofuscin in neurons, and the PAS histochemical staining revealed presence of innumerable eosinophilic inclusion bodies located exclusively in the neurons (compatible with Lafora-like bodies) of the encephalon and spinal cord. **Conclusions:** The clinical history and histopathological findings with routine (HE) and special staining (PAS) was compatible with LD by the presence of Lafora-like bodies in the neurons.

Key words: lafora disease, polyglucosan bodies, myoclonic epilepsy, dogs.

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The role of MIF in the dogs intestine with visceral leishmaniosis

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Background: Visceral Leishmaniasis (VL) can cause chronic enteritis in dogs. MIF (Macrophages Migration Inhibitory Factor) is widely studied in humanschronic enteric diseases, with a pro-inflammatory action and in the induction of immune response. **Objective:** To analyzed the presence of this cytokine in the different segments of the small and large intestine of dogs with VL, considering the parasitic load, the cells density expressing MIF. **Methods:** The intestine segments of 15 naturally infected dogs from endemic area to VL and 5 non-endemic dogs were submitted to histopathological and immunohistochemical analyzes (parasite load and MIF). **Results:** Histopathological exam revealed inflammatory infiltrate consisting of plasma cells, lymphocytes and macrophages sometimes containing intracytoplasmic amastigote forms of *Leishmania* spp., affecting the intestine mucous and submucosal layers, with a rare foci present in the muscular layer. The reactivity of Peyer's plaques ranged in intensity and in the highest scores hinted at the mucosa. The cryptic epithelium hyperplasia predominated in the small intestine segments and was not always associated with a greater intensity of the leukocyte infiltrate. Highly parasitized macrophages were present in the mucosa, especially in the lamina propria, and mucosa, including the top of the villi. In the submucosa, these cells were often located adjacent to or within Peyer's plaques, which in some more parasitized animals coincided with lymphoid rarefaction of the plaques. The immunolabelled of MIF were in inflammatory infiltrate of the mucosa and submucosa, especially in parasitized plasma cells and macrophages. **Conclusions:** The results of this study are still partial, but they allow the evaluation of the role of MIF in chronic enteritis of infected dogs. They affect the function and immune response of the intestinal mucosa, favoring the host's susceptibility t, and the clinical condition of debilitated animals with chronic systemic infection can be aggravated.

Key words: *Leishmania* spp., chronic enteritis, immune response, parasitic load, MIF.

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Chronic T-Cell CD4+ lymphocytic leukemia in a cat diagnosed through flow citometry: a case report

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Background: Chronic Lymphocytic Leukemia (CLL) is an uncommon lymphoproliferative disorder described in cats. It is characterized by malignant proliferation of mature lymphocytes in the bone marrow (over 30%) and marked lymphocytosis found in peripheral blood. CLL affects old cats that may be asymptomatic or have unremarkable clinical signs like weight loss, lethargy and hyporexia. The objective of this report is to describe a case of CLL diagnosed through flow cytometry (FC). **Case Report:** An 18-year-old female domestic shorthair cat was attended for progressive weight loss. In complete blood count a mature-cell lymphocytosis was observed ranging from 41.000 µ/L to 119.800µ/L. Due to hypertrophic cardiomyopathy and increased anesthetic risk a FC from peripheral blood was performed instead of bone marrow aspiration. **Results:** FC results showed 80% CD3+/CD4+ cells (T-helper lymphocytes), 5.9% CD3+/CD8+ cell (T-cytotoxic lymphocytes), 1.2% CD21+ cells (B-cells) and 12.9% of other cells, suggesting a clonal population and confirming the diagnosis of T-cell CD4+ CLL that represents the most common form of leukemia in cats. Treatment was initiated with clorambucil and prednisolone and after 45 days the total count of lymphocytes in peripheral blood decreased to 11.150 µ/L. Animal recovered some weight and is being treated until nowadays. **Conclusion:** The cat presented in this report was diagnosed with T-cell CD4+ CLL that constitutes the most common form of leukemia in cats. FC showed as a non-invasive alternative method to diagnose CLL in cats suspected of the disease, since it differentiates clonal and reactive processes through the evaluation of lymphocytes in peripheral blood.

Key words: lymphoproliferative disorders, lymphoid leukemia, bone marrow.

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Canine round cell neoplasms in Goiânia metropolitan area, Goiás State, Brazil

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Background: Over the last years, veterinary oncology has taken relevance in small animals practices. Due to this, establishing canine tumors prevalence in a particular area is an important tool to improve diagnostic accuracy. **Objective:** The study aimed to determine canine round cells neoplasm prevalence in Goiânia metropolitan area, Goiás State, Brazil. **Methods:** All histopathological diagnostics were analyzed from a veterinary pathology laboratory lab file in Goiânia, Goiás, between 2015 and 2016. All samples were stained by hematoxilin and eosin. In this study, round cells neoplasms were categorized in histiocytoma, histiocytosis, lymphoma, plasmocytoma, trasmissible veneral tumor and indifferenciated neoplasms. **Results:** In this period, of 1902 canine histopathology exams, 195 (10.25%) were classified as round cell neoplasms. Of these, mast cell tumor was the most prevalent (50.79%), followed by lymphoma (14.36%), histiocytoma (14.36%), plasmocytoma (6.67%), histiocytosis (1.02%) and transmissible venereal tumor (1.02%). The females were more affected (51.79%), as well as 8 year-old animals (57.65%). In 89.75%, skin was affected **Conclusions:** Canine round cell neoplasm affected, in this study, mostly 8 year-old female skin. Of all types, mast cell tumor was more prevalent.

Key words: canine, histopathology, mast cell tumors, skin tumors.

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Sarcoma of soft tissue in dogs

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Background: The **s**oft tissue sarcoma refers to a group of malignant neoplasms of mesenchymal origin that have variable biological behavior and prognosis. **Objective:** The focus of the study is evaluating the frequency of soft tissue sarcomas cases diagnosed during the period from 2014 to 2018. **Methods:** The cases of soft tissue sarcomas in dogs diagnosed were selected and analyzed by five variables with the support of program Bioestat® version 5.3. The analyzed variables were diagnosis, anatomic location, breed, sex and age. **Results:** In 74 analyzed nodules, hemangiosarcoma represented 34 (45.9%) of the cases, followed by hemangiopericitoma with 4 (5.5%), fibrosarcoma and malignant peripheral nerve sheath tumor both with 3 (4.05%) and 2 liposarcoma cases (2.7%). In 28 (37.8%) cases the definitive diagnosis was not possible, being classified as sarcoma of soft tissues, in varying stages. The most affected anatomic locations were members in 24 cases (41.4%), abdomen in 11 cases (19%) and anogenital in 7 cases (12.1%). In 58 animals, the most common breeds were mixed in 20 cases (35%), followed by 6 Pit Bulls cases (10.55%) and American Bully with 3 (5.15%) cases. The females represented 33 (56.9%) and males 25 cases (43.1%) and the mean ages 9.7 (± 2.7) years. **Conclusions:** The hemangiosarcoma demonstrated to be the most common neoplasm among the soft tissue sarcomas with higher frequency in adult females, close to senility, and in mixed breed animals and the limbs. The histological characteristics and biological behavior are similar to other types of soft tissue sarcomas, such as hemangiopericitoma, fibrosarcoma, liposarcoma, rhabdomyosarcoma, leiomyosarcoma and undifferentiated sarcoma, making it difficult to conclude the final diagnosis.

Key words: cutaneous, dogs, mesenchymal neoplasm.

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Primary nasal chondrosarcoma in a dog

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Background: The tumors of cavity nasal are rare, representing 1% of anatomical locations of the neoplasms in dogs. Condrossarcoma is a malignant neoplasm with cartilage origin showing amount variable chondroid matrix. It usually has slow growing and low metastasis incidence. **Case Report:** A 13-year-old female Poodle dog had history of clinical signs of respiratory difficulty and the presence of a mass in nasal cavity. Tumor samples were collected and processed by standard histopathological techniques. **Results:** In the gross morphology, the tumor was soft to firm, and the cut surface was solid and dark gray. Histopathological examination revealed neoplastic chondroid cells arranged in a solid pattern. The cells were pleomorphic with ample cytoplasm. The nuclei were round and hyperchromatic or vesiculated with large nucleoli. There was large area of basophilic chondroid matrix, and focal areas of necrosis, mineralization and hemorrhage. **Conclusions:** Based on the histologic findings, the chondrosarcoma diagnosis was made. The necrosis and hemorrhage locations are frequent findings in this type of neoplasm as local tissue invasion and nasal obstruction, justifying the respiratory symptomatology. Usually the chondroblastic osteosarcoma is a differential diagnosis due to the association of bone and cartilaginous component which is not observed in chondrosarcoma.

Key words: cartilage, respiratory system, malignant neoplasm.

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Kisspeptin reverts red bone marrow reduction caused by hypothyroidism

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Background: Thyroid hormones T3 and T4 are essential for the proper functioning of the hematopoietic system and stimulation of medullary erythropoiesis (BM). In hypothyroid individuals, the proportion of yellow bone marrow (Y-BM) is higher than red (R-BM) contributing to medullary hypoplasia. It is known that Y-BM has a greater quantity of adipocytes in detriment of the erythroid lineage reduction. Therefore, hypothyroidism shows inadequate erythropoiesis and anemia due to medullary hypoplasia. In addition, the T3 and T4 reduction results in hyperprolactinemia, which in turn stimulates the differentiation of adipocytes from the marrow. Because Kisspeptin is an endogenous neuropeptide capable of stimulating pulsatile secretion of LH and FSH via activation of GnRH neurons, and by neurons Kisspeptinergic have prolactin receptors, this molecule could influence regulating the changes observed in BM. **Objective:** To evaluate changes in the R-BM ratio in relation to Y-BM in hypothyroid animals, and to confirm reversion in this proportion through the kisspeptin administration. **Methods:** Adult wistar rats were divided into 3 groups: control (euthyroid), hypothyroid and hypothyroid treated with kisspeptin (1µg/rat). Hypothyroidism was induced with propylthiouracil (PTU) (1mg/rat) by orogastric probe. After 2 months of treatment the kisspeptin group received (1µg/rat) daily subcutaneously. In the third month after euthanasia, the histomorphometric BM evaluation of the femur and lumbar vertebrae was made. **Results**: It was observed that the BM of the hypothyroid group presented a significant reduction in the proportion of R-BM in relation to Y-BM when compared to the control. In the hypothyroid group treated with Kisspeptin, the proportion of R-BM was significantly higher in relation to Y-BM when compared to the hypothyroid, and similar to the control. **Conclusions:** This study concludes that the treatment with kisspeptin in hypothyroid rats reverses the reduction of red bone marrow due to the thyroid hormones reduction.

Key words: erythropoiesis, rats, endocrine neuropeptide.

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Traumatic injuries in seabirds found in Lagos/Rio de Janeiro Microregion

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Background: Interaction with vessels and fishing lines are two of the leading causes of seabird trauma. Collisions can cause lacerations as well as fractures in different anatomical regions. **Objective:** To describe the different types of traumatic lesions and their anatomical sites according to the seabirds' genus and sex. **Methods:** The birds were necropsied and gross external examination was performed. The lesions were grouped according to the anatomical site: wing, paws, keel bone and head. When the lesion was generalized, it was classified as polytraumatism. The types of lesions were classified as dislocation, fracture, amputation, laceration and tendon rupture. The environmental licenses were granted by SISBIO, nº 56807-1, and by CEUA of UFF - RJ, nº 905. **Results:** Of the 61 seabirds studied, 54.1% were females and 42.6% were males, 3.3% of the animals had no information. The genus *Sula* sp. presented 41.0%, *Fregata* sp. 31.1%, *Larus* sp. 19.7%, *Puffinus* sp. 4.9%, *Sterna* sp. and *Thalassarche* sp. 1.6%. In females and males, the wing was the most affected part (45.9%), in which fractures (22.95%) and dislocations (16.39%) were also observed. The genus *Sula* sp. was the most frequent, being these birds affected by dislocation (21.31%), fractures (18.03%) and polytraumatism (1.64%). The wing was the anatomical site with most of the lesions in all the studied species, being fracture (42.62%), dislocation (32.79%), laceration (8.2%) and tendon rupture (4.92%). **Conclusions:** This study suggests that seabirds are susceptible to trauma related to anthropogenic interaction, with the wing being the most injured anatomical site. The wing fracture makes it impossible to fly and obtain food, it also facilitates hunting by natural predators, increasing the chances of death. In addition, fractures and dislocations impair the rehabilitation of these animals, and euthanasia is indicated in most cases.

Key words: beached bird monitoring, stranding seabird, bird conservation.

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Pancreatic beta cell carcinoma in a dog: case report

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Background: B-cell carcinoma is a neoplasm that attacks the pancreatic islets, composed of insulin-secreting β-cells. They frequently present active endocrinological behavior due to excessive insulin production, leading to functional disorders, including hypoglycemia. **Case Report**: A 11-year-old female Poodle dog had 1-year history of clinical signs of hypoglycemia and was submitted to pancreatic biopsy. A specimen was collected from the pancreas body and processed by standard histopathological techniques. **Results:** In the gross morphology, the specimen had brownish irregular surface, and had firm consistence. The cut surface was solid and had brownish multinodular aspect. Haematoxylin and eosin-stained sections revealed a well-delimited, encapsulated nodule, characterized by nests composed of neoplastic epithelial cells interspersed by fibrocolagenous stroma. The cells had moderate pleomorphism, vacuolated eosinophilic cytoplasm, nuclei ranging from round to oval, evident, sometimes multiple nucleoli. The mitotic count was 16 typical and atypical mitotic figures in 10 fields of greater magnification. There was moderate inflammatory lymphocytic infiltration. **Conclusions**: Based on the histopathological findings associated with the clinical signs of persistent hyperinsulinemic hypoglycemia, the diagnosis of pancreatic beta cell carcinoma was made.

Key words: pancreas, islets of Langerhans, hyperinsulinemia, neoplasm.

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Pancreatic ductal adenocarcinoma in feline

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Background: Pancreatic tumors are rare in domestic animals, especially in cats. In most cases, it is presented primarily in the exocrine pancreas, exhibiting remarkable malignant behavior. The most common forms are pancreatic adenocarcinomas with ductal or acinar origin, and in cats, the pancreas diffuse involvement is a common occurrence. Pancreatic adenocarcinoma has high metastasis potential and may be in tubular, papillary or cystic form. **Case Report:** Fragments were received from pancreatic biopsy feline, mixed breed, female, and 16 years with appetite loss and vomiting. The ultrasound abdomen exam revealed the presence of cystic cavity node in the pancreas, in involvement with the adjacent structures. **Results:** In the microscopic examination of pancreatic tissue, it was observed proliferation of malignant neoplastic epithelial cells, which are organized in poorly formed tubules. The neoplastic cells exhibited moderate pleomorphism, rounded to oval nuclei, finely dotted chromatin and nucleoli evident with bi and multinucleation. There were desmoplasia, extensive areas of necrosis and hemorrhage, mineralization focus, with associated mixed inflammatory infiltrate and high mitotic index. The parenchyma was atrophied and containing marked diffuse infiltration inflammatory. Infiltration was observed infiltration of neoplastic cells in the spleen and omentum, in the latter reactive lymphoid follicles and congestion were also found. **Conclusions:** The analysis of the histopathological characteristics of the tissue sections, as well as the findings of necrosis, hemorrhage calcification and medial portion of the pancreas, corroborate the diagnosis, as are changes found routinely in this type of cancer. In addition, pancreatic atrophy, pancreatitis and metastasis in spleen and omentum, make an unfavorable prognosis.

Key words: pancreas, pancreatic duct, neoplasm.

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Ovarian cystadenocarcinoma papillary in a dog

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Background: Ovarian tumors are divided according to their origin, and may be epithelial, from germ cells or gonadal stroma. Ovarian tumors may be macroscopically in cystic or proliferative form. Cystadenocarcinoma is a malignant neoplasm of epithelial and glandular origin, and when present in the ovary can be subclassified into papillary or cystic. Metastases may occur transcoelomically or by rupture of neoplastic cysts, but can also occur via the lymphatic and venous pathways. **Case Report:** A female dog from the Yorkshire breed in adult age underwent an ovariosalpingohisterectomy, when the ovary sample was removed. There was no clinical story of the animal. The histotechnical processing routine and hematoxylin and eosin staining were performed. **Results:** In the gross specimen morphology, the ovary measured 1.6 x 1.4 x 1.4 cm from its major axes, and cuts had cystic translucent surface with serous content. The microscopy revealed proliferation of neoplastic epithelial cells in arrangement papillary “tree-like” with projections into the lumen of large cystic cavities and solid foci proliferation of neoplastic cells, which had coarse chromatin, evident nucleolus and moderate pleomorphism. They had frequent atypical and typical mitotic figures. **Conclusions:** From the results of the histopathological analysis, it was concluded the diagnosis as Cystadenocarcinoma Ovarian Papillary, which has poor prognosis and has a low incidence in dogs. It is usually associated with peritoneal implants and malignant effusion, which is present in more than 80% of the affected animals. It should be distinguished macroscopically from adenomas and carcinomas, due to the cystic multinodular aspect which may be present in these tumors.

Key words: ovarian cancer, tree-like arrangement, cysts.

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Malignant breast tumor in guinea pig (*Cavia porcellus*)

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Background: Mammary tumors in guinea pigs (*Cavia porcellus*) have rare occurrence and description in the literature, but can affect both sexes, with a higher prevalence in males. They are locally invasive and are rarely malignant. The tubular carcinoma in mammary gland is a malignant epithelial tumor with cells in tube arrangement, and is graduated from the formation of tubules, cellular pleomorphism and mitotic activity, which is an important factor in the prognosis. **Case Report:** A rodent from the species *Cavia porcellus*, female, adult age, showed tumor in mammary chain. After tumor resection and macroscopic analysis, the sample was submitted for routine histological processing. **Results:** Macroscopic analysis of the tumor measurements were obtained as follows: 3.1 x 2.4 x 2.2 cm from their major axes, irregular outer surface and coloring ranging from cream to brown. In the cutting section, the tumor had smooth consistency, with different cutting surfaces: compact brownish tint areas with an opaque portion and cystic gelatinous content with whitish coloration. The microscopic examination revealed a malignant neoplastic proliferation of epithelial cells organized in a tubular arrangement, with cells showing moderate or severe pleomorphism, low abundant chromatin and cytoplasm ranging from finely dotted vacuolar. The nucleolus was present and there was also evident binucleations. 6 mitotic figures were counted in 10 fields of 40x. In association with the neoplasm a discrete multifocal lymphocytic inflammatory infiltrate was observed. **Conclusions:** Through the results observed in the histopathological examination, it was possible to confirm the diagnosis of tubular carcinoma in mammary gland, malignant neoplasm of rare occurrence in the species and common in dogs. It should be noted the importance of histopathological diagnosis in this case, due to the increase in the creation of exotic animals as pets and the need for further study of neoplasms that affect them.

Key words: tubular carcinoma, mammary gland, rodent.

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Immunohistochemical standards for detection of epizootic hemorrhagic disease virus in deer

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Background: Epizootic hemorrhagic disease vírus (EHDV) and bluetongue virus (BTV) are arboviruses that affect domestic and wild ruminants. Both of them cause a systemic hemorrhagic disease and generate significant losses in Brazilian cervid populations in captivity. EHDV can present high morbidity and mortality among wild ruminants and has an importante impact on deer preservation all over the world. In Brazil, there are few studies about the pathogenesis and epidemiology of EHDV in cervids. **Objective:** Standardize and evaluate the immunohistochemistry technique for detection of EHDV in Brazilian deers that died from hemorrhagic disease. **Methods:** Nine deers died with acute hemorrhagic disease in 2017 at the Biological Refuge of Bela Vista, from Itaipu Binacional, Brazil. RT-qPCR was performed and confirmed EHDV infection in six animals, one *Blastocerus dichotomus* and five *Mazama nana*. Positive deer tissues were processed for histopathological and immunohistochemical analysis (IHC). Hyperimmune serum was produced in two rabbits after four inoculations of purifed EHDV serotype 2 virus (EHDV-2). After purification, antibodies produced were used for IHC standardization using the conjugated Streptavidin method. Antigenic recovery, blocking solution, antibody concentration and different incubation times were tested and, after standardization, IHC was used to test the deer's spleen, lung, lymph node, liver, kidney and testis with previous positive and negative results for EHDV on RT-qPCR test. **Results:** The main histopathological changes were hyperemia, edema, hemorrhage and lymphoplasmacytic inflammatory infiltrate. The IHQ demonstrated efficiency for detection of EHDV-2 in all the positive organs, mainly lung, spleen, lymph node and testis. No immunostaining was detected in RT-qPCR negative organs. Lymphocytes, macrophages, endothelial and epithelial cells presented the highest intensity of immunostaining. **Conclusions:** IHQ proved to be an efficient diagnostic technique for virus detection in paraffin embedded tissues, and can be an important tool in retrospective and pathogeneses studies of epizootic hemorrhagic disease.

Key words: virus of epizootic haemorrhagic disease, deer, immunohistochemistry, histopathology.

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Functional thyroid primary carcinoma in a dog

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Background: Approximately 1% to 4% of all canine tumors are of thyroid origin, clinically evident canine thyroid tumors are commonly malignant (70%-100%) and nonfunctional. Their classification is dependent on their histological characteristics, which can result in adenoma (follicular, cystadenoma, papillary and oxyphilic), well differentiated carcinoma, poorly differentiated carcinoma, C cells neoplasm and carcinosarcoma. They affect more often middle-aged to older dogs, and medium to large size breeds. Functional tumors occasionally occur and might lead to clinicals signs related to the excess of thyroid hormones as polyuria, polydipsia, weight loss with polyphagia, weakness, heat intolerance and stress. **Case Report:** A 12-year-old male Poodle was presented for evaluation of alopecia, increased volume in the neck ventral region by the last 3 months, followed by weight loss, weakness and difficulty swallowing. On physical examination, the animal appeared low body weight (body condition score 2/9), tachycardia, hypertension, and an enlarged structure located in the ventral neck, dorsolaterally to the trachea. Based on patient history and clinical signs, differential diagnose includes thyroid neoplasm and hyperthyroidism. **Results**: Complete blood count and biochemistry resulted normal, but urinary density was low (1.014). Radiography and ultrasound examinations confirmed the presence of a mass at the right thyroid gland with no evidence of local metastasis. Increased thyroxine (T4) concentration was demonstrated by radioimmunoassay method (49.8 ng/mL, Reference Value: 85-46.6 ng/mL), and tissue aspiration and biopsy led to the diagnosis of a functional well differentiated follicular thyroid carcinoma (papillary proliferation of round and polyhedral cells, of foamy eosinophilic and small nucleus, hypercorated and mitosis sparse figures and extensive necrosis areas). **Conclusions**: Although both malignant, functional and nonfunctional thyroid tumors have different therapeutic and prognostic approaches. Thus, this report highlights the importance of performing a thyroid function test for the accurate disease diagnosis.

Key words: neoplasm, endocrine, hyperthyroidism, canines.

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Hemorrhagic lymphoplasmacytic cystitis in dogs

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Background: Hematuria is a relatively common manifestation in dogs and cats, which when associated with major urinary tract disorders, such as bacterial cystitis and urolithiasis, is limited to the primary cause treatment. However, when persistent or capable of causing significant haematological disorders, other causes demand to be investigated. **Case Report:** A 12-year-old, male Pit Bull dog, was admitted presenting intense hematuria for the last 10 days. Laboratory tests showed intense normocytic and normochromic anemia, hypoalbuminemia and albuminuria associated with intense hematuria. Ultrasound images reveled prostate hyperplasia, associated with presence of structures compatible with blood clots and increased wall thickness and irregularity of urinary bladder. After bladder wash cytology suggested chronic cystitis, possible differential diagnoses were chronic lower urinary tract disorder and neoplasia, and antibiotic therapy associated with blood transfusions were maintained until histopathology results. **Results:** The bladder wall was thicker and richly vascularized, with normal elasticity and absence of masses or polyps on the inner and outer wall. Histopathological examination revealed thickening of the muscular layer, hemorrhage and diffuse hyperemia between the muscle fibers and the lamina propria, intact and ruptured capillaries filled with red blood cells, and a discrete multifocal infiltrate of lymphocytes and plasma cells in the lamina propria. These findings led to the suspicion of lymphoma, but immunohistochemical testes ruled it out. Prednisolone at immunosuppressant dose was prescribed and initially worked well. However, the animal owner interrupted the treatment without veterinary recommendation, leading to the worsening of the clinical condition and the patient's death. **Conclusions**: Based on the histologic findings the diagnosis was hemorrhagic lymphoplasmacytic cystitis, a rare and very aggressive disease that has already been described in human beings, but not in animals.

Key words: canines, bladder, inflammation, chronic.

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Histopathological findings in adult bitches' ovaries

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Background: The histopathological description of adult bitches' ovaries submitted to elective ovariohysterectomy is infrequent in the literature. Ovarian changes can be cystic, hyperplastic or neoplastic. These ovarian conditions might cause high hormones production, leading to uterine and mammary changes. **Objective:** To describe and verify the frequency of cystic, hyperplastic, and neoplastic changes of adult bitches ovaries by histopathological examination. **Methods:** Haematoxylin and eosin-stained sections 33 bitches' ovaries from six to fifteen years old and from different breeds were evaluated. The animals were submitted to elective ovariohysterectomy and did not present clinical symptoms associated with the reproductive system. The cystic, hyperplastic and neoplastic microscopic lesions were classified and their frequency were verified. **Results:** The ovaries did not show macroscopic findings compatible with volume increase. The microscopic findings in ovaries were cysts (87.9% - 29/33), hyperplasia of the *rete ovarii* (39.4% - 13/33), granulosa cells tumor (36,4% - 12/33), dysgerminoma (6% - 2/33) and interstitial glands hyperplasia (3% - 1/33). Among the cystic changes, subsurface epithelial structures cysts were predominant (48.5% - 16/33), followed by mesonephric ducts and tubules cysts (18.2% - 6/33) and follicular cysts (12.1% - 4/33). **Conclusions:** Adult bitches without reproductive organs associated symptomatology might present several ovarian changes. These changes can be originated from epithelial, follicular, interstitial and germ cells. Even small granulosa cells tumors, not detected in gross examination, might be present without associated clinical symptomatology.

Key words: female, pathology, dogs.

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Malignant mammary tumors and granulosa cell tumor in bitches

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Background: The tumors development is associated with different promotional and genetic factors that can exert influence at different stages. The ovarian hormones oestrogen and progesterone can promote the mammary tumors development in several species including human beings and dogs. Follicular cysts and ovarian neoplasms involving granulosa or theca cells can produce hormones out of the normal oestrous cycle. **Objective:** To investigate the histopathological changes associated with hormonal production in the adult bitches' ovaries with malignant mammary tumors. **Methods:** Eleven entire adult bitches presenting mammary neoplasms were submitted to mastectomy and ovariohysterectomy at the same moment. The animals had no history of reproductive-related disease. The mammary tumors and the ovaries were processed by standard histopathological techniques. Haematoxylin and eosin-stained sections were examined to diagnose the type of the mammary tumor and to investigate ovarian changes. **Results:** Of the 11 bitches, six had carcinomas in mixed tumors, two had solid carcinomas, two had carcinosarcomas, and one had papillary carcinoma. All the animals had granulosa cell tumors. None of the 11 animals showed ovary changes that could be tumor-related in the gross morphology. The neoplastic granulosa cells proliferation was focal to multifocal, and varied from folicular to sertoliform pattern. **Conclusions:** Entire adult bitches without history of reproductive-related disease can have neoplastic changes in granulosa cells which can be undetectable in the gross morphology. The entire adult bitches with malignant mammary tumors may have granulosa cell tumors of small dimensions. Because of the fact that ovarian hormones exert their effects via cellular oestrogen and progesterone receptors in mammary glands, the surgically removed ovaries should always be submitted for histopathological examination.

Key words: breast, ovary, neoplasm, female, dogs.

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Malignant pheochromocytoma leading to intrahepatic cholestasis and jaundice in a dog

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Background: Pheochromocytomas are noeplasms of the medullary zone of the adrenal glands, and are uncommon in Veterinary Medicine. Clinical signs are generally attributed to the catecholamines produced by the tumor, and may include tachycardia, tachypnea, hypertension and mydriasis. Rarely, humans affected have developed secondary intrahepatic cholestasis with consequent jaundice due to paraneoplastic syndrome or Systemic Inflammatory Response Syndrome (SIRS). The aim of this study is to describe a case of canine pheochromocytoma with secondary intrahepatic cholestasis. **Case Report:** A 11-year-old, female, mixed-breed, spayed, canine had 2-week history of progressive apathy, anorexia, jaundice and vomiting. Laboratory tests revealed hypoalbuminemia, increased alkaline phosphatase (26.740 UI/L) and increased urea and creatinine. Ultrasound revealed hepatomegaly and a splenic mass. Clinical differential diagnosis included cholelithiasis, cholecystitis, neoplasia of the gallbladder. The patient died naturally. **Results:** A cosmetic necropsy revealed pronounced jaundice of the skin and mucous membranes. The right adrenal was affected by a 1x1,5x2cm, tan, encapsulated mass. On cut surface, it was red and friable. It invaded the wall of the caudal vena cava, and a 1,5 cm whitish contiguous mass was seen within the vascular lumen. The liver was enlarged and orange. The gallbladder was slightly thickened and its contents were thick, without biliary duct obstruction. Histologically, the mass consisted of a densely cellular neoplastic proliferation arranged in small lobules separated by thin stroma. The cells were polyhedral, with moderate amount of eosinophilic, finely granular cytoplasm. The liver was densely cellular, with intense and diffuse bile stasis, multifocal areas of hemorrhage and necrosis. The kidneys and spleen had multiple acute infarcts. **Conclusions:** The clinical history, necropsy and histological findings led to the diagnosis of malignant pheochromocytoma triggering intrahepatic cholestasis. Among the mechanisms of cholestasis, paraneoplastic syndrome and/or SIRS were considered.

Key words: canine neoplasia, paraneoplastic syndrome, systemic inflammatory response syndrome (SIRS).

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Osteoblastic osteosarcoma in a captive scarlet macaw (*Ara macao*)

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Background: Osteoblastic osteosarcomas are malignant primary neoplasms of bone origin, with osteoblastic cells proliferation immersed in a connective tissue, forming osteoid matrix. They occur 3.5 times more frequently than osteomas in birds, and have only been reported in Australian parakeets, canaries, parrots, love birds, pigeons, and cockatoos, without previous reports in *Ara* sp. **Case Report:** A Scarlet Macaw (*Ara macao*), female, adult, from the Belo Horizonte Zoological Garden, was apathetic and with progressive weight loss. Physical examination showed a tumor in the distal portion of the femur and proximal tibiotarsus and an ulcerated pododermatitis in the contralateral limb. Tumor radiograph image showed marked osteolysis, whereas cytologic examination was suggestive of sarcoma. Due to poor prognosis, euthanasia was chosen and the animal was necropsied. **Results:** Grossly, an irregular tumor with 4cm x 4cm x 3cm was observed. On cut surface it was multilobulated, white and soft. There was little distinction between the bone tissue associated with the tumor and it infiltrated the adjacent muscle and the femur and tibiotarsus medullary canal. Microscopically, it was partially encapsulated, lytic and infiltrative, consisting of mesenchymal cells in disorganized bundles and immersed in collagenous tissue forming osteoid matrix. The cells had scanty and slightly basophilic cytoplasm. Nuclei were round to oval, sometimes bizarre, with granular chromatin and nucleoli, when visible, single to multiple, large and very evident. Nuclear pleomorphism was high with intense karyomegaly. There were eight mitotic figures every ten higher power fields, with moderate numbers of bi and multinucleate cells. **Conclusion:** Cytological and histopathological findings supported the diagnosis of an osteoblastic osteosarcoma and, for the best of our knowledge, this is the first report of this tumor in *Ara macao*.

Key words: zoological, pathology, wild animals, bone neoplasia, avian.

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Anatomopathological findings of infection by *Eustrongylides* sp. in a wild great egret (*Ardea alba*)

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Background: *Eustrogylides* sp. are nematodes belonging to the Dioctophymatoidea family, having birds as definitive hosts and using other vertebrates, like fish, amphibians and reptiles, as intermediate/paratenic hosts. Its parasitism is associated with peritonitis by perforation of the ventricle and pro-ventricle in piscivorous birds. Additionally, this parasite has zoonotic potential. This study aims to describe the antomopathological findings in a Great Egret (*Ardea alba)* parasitized with *Eustrongylides* sp. **Case report:** A wild Great Egret was found dead at the Belo Horizonte Zoological Garden area and was submitted to necropsy. **Results:** Grossly, the carcass had a moderate degree of autolysis. Partially free in the coelomic cavity, there was a long cylindrical structure with approximately 0,3 cm in diameter with areas adhered to the serosa of the ventricle and pro-ventricle, and perforating the hepatic parenchyma. Microscopically, the liver had extensive circular areas surrounded by fibrous connective tissue and a layer of epithelioid macrophages, multinucleated giant cells, and large amounts of necrotic material rich in degenerate neutrophils (granulomatous and heterophilic inflammation). At the center of the lesion, sometimes it was possible to observe a parasitic structure longitudinally sectioned with a celomatic cavity containing a digestive tract with a very glandular esophagus, an enlarged ventral chord and with the gut attached to the body wall by pseudomembranes in the anterior part of the worm. In addition, it had a thick cuticle and a coelomyarian musculature. The ventriculus and proventriculus serosa also had multifocal granulomatous and heterophilic inflammation with the same intralesional parasite. **Conclusion:** Anatomopathological findings in this Great Egret are compatible with *Eustrongylides* sp., causing moderate multifocal granulomatous hepatitis and pronounced multifocal granulomatous mural proventriculitis and ventriculitis with intralesional nematoid. These findings highlight the importance of this parasite as a debilitating agent for free-ranging birds.

Key words: pathology, wild animals, nematode infection, bird.

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Association of histopathological grading, Ki67 and kit expression as prognostic factor in canine mast cell tumors

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Background: Canine cutaneous mast cell tumor (MCT) is a common disease and shows variable biologic behavior. Histologic grading may predict MCT prognosis and it that can be classified in high or low-grade or in grades I, II or III. Evaluation of the protein tyrosine kinase pattern (KIT) and cellular proliferation index (Ki-67) are typically prognostic factors. **Objective:** It was aimed to evaluate the association between biologic behavior and survival time of dogs with cutaneous MCT with prognostic indicators. **Methods:** This prospective and longitudinal study followed 37 dogs with MCT diagnosis. Clinical factors (age, gender, time of onset, number of lesions, ulceration, tumor size, local lymph node and distant metastasis, and recurrence rate) were correlated with histopathological evaluation, immunohistochemical marking for Ki67 (samples were classified as >23 positive cells/5 h.p.f. ou ≤23 cells/5 h.p.f.) and KIT pattern (1, 2 and 3). The comparison between clinical data and prognostic factors was assessed for each diagnostic method. The survival functions were calculated using the Kaplan-Meier method. **Results:** There was a significant correlation between high-grade MCT and time of onset <170 days, the occurrence of lymph node metastasis and distant metastasis and recurrence ($p<0.05$). Recurrence was also correlated with MCTs classified as grades II and III ($p=0.03$). Postoperative complications were significantly correlated with MCT that showed cytoplasmic KIT (patterns 2 and 3). Kappa coefficient revealed considerable agreement with a significant correlation between Ki-67 and KIT ($p=0.03$). The mean overall survivor time of dogs with high-grade tumors was 279 days (±174) and significantly shorter when compared to those with low-grade (406±174 days) ($p=0.03$). **Conclusions:** This study concludes that the association of the two-tier histologic grading with KIT pattern and cellular proliferation index assessed by Ki-67 can be a useful prognostic factor for dogs with MCT.

Key words: oncology, histopathology, immunohistochemistry, dogs, prognosis.

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Fowl typhoid in chickens: clinical, macroscopic and histopathological aspects

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Background: Fowl typhoid is a bacterial disease that often affects poultry and has an acute or chronic course. It causes an enormous impact on production and economy. Infected flocks can manifest apathy, anorexia and high mortality rates. The main organs affected are liver, spleen, heart and kidneys. **Case Report:** A farm with about eight hundred laying hens of different lines had history of high mortality in one flock (80%). A second one presented similar clinical signs and antibiotic was administered to them. Mortality decreased but the disease was not controlled. Four 77-week-old Isa Brown chickens from one flock were euthanized and referred for necropsy. **Results:** Chickens presented apathy and weakness. Macroscopic examination revealed lesions especially in the liver and spleen. Hepatomegaly was a common lesion for all the chickens and they varied from mild green (chicken 1) to dark-red with multifocal to coalescing friable yellow-whitish areas (chicken 2 and 3) or diffusely dark-green (chicken 4). All spleens were enlarged, friable and diffusely red. Heart from chicken 1 had multifocal to coalescing white areas in the epicardium and in the myocardium. Histologically, chickens 1, 2, 3 and 4 had marked multifocal histiocytic and fibrinonecrotic hepatitis and multifocal fibrinonecrotic splenitis associated with vasculitis and plasmacytosis. Chicken 1 had marked multifocal necrotic histiocytic and lymphocytic myocarditis. Samples of liver and spleen of the four chickens were aseptically collected and directly plated on brilliant green agar. Biochemical, serological and molecular tests identified the isolated colonies as *Salmonella enterica* subspecies *enterica* serovar Gallinarum biovar Gallinarum, the etiologic agent of fowl typhoid. **Conclusions:** Fowl typhoid was responsible for the clinical sings, mortality, macroscopic lesions and histological findings observed in chickens of the examined flock

Key words: layer hens, *Salmonella*, liver, Gallinarum, disease.

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Papilar carcinoma in a rabbit mammary gland: case report

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Background: Mammary gland tumors are common in laboratory and meat rabbits, but there are few retrospective studies and case reports based on pet rabbits. Most of them occur in mid-aged (>5 years old) intact females; adenoma and adenocarcinoma are the most common types of neoplasia. **Case Report**: An 8-year-old female intact domestic rabbit (*Oryctolagus cuniculus*) was referred to the Veterinary Hospital of São Paulo State University (UNESP), Campus of Jaboticabal with right cranial mammary gland abnormal growth, skin necrosis and ulceration. A mass resection was performed. One month later, the animal returned with abnormal growth, inflammation and necrosis of the left cranial mammary gland. At this time, an excisional biopsy was made and, due to the decreased health status, the patient died at the end of the surgical intervention. **Results:** The cutaneous fragment contained a nipple and a brownish, fibroelastic ulcerated tumor, measuring 5.0x3.0x2.5 cm. It was white and homogeneous to cut. Microscopically, there was neoplastic malignant proliferation of, highly cellular, non- encapsulated, non-demarcated and with infiltrative growth epithelial cells. Cells were disposed in solid papillae surrounding vascular and fibrous stroma. Individually, cells had poor distinct shapes and no defined margins. The nucleus were oval, paracentral, hypochromatic, with grossly condensed chromatin. Marked anysokaryosis and 6 mitosis figures were seen in 10 High Power Fields. In addition, multifocal necrosis areas, mild limphocytic inflammatory infiltration and intratumoral cystic areas filled with amorphous eosinophylic substance. **Conclusions:** Clinical and histopatolocial findings led to simple cystic papillary carcinoma.

Key words: lagomorphs, oncology, malignant tumor.

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Renal cell carcinoma in a budgerigar (*Melopsittacus undulatus)*: case report

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Background: Renal tumors are frequent in psittacines, most of them in budgerigars, and carcinoma is the most diagnosed type of neoplasia in captive and wildlife animals. The tumor is mostly unilateral but can affect both kidneys. **Case Report:** A budgerigar (*Melopsittacus undelatus)* was referred to the Veterinary Hospital, School of Agricultural and Veterinarian Sciences, São Paulo State University (UNESP), Campus of Jaboticabal, reported to be limping for a week and presenting dyspnea. Radiographic exams demonstrated increased radiopacity in coelomic cavity. The animal died after physical restraint. **Results:** In necropsy, there was subcutaneous edema, a white multilobulated mass (diameter =2.5 cm) involving both kidneys, organs that had lost the shape and normal structure, and multifocal to coalescent white areas in the liver. In histopathology, the mass showed neoplastic epithelial cells proliferation, highly cellular, not well-demarcated, not encapsulated and with infiltrative growth in kidneys extension, with no evidence of normal tissue. The cells were distributed in tubes interspersed among the slight fibrovascular stroma**.** Individually, the cells had no distinct shape and no defined margins; moderate and acidophilic cytoplasm; oval, paracentral, hypochromatic nuclei and unique and evident nucleoli. Marked anisocaryosis, mild karyomegaly, slight multinucleation and 21 mitotic figures, sometimes bizarre, were seen in 10 High Power Fields, heterophilic inflammatory infiltrated and intratumoral necrosis multifocal areas were also observed. Multifocal neoplastic cells, like those found in the kidneys, were verified in the liver. **Conclusions:** Clinical and pathology findings suggested kidney tubular carcinoma with liver metastasis.

Key words: neoplasia, psittacines, birds, renal disease.

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Periosteal chondrosarcoma in a dog: case report

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Background: Periosteal chondrosarcoma is a cartilaginous neoplasm that originates from the bone surface. It is an uncommon, slow-growing tumor that occurs in older dogs and usually in bones with a flat surface. The aim of this report was to describe a case of primary periosteal chondrosarcoma located on the right side of a dog's face. **Case Report**: A 12-year dog, mixed breed, with a history of slow and progressive volume increase in the right zygomatic arch ventral region which was submitted to partial hemimandibulectomy for resection with tumor surgical margin. In the cytologic examination, mesenchymal cells neoplasia was identified. In the period of one month, from the first attendance, the mass evolution was rapid, which was projected to the oral cavity. **Results:** The surgical specimen was referred for histological examination and measured 11x8x6cm, presenting firm, multilobulated and brownish areas with blackened areas interspersed. The cut was homogeneous and whitish. Histopathological examination revealed malignant neoplastic proliferation of mesenchymal cells from the mandibular periosteum, which formed a chondroid matrix, with areas of central calcification and associated with highly vascularized fibrous tissue. The cytoplasm was elongated, broad and acidophilic. The nuclei were rounded, hypochromatic single and evident. Moderate anisokaryosis and caryomegaly and no mitotic figures were observed, nor metastasis in the submandibular lymph node and adjacent bone tissue. **Conclusions**: Considering the histological findings a periosteal chondrosarcoma was diagnosed. In this tumor metastases are poorly observed, as it is commonly locally aggressive and recurrences are common after the surgery.

Key words: mesenchymal neoplasia, periosteal surface, slow growth, flat bones.

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Renal dysplasia in two pekingese dogs: case report

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Background: Renal dysplasia is defined as a disorganized development of the renal parenchyma due to an abnormal tissue differentiation. Lesions associated include the presence of inappropriate or anomalous structures during nephrogenesis, with secondary changes such as compensatory hypertrophy and hephrons hyperplasia, inflammatory and degenerative lesions. **Case Report:** The present report describes the anatomopathological aspects of Renal Dysplasia in two dogs of the same breed, 3 months old, of the Pekingese breed. Animals were unable to concentrate on urine and one of them showed at the ultrasound exam, decreased cortico-medullary ratio and renal atrophy. Both were referred for necropsy examination. **Results:** The necropsy examination showed that the kidneys were small, firm, pale with irregular and thickened capsule, adherent to the capsular surface. After capsule removal, cystic formations of varied sizes were seen. At cut, the cortical was pale and diminished in the cortico-medullary relation. The medulla was moderately pale and showed whitish striations disposed radially, calcified to the cut, and discreet dilation of the renal pelvis. Microscopic evaluation revealed in the lung, foci of peribronchiolar calcification and mineralization of the bronchial cartilage. In the stomach there was calcification of the mucosa and submucosa. In the kidneys, accentuated interstitial fibrosis, multiple foci of calcification of the renal parenchyma (cortical-medullary change), calcification of the basal tubular membrane, and reduction of the number of glomeruli and presence of immature glomeruli were observed. Also, the accumulated protein calcification in the Bowman space and the presence of hyaline cylinders into the lumen of renal tubule were noted. **Conclusions**: The animals presented a chronic renal failure (renal dysplasia), with consequent soft tissue calcinosis and severe protein loss. Some breeds are more afflicted with this congenital anomaly, indicating a family influence, but viral infections or nutritional deficiency have also been suggested in the literature.

Key words: progressive juvenile nephropathy, renal insufficiency, renal atrophy.

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Multicentric hemangiosarcoma in dogs: case report

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Background: Hemangiosarcoma is a frequent vascular neoplasm in dogs. It most commonly affects the spleen, but it can also occur systemically. The aim of the present report is to describe the anatomopathological aspects of a case of multicentric hemangiosarcoma in dogs. **Case report:** An adult dog was received for necropsy examination, with no clinical history. **Results:** In the subcutaneous tissue of the sternal region, two soft red nodules were observed. The lowest measuring 1.5x2.0cm and the largest 3.0x2.5cm, both located in the epigastric region. In the *in situ* analysis of the abdominal cavity, several rounded soft and dark red nodules were observed in the mesentery. In the spleen there was the presence of a single reddish nodule 1cm in diameter and fibrous in appearance. In the thoracic cavity, the lung had multiple nodules of the same aspect. In the heart there was the presence of a single nodule in the right ventricle. The brain had multiple reddish nodules in the occipital region and cortex. In the spinal cord, in the lumbosacral region there was one as well. Histologically, the spleen had malignant neoplastic proliferation of endothelial cells, moderately cellular, unencapsulated, poorly delimited and infiltrative growth. The cells were in bundles presenting predominantly a solid pattern with rudimentary vascular formations at the periphery. Individually, the cells were polygonal to ovoid, with scarce and acidophilus cytoplasm. The nuclei were elongated, hypochromic, with densely clustered chromatin and single and obvious nucleoli. Moderate anisokaryosis was noted. Associated with the tumor, there were foci with megakaryocytes, plasma cells, lymphocytes and Mot cells. No mitotic figures were observed. The nodules present in the subcutaneous tissue, mesentery, heart, lung, encephalon and spinal cord presented the same histological appearance of the splenic tumor. **Conclusions:** The histological findings showed a very aggressive multicentric hemangiosarcoma, due to rapid spread to the vital organs.

Key words: mesenchymal neoplasia, metastasis, endothelial cells.

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Cholangiocarcinoma in a *Puma concolor*

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Background: Cholangiocarcinoma is a malignant tumor of bile ducts cells described like intrahepatic, extrahepatic or of the gallbladder. They are reported in dogs, cats, sheep, cattle horses and goats. Cholangiocarcinomas have a highly invasive growth pattern and frequently metastasize to hepatic lymph nodes, lungs, and peritoneal cavity. **Case Report:** An old jaguar (*Puma concolor*), of Universidade Federal de Mato Grosso Zoo had clinical signs of progressive weight loss and eye lesion. At the radiography, hepatomegaly and multiples liver's nodules were evidenced, confirmed on the CT scan. A liver biopsy was performed and the histopathological findings were characterized by cholangiocarcinoma. The animal had three days with tremors, fatigue and anorexia. There were no improvements on the animal's clinical condition after treatment, so it was euthanized. **Results:** Necropsy examination revealed numerous nodules, yellowish, rounded, firm and, usually, umbilicated occupying nearly 90% of the liver. On cut surface, the masses were yellowish to reddish, firm and delimited. Smaller similar nodules were observed in the spleen. In the peritoneal cavity there were 300 ml of viscous and yellowish liquid and the omentum, intestinal and gastric serosa were also yellowish. Histologically, the hepatocytes were disorganized and the sinusoids dilate. The liver neoplastic masses were composed of infiltrative and unencapsulated proliferation of polygonal cells arranged in tubules and separated by moderate fibrovascular stroma. In addition, areas of moderate mononuclear infiltrate were observed, predominantly in the periportal region, with adjacent hepatocellular necrosis. The nodules spleen were histologic findings similar to those described in the liver. Immunohistochemistry for anti-cytokeratin revealed strong immunopositive and anti-vimentin revealed immunonegative cytoplasmic labeling. **Conclusions:** Based on the histologic findings associated with the positive immunohistochemistry labeling for anti-cytokeratin and anti-vimentin, the diagnosis of cholangiocarcinoma was detectd.

Key words: hepatic tumor, jaguar, cholangiocellular carcinoma, gall bladder tumor.

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Veterinary students' knowledge about mammary tumors in bitches and their relationship with early castration

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Background: Mammary tumors are the most prevalent type of tumores in bitches and their mainly reported etiology is the hormonal factor. Therefore, early castration has great importance as a disease prevention method. The veterinary students will be, when graduated, the main source of knowledge to the bitches' guardians, thus, the responsible ones to transmit this information to the society about this theme. **Objective:** To investigate the knowledge about mammary tumors and early castration of veterinary students of all regions of Brazil, regarding the answers to their semester of university, public or private university and region, analyzing the knowledge sections before and after a video. **Methods:** Using the program "Google Forms", 278 undergraduate students of all regions of Brazil were interviewed, of all semesters of university during the month of April of 2019. The study based itself in an online form divided in identification, previous knowledge and knowledge after an awareness video. **Results:** The majority of participants agreed to the question that consider beneficial the early castration (92.09%), however 54.55% who disagreed were students of the three first semesters against 4.55% of the three last periods. Analyzing the participants, 98.2% knew that bitches could develop mammary tumors, 67.98% knew an identification method of mammary tumors in bitches and 64.87% affirmed they had read/studied about the relationship between the incidence of mammary tumors in bitches and early castration. **Conclusions:** The majority of participants know that bitches can develop mammary tumors and consider beneficial the early castration, although fewer students had read/studied about the relation between mammary tumors and early castration.

Key words: information, mammary pathology, prophylaxis.

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Salmonellosis in a capybara (*Hydrochoerus hydrochaeris*)

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Background: *Salmonella* spp. is a bacterium responsible for enterocolitis and septicemia in several animal species, and is known as a causative agent of nosocomial infections mainly in horses. Capybaras are natural reservoirs for *Salmonella*, however, reports of clinical cases of salmonellosis are unusual in this species. **Case Report:** an adult, male, Capybara (*Hydrochoerus hydrochaeris*) with history of cachexia, critical dehydration, and severe cutaneous myiasis was sent to Núcleo de Conservação e Reabilitação de Animais Silvestres of Universidade Federal do Rio Grande do Sul (PRESERVAS - UFRGS) for clinical treatment. Although the animal received intensive supportive care, it died after three days, and was submitted to necropsy in the Setor de Patologia Veterinária (SPV - UFRGS). Fragments of different tissues were collected for histopathology and small intestine was submitted to immunohistochemistry with anti-*Salmonella* polyclonal antibody (Biogenesis®) at dilution rate of 1:1000. Protease XIV (Sigma) was used as an antigen recuperation. Detection system Universal HRP-Polymer (MACH 4) and 3-amino-9-ethylcarbazole (AEC) as chromogen were utilized. **Results:** Groslly, the Capybara examination revealed that the small intestine mucosa was hyperemic, and had extensive areas with deposition of yellowish fibrinous material. Other gross findings included a fracture of the right mandible (due to trauma), associated with purulent content, and multiple ulcers on the skin. Histologically, the small intestine presented multiple areas of coagulative necrosis in the mucosa, associated with severe fibrin deposition, severe hemorrhage, and accentuated inflammatory infiltrate of neutrophils, lymphocytes, plasma cells, and macrophages. Moderate quantity of bacillary bacteria in the necrosis areas was observed. Immunohistochemistry for *Salmonella* spp. displayed strong immunolabeling. **Conclusions:** fibrinonecrotic enteritis by *Salmonella* spp. diagnosis was based on the gross, microscopic, and immunohistochemical findings.

Key words: enteritis, nosocomial infection, bacterial disease.

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Microfilariosis in passerines seized from illegal traffic

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Background: Microfilariae are immature larvae stages of filarial nematodes of the superfamily Filarioidea, which are found mainly in the blood of definitive animal hosts. The species known for causing diseases in Passeriformis are *Serratospiculum amaculata*, *Diplotriaena* sp. and *Splendidofilaria passerine*, although there are few relates of the disease in wild birds. The transmission occurs by the hematophagous insects bite that transmits the third stage larvae, serving as intermediate hosts. **Case Report:** two confiscated passerines – an adult, female, Lesser seed finch (*Sporophila angolensis*), and an adult, male, Black-throated grosbeak (*Saltator fuliginosus*) – were brought from Centro de Estudos em Manejo de Aves Silvestres da Universidade Federal do Rio Grande do Sul (CEMAS – UFRGS), and were subjected to necropsy at the Setor de Patologia Veterinária (SPV – UFRGS). Fragments of different tissues were collected, fixed in 10% formaldehyde, routinely processed for histology, and stained with hematoxylin and eosin (HE). **Results:** the only gross change observed was the birds bad body condition. Histologically, blood vessels of the lungs presented numerous elongated parasitic structures compatible with microfilaria. These parasites had a tapered extremity, measuring about 6 x 20 µm, and contained multiple basophilic pinpoint structures. Similar parasitic structures were observed inside the liver blood vessels, as well as in the heart ventricular chambers. Black-throated grosbeak also presented comorbidities, such as cardiac fibrosis and a pseudomembranous stomatitis due to *Candida albicans*. **Conclusions:** based on the histological findings, the occurrence of microfilariosis in Passeriformis was reported.

Key words: filarial parasite, birds, pathology.

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Hepatic necrosis associated to the *Perreyia flavipes* consumption in a dog

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Background: Hepatopathies in dogs are commonly caused by infectious agents, such as canine adenovirus and *Leptospira* spp.; nevertheless, these may also be caused by drug toxicosis, such as carprofen, acetaminophen, and phenobarbital, or be related to the toxic plants consumption, such as *Cycas revoluta*. **Case report:** An eight-month-old male Pinscher dog had a history of emesis, diarrhea and apathy in a three-day clinical course after consuming amounts of *Perreyia flavipes* larvae. On the clinical exam, the dog had abdominal pain, jaundice at the oral and ocular mucosa, and severe dehydration. Biochemical exam revealed markedly elevated liver enzymes (AST, ALT and ALP). The dog died few hours after it was admitted. **Results:** At the necropsy, there was a discreet and generalized jaundice, and the liver was diffusely pale with an enhanced lobular pattern, and had pinpoint multifocal red areas (petechiae and ecchymosis). Microscopically, the liver had diffuse hepatocyte coagulative necrosis, characterized by cells with hypereosinophilic cytoplasm, karyolitic and karyorrhexic nuclei, as well as severe multifocal hemorrhage. Vacuolar degeneration (fat degeneration) and moderate cholestasis were observed in the periportal regions. The small intestines had multifocal lymphoid necrosis on the Peyer's patches. The lymph nodes and spleen had mild to moderate multifocal central follicular necrosis intermixed by fibrin deposits, apoptotic lymphocytes, and low numbers of neutrophils. **Conclusions:** The diagnosis was obtained through the observation of the blackened larvae in the vomits contents by the dog owner, as well as the clinical and pathological findings observed. The necrotic liver disease was related to the *P. flavipes* consumption and this poisoning should be included in the differential diagnosis of toxic hepatopathies involving dogs.

Key words: canine, jaundice, liver disease, poisoning.

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Ulcerative enterocolitis in a cat associated with feline leukemia virus (FeLV)

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Background: Feline leukemia virus (FeLV) infection is associated with several clinical and pathological manifestations in cats, being lymphoma and leukemia the most common ones. A poorly described manifestation of this infection is ulcerative enterocolitis, also referred as panleukopenia-like syndrome. **Case Report:** A two-year-old, male, Brazilian shorthair cat arrived for clinical evaluation with chronic and profuse diarrhea, vomit, prostration, severe dehydration, intense leucopenia (1100 leukocytes/µl), thrombocytopenia, and positive results in a rapid imunoassay test for FIV and FeLV detection (Snap FIV/FeLV Combo Test, IDEXX Laboratories, USA). The patient was treated with broad spectrum antibiotics and general supportive care, but clinical response was poor. For that reason, the owner decided for euthanasia. The cat was submitted to necropsy at the Setor de Patologia Veterinária of UFRGS. Organs fragments were collected for histopathology, and the small and large intestine were submitted to immunohistochemistry for FeLV, FIV, feline panleukopenia, feline herpesvirus type I and coronavirus. **Results:** At necropsy, the wall of small and large intestines was markedly thickened, with multifocal erosions and petechiae on the colon and rectum mucosa. At histopathology, in the large intestine, multifocal mucosal erosions associated with fibrin deposition, and pleomorphic bacterial myriad were noted, with a marked inflammatory infiltrate of lymphocytes, plasma cells and macrophages. In the lamina propria of the small intestine, there was a similar moderate inflammatory infiltrate, submucosal edema, and dilated crypts and filled by necrotic debris. The immunohistochemistry for FeLV was positive, with intense immunolabeling on inflammatory cells of the lamina propria, whereas for all the other agents it was negative. **Conclusions:** Based on the necropsy, histopathological and immunohistochemical findings, the diagnosis of ulcerative enterocolitis associated with FeLV infection was concluded and should be considered as a differential diagnosis in cases of chronic diarrhea in immunosuppressed cats.

Key words: panleukopenia-like syndrome, FeLV, viral infection, chronic diarrhea.

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Mutation of Taf15 gene in mice, and it's protein conformation correlating with possible neurodegeeration

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Background: Taf15 is an RNA Binding-Protein that is mainly expressed in central nervous system tissues, acting mainly to facilitate complex assembly and transcription initiation. There are reports describing that mutation in this gene are related to human cases of amyotrophic lateral sclerosis (ALS), a neurodegenerative and fatal disease. The *crup* is a mutant mice strain that shows, as phenotypical alteration, a progressive loss of psychosomatic capabilities, with a positive correlation with old age. **Objective:** Investigate the correlation between the mutant protein expressed in animals of the strain, and whether there is significant pathological alteration in the Central Nervous System. **Methods:** the study of the Taf15 protein tertiary structure was carried out using the I-TASSER system, with data obtained from the UniProt database, and Sanger sequencing from the mice strain genome. The quantification of total neuron, in the primary motor cortex and hippocampus, was performed using NeuN immunohistochemistry, using tissues from *crup* animals, with BALB/c strain animals as control, with image analysis using ImageJ software. **Results:** Taf15 protein evaluation showed an important structural alteration in animals of the mutant strain. The histopathological analysis for total neuron counting presented p values of 0.3505 and 0.9372, for primary motor cortex, and hippocampus respectively, when comparing *crup* strain animals with wild type BALB/c strain. **Conclusions:** the quantification of total neuron counting did not show a significant statistical alteration in *crup* when compared to wild BALB/c. animals, showing an absence of neurodegenerative process. The protein study resulted in a C- score of 0.37 from the Taf15 protein found in the studied strain, with a visible tertiary structure change. This may lead to an alteration in the function of given system (phenotypical changes), without histopathological evidences of neurodegeneration or cell death.

Key words: Taf15, neurodegeneration, experimental models, protein conformation.

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Complex apocrine adenoma in cats

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Background: Complex apocrine adenomas (CAA) are cutaneous tumors uncommon in dogs and rare in cats. These tumors occur most commonly in the head or a limb and they are well demarcated from the surrounding tissue. **Case Report:** A 3-year-old, mixed-breed, female cat was presented for evaluation of a mass located on the skin of right axillary region. Macroscopically the tumor was white in color, friable and presented on cut surface a black central area. After clinical evaluation the animal was submitted to surgical excision of the tumor mass. A tumor sample was fixed in 10% neutral buffered formalin, embedded in paraffin, sectioned, and stained with hematoxylin and eosin. **Results:** Histological nodule features included the neoplastic proliferation of epithelial cells arranged in small islands of a glandular epithelium with multifocal myoepithelial cells proliferation. The myoepithelial cells morphology was fusiform with euchromatic nuclei and lightly eosinophilic cytoplasm. The cells showed little pleomorphism and no mitotic activity. The cat was diagnosed with CAA. **Conclusion:** Cases of complex apocrine adenoma are rarely reported in cats highlighting the importance of this report to compose data in the literature on feline CAA. In addition, the location in the axillary region is uncommon, being this tumor more frequent in the head and limbs.

Key words: feline, tumor, histology, diagnosis.

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Metastatic gastric *in situ* carcinoma associated with ménétrier's disease like in an adult labrador dog

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Background: Ménétrier's disease or mucosal cell hypertrophic gastropathy is a rare disease of unknown etiology characterized by the gastric mucosa thickening due to mucosal cell hyperplasia and the fundic glands dilation, resulting in a cerebriform appearance. It is believed that the disease predisposes to gastric carcinoma. **Case Report:** A 7-year-old female Labrador dog had history of recurrent dermatitis and treatment with oral cephalexin for traumatic pyodermatitis. Clinical signs were characterized by gastritis, vomiting and bleeding diarrhea, with no treatment success. The dog was referred to the veterinary pathology sector of UFMG for necropsy. **Results:** Macroscopically, there was diffuse thickening of the gastric wall with cerebriform mucosa. A firm, white, 4.0 x 2.5 x 1.0 cm transmural nodule associated with mucosal ulceration was also observed in the stomach. The omentum had multiple, firm white nodules measuring approximately 1.0 cm in diameter, associated with multifocal hemorrhages. Histopathologically, the stomach had a marked thickening of the mucosa with projections to the lumen. There were also areas with replacement of the chief and parietal cells by mucosal cells and the fundic glands dilatation. In the mucosa there was a focal area of malignant epithelial neoplasia. The cells had large and eosinophilic cytoplasm, round central to eccentric nucleus, loose chromatin, more evident nucleoli, anisocytosis and anysocariosis, with a high mitotic index. In the submucosa there were several dilated lymphatic vessels containing neoplastic epithelial cells and multifocal lymphoplasmacytic infiltrate. Gastric lymph nodes, small intestine, pancreas, liver, lungs and omentum had metastases from this gastric adenocarcinoma. **Conclusions:** Histological changes enabled the diagnosis of hypertrophic gastropathy associated with metastatic gastric carcinoma. Although it is a rare disease, it can occur in dogs and lead to death. Detailed clinical evaluation, macroscopic and histopathological exams are essential for the definitive diagnosis.

Key words: canine, stomach, hyperplasia, cerebriform, neoplasm.

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Craniofacial duplication (diprosopus) in newborn feline

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Background: Congenital anomalies are changes present at birth and occur due to defects during embryonal development. Among these defects are the embryonic duplications and the Siamese twins, malformations that range from the partial duplication of part of the body to the total formation of two organisms (2). Diprosopia is an alteration in which facial structures are duplicated without separation in two heads. The etiology is not established, but a variety of causes have been attributed to this process, such as toxic substances ingestion, prenatal infections and hereditary genetic mutations in one or both parents (1). **Case Report**: A feline, female, mixed, neonate, was sent to the Laboratório Regional de Diagnóstico of the Universidade Federal de Pelotas for necropsy. The reported clinical history was that the female was 51 days pregnant. An emergency cesarean was performed after finding fetal distress by means of ultrasonographic examination. The four other kittens were born apparently normal, but died due to premature delivery. **Results:** Necropsy examination revealed the animal had a single skull with two faces, two oral cavities with cleft palate and tongue in both, two pairs of eyes, two snouts and a singular pair of ears. The tongues were united by the base, sharing a single glottis, trachea and esophagus. When the skull was opened, two brains were present, along with two cerebelli and two brainstems that merged into a single spinal cord. Histological examination showed preservation of the nervous system and other anatomical structures, with no pathologically significant changes observed. **Conclusions:** Diprosopia is a congenital malformation with a low incidence in felines. However, even infrequent, it can affect these animals. Macroscopic changes are relevant and probably incompatible with life, also favoring fetal origin dystocia.

Key words: diprosopia, fetal malformation, siamese twins.

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Parasitosis by *Ithyoclinostomum dimorphum* (Trematode) in *Ardea cocoi*

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Background: The cocoi heron (*Ardea cocoi*) inhabits wetlands and feeds on amphibians, reptiles and fish, becoming susceptible to infections by *Ithyoclinostomum dimorphum* (Clinostomidae), presenting fish, molluscs and crustaceans as intermediate hosts. Infection occurs through the ingestion of these species containing the metacercaria (1). In humans, infection may occur, but is rarer. **Case Report:** A cocoi heron was received for necropsy at Laboratório Regional de Diagnóstico. The bird was sent from the Núcleo de Reabilitação da Fauna Silvestres of the Universidade Federal de Pelotas where it was examined and received support therapy but died 24 hours after arrival. **Results**: Macroscopy revealed a crusty lesion in the right mandible branch with 1 cm in diameter that communicated with the mouth, and in the initial third of the esophagus, there was a verrucous structure with blackened extremity. Forty-seven trematodes were found adhered to the bird's esophagus, releasing blood when pulled. There was marked atrophy of the pectoral muscles, extreme carcass paleness evidenced mainly by the lungs white coloration. The blood was watery and there was hydropericardium. The parasites were identified as *Ithyoclinostomum dimorphum*. Histologically, the crusty and verrucous lesions corresponded to necrosis with chronic inflammation possibly due to the alimentary trauma. The esophagus had extensive ulceration areas with focal aggregates (parasite adhesion) with eosinophils, mononuclear and heterophilic, and clear engorgement of capillaries. Older lesions had mononuclear infiltrate, bacterial colonies and rare eosinophils. There were reepithelialization areas with chronic-active inflammation and orthokeratosis areas. In the right ventricle and interventricular septum multifocal fibrosis areas occurred. Pulmonary capillaries had rare red blood cells. **Conclusion**: Death was caused by deep anemia caused by the parasites hematophagy. Thus, this parasite deserves attention not only for its form of massive infection, but also for its zoonotic potential.

Key words: pelecaniform, esophagus, parasite.

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Correlation of estrogen receptor expression with clinicopathological variables in canine mammary carcinomas

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Background: The mammary gland is generally affected by neoplasms and from 50 to 70% of canine mammary tumors (CMT) are malignant in adult intact bitches. Just as in women, in bitches the estrogen receptors expression (REα) is also considered a prognostic factor. **Objective:** The objective of this study was to verify the REα expression in CMT and to correlate it with clinicopathological characteristics. **Methods:** Eighty-four bitches were included in this study. The surgical excision was a treatment for the CMT (total or unilateral mastectomy). Data retrieved from the clinical and histopathological protocols included age, tumor size, TNM, histological type and grade. Immunohistochemical detection of REα was performed on formalin-fixed paraffin-embedded tissue samples. **Results:** The dogs' mean age was 10.14 ± 2.82 years and the majority of the bitches were older than eight years (84.53%). Mongrel dogs (48.81%) presented CMT more frequently. Neoplasms smaller than three centimeters (T1) were more frequent (40.47%) and 30.97% of the animals received staging IV. The most frequent histological type was complex carcinoma (45.24%) with a higher frequency of grade II tumors (44.04%). In 30.95% of the samples of CMT there was REα expression, while 59.05% of the cases were negative. There was no correlation between REα expression in CMT and age (p=0.631), tumor size (p=0.595), histological subtypes (p=0.601), but carcinomas with lower histological grade expressed REα with higher frequency (p=0.042). There was also no correlation between clinical staging and ERα immunolabeling (p=0.522). **Conclusions:** The REα expression in bitches is low when comparing REα expression in women. In this study, the only clinicopathological variable related to REα expression was the histological grade.

Key words: dog, mammary gland, neoplasm, risk factor, hormones.

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Pulmonary aspergillosis in wild birds from Midwestern Brazil

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Background: Aspergillosis is a common disease which affects mainly the respiratory system of wild and domestic animals. The disease is caused by saprophytic and opportunistic fungi of genus *Aspergillus.* **Case Report:** Six birds from Brasília's Zoo were sent for necropsy. Five females great-billed seed-finch (*Sporophila maximiliani*) presented a history of troubled breathing. The sixth bird, a female toco toucan (*Ramphastos toco*) showed anorexia, hypothermia and apathy. **Results:** Grossly, all birds presented pulmonary lesions that included whitish areas (0,1-0,4cm in diameter), moderately delimited and soft, affecting one lung antimere of each bird. Samples were collected to histopathology and microbiology. Histologically, lungs had multifocal or focally extensive areas central of caseous necrosis, accompanied by granulomatous inflammation that occupy and expand about 40% to 80% of the fragments. Numerous macrophages, some multinucleated giant cells and few lymphocytes and heterophils were observed. Associated to the infiltrate, there was a large number of septated hyphae with acute angle branches of uniform diameter, measuring from 5 to 7μm of thickness, light-colored or slightly basophilic, in addition to numerous conidiophores, consistent with *Aspergillus* spp. In addition, diffuse congestion and basophilic coccoid aggregates were noted in some cases. Diagnosis of aspergillosis was confirmed by mycology. **Conclusion:** Based on anatomopathological and microbiological findings, a diagnosis of pulmonary aspergillosis was stablished in all cases. Possibly, bacterial infection and other unknown factors could contribute with the gravity of the mycotic lesions in these birds.

Key words: wildlife, respiratory pathology, micology.

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Disseminated poorly differentiated fibrosarcoma in a sheep

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Background: The most common cutaneous neoplasms in sheep are squamous cell carcinomas, lymphomas, melanomas, papillomas, and uncommonly, fibromas and fibrosarcomas. They have been described in different age groups, affecting both adult and aged animals. **Case Report:** A three-year-old female Texel sheep was brought to the Veterinary Hospital of Federal University of Santa Maria (HVU-UFSM) with a history of increased volume in the neck and multiple cutaneous lesions. The animal was treated. However, in a few days, it became isolated from the flock and died. **Results:** At necropsy, multiple 1 to 1.5 cm white, firm, sometimes ulcerated and crusted nodules were observed on the skin. The right pre-scapular region had a 17-cm enlargement. The cut surface was firm, contiguous with the subcutaneous and adjacent musculature and had yellow areas and a necrotic central area. Histologically, the nodules were composed of neoplastic mesenchymal cells arranged in bundles, surrounded by fibrovascular stroma. The cells were spindle- to polygonal-shaped, with moderately distinct cell borders and eosinophilic cytoplasm. Their nuclei were fusiform, with dotted and hyperchromatic chromatin and conspicuous nucleoli. Seven mitotic figures were observed in ten high-power fields (400x). Metastases were observed in the right superficial cervical lymph node, lung, liver, kidneys and adrenal glands. In immunohistochemistry, neoplastic cells were positive for vimentin and negative for cytokeratin and factor VIII, eliminating the possibility of spindle cell carcinoma or hemangiosarcoma. Thin collagen bundles, positive in Masson's Trichrome staining, were evident among the neoplastic cells. Based on these findings, the diagnosis of disseminated poorly differentiated fibrosarcoma was established. **Conclusions:** Fibrosarcomas in sheep are more commonly described in the maxilla, mandible, lumbar vertebra and nostrils. The cutaneous presentation is uncommon, and it generally has single skin lesions. Due to the advanced lesions stage, the neoplasm origin was not determined.

Key words: ruminants, cutaneous neoplasm, immunohistochemistry.

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Anatomic and clinicopathological association between leiomyoma and uterine adenocarcinoma in a guinea pig (*Cavia porcellus*)

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Background: The domestic population of guinea pigs has been increasing worldwide, and neoplasias described within the species represent mainly spontaneous or induced tumors in laboratory animals. Reproductive system neoplasias are described more frequently in aged females, with a higher prevalence of muscle tumors sometimes associated to uterine cystic disease. **Case Report:** A 5-year-old female guinea pig was presented with a clinical history of abdominal distension, hematuria and hyporexia. Ultrasonographic imaging revealed multiple round structures filled with anechogenic content occupying a significant portion of the mesogastric and hypogastric regions of the abdominal cavity. With the suspicion of neoplastic disease, oophorohysterectomy was performed and the excised mass was submitted to gross and microscopical evaluation. The animal recovered post-surgically, however, died due to unrelated causes a month later. **Results:** Gross evaluation revealed two distinct masses; the first, larger one, exhibited tan, irregular and polycystic surface, measuring 10.5 x 6.7 cm in diameter. The second, smaller one, displayed irregular surface, with 2.5 x 1.8 cm diameter. Histologically, the larger mass presented multiple foci of moderately pleomorphic epithelial cells displayed in irregular papillary conformation, infiltrating the uterine stroma and adjacent myometrium in association to the cystic endometrial hyperplasia. The smaller mass was composed of slightly pleomorphical fusiform cells oriented in multidirectional bundles, positive for Masson's Trichrome histological stain. Immunohistochemistry was positive for CK Pan on the epithelial neoplastic cells and for Smoot Muscle Actin on the mesenchymal neoplastic cells. **Conclusions:** Based on histological morphology and immunohistochemistry positivity for CK Pan on epithelial cells and Smooth Muscle Actin on mesenchymal cells, as well as positive staining with Masson's Trichrome on mesenchymal cells, the coexistent diagnoses of Uterine Adenocarcinoma and Uterine leyomioma were confirmed. To the authors' knowledge, there is no previous report of these two simultaneous conditions in guinea pigs.

Key words: immunohistochemistry, neoplasia, Caviidae.

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Chondroma in common quail *(Coturnix coturnix,* Linnaeus, 1758)

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Background: Chondroma is a benign neoplasm of cartilaginous or mesenchymal origin, which affects the bones, deforming them. In birds the occurrence is rare, but it has been reported in Anseriformes, Charadriiformes, *Serinus canaria* and *Tigrisoma lineatum* (1, 2). **Case Report**: A 2-year-old common quail (*Coturnix coturnix*) was referred to the Veterinary Hospital, School of Agricultural and Veterinarian Sciences, São Paulo State University (UNESP), Campus of Jaboticabal with a subcutaneous volume increase (2.5cm x 2.5 x 1.5cm) of firm consistency and irregular nodular surface in the dorsal sinsacral region, cranial to the uropygial gland. The mass aspirate biopsy mass was inconclusive. Surgical removal was performed, and the mass was processed for histopathology. **Results:** Histopathology with Haematoxylin-Eosin (H&E) stain revealed: cutaneous tissue composed of benign neoplastic proliferation of mesenchymal cells, arranged in deep dermis irregular lobules of well-differentiated with uniform chondrocytes embedded in marked basophilic chondroid matrix. Individually, the cells had slightly difference shapes and limits, with vacuolated and scarce cytoplasm. The nuclei are paracentral, hypochromatic, rounded, with finely grouped chromatin and unique and evident nucleoli. There are discrete anisocariasis and anisocytosis. No mitotic figures were observed. The immunohistochemistry was realized for S-100, cytokeratin and vimentin antibodies. There was accentuated and moderate marking for antibodies S-100 and vimentin, respectively, in neoplastic cells. There was no marking for cytokeratin, confirming the histopathology. **Conclusion**s: Considering the clinical, macroscopic, histopathologic and immunohistochemistry results, the chondroma diagnosis is compatible.

Key words: avian, neoplasm, bones.

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Immunohistochemical detection of the proliferating cell nuclear antigen in cutaneous epithelial neoplasms in dogs and cats

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Background: Neoplasms are constantly diagnosed in the veterinary clinical routine; most cases occur in elderly animals, regardless of gender and race. In dogs, the most common malignancies are those of skin and soft tissue. In felines, they are those of the lymphoid system, followed by skin and soft tissues. The treatment success and the correct prognosis are based on the tumor anatomopathology, through histopathological examination and with the aid of advanced diagnostic techniques such as immunohistochemistry. **Objective:** The objective of this study was to correlate the histopathological diagnosis of cutaneous epithelial neoplasm of dogs and cats with the Proliferating Cell Nuclear Antigen (PCNA) marker using the immunohistochemistry technique. **Method:** 10 neoplastic skin nodules of dogs and cats were used from the archive of Veterinary Anatomic Pathology Laboratory. Histopathological and immunohistochemical analysis of the neoplasms were performed using the PCNA biomarker. **Results:** of the 10 epithelial nodules analysed, five were malignant and five were benign. In malignant neoplasms the anti-PCNA antibody staining was positive in 37.96%, and benign neoplasms, in 15.86% of the cases. Only the strong nuclear staining was considered positive. **Conclusion:** the anti-PCNA antibody was more overexpressed in malignant neoplasms, indicating that these neoplasms had higher rates of cell proliferation. PCNA may be a good cell proliferation marker in cutaneous epithelial neoplasia of dogs and cats, and a promising prognosis indicator and therapeutic target of these lesions in the future.

Key words: immunohistochemistry, histopathology, tumors, prognosis, PCNA.

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Normality citological characteristics of muscular and splenic tissue of dogs

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Background: The fine needle aspiration cytology technique is widely used in the veterinary medical routine due to the low cost, ease of reproduction and processing. However, there are few data in the literature about the cells normality characteristics in the organs cytology, which may make it difficult to interpret the findings, especially for inexperienced professionals. **Objective:** Describe the normal cytological findings of the skeletal muscle and spleen tissue of a healthy dog. **Methods:** An uncastrated 4-year-old male dog, with undefined race, died after admission to the Veterinary Hospital with a history of acute cranioencephalic trauma. After the carcass donor authorization to the hospital by the tutor, the collection of muscular biological material was performed in the laterocaudal region of the pelvic limbs, amongthe semimembranosus, semitendinosus and biceps femoris muscles and of spleen by fine needle aspiration cytology (FNAC); with 25x0.7 needle, 10 ml syringe, blade and cover for posterior squash. The slides were stained with Panótico Rápido® and analyzed under a light microscope at different magnifications. **Results:** The observed structures showed good quality to identify the cytomorphological characteristics. In the muscular tissue a moderate cellularity composed by homogeneous cells, arranged in interlocking bundles, with little or no extracellular matrix was verified. Cores with longitudinal shape and peripheral to muscular fiber. In the spleen high cellularity was noticed with homogeneous distribution; moderate amount of erythrocytes; a great deal of leukocytes, mostly lymphocytes at different stages of maturation, especially small lymphocytes and lymphoblasts. Furthermore, a small quantity of neutrophils, macrophages, megakaryocytes, plasma cells and Mott cells were observed. **Conclusions:** The normality characteristics of the muscular and splenic tissues cells, of crucial importance, were identified, since they may be present in routine cytopathological tests related to these materials, with or without pathological alteration.

Key words: muscle fibers, spleen, cytomorphology, lymphocytes, megakaryocytes.

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Cytological characteristics of renal and hepatic dog tissue normality

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Background: Cytopathology is an important tool in the veterinary medicine routine and has been gaining more and more space due to its low cost, ease of technique reproduction and sample processing. However, there are few data in the literature about the organs normality characteristics, which can hamper the findings interpretation, especially for inexperienced professionals. **Objective:** To describe the normal cytological findings of the renal and hepatic tissues of a healthy dog. **Methods:** A dog, male, uncastrated, four years old, came to death after being admitted to the Veterinary Hospital with history of acute cranioencephalic injury. After the donation, there was the carcass authorization to the hospital by the tutor, biological material collection was performed from kidneys and liver by means of fine-needle aspiration cytology (FNAC), using 25x0.7 needle, 20ml syringe, blade and coverslip for posterior squash. The blades were colored with Panótico Rápido® and analyzed in light microscope at diferente magnifications. **Results:** The observed structures showed good quality for cytomorphological identification. In both tissues it was possible to note large quantity of blood cells. In renal tissue tubular cells predominated with a moderate proportion of nucleus/cytoplasm, slightly basophilic cytoplasm, eccentric nucleus, finely dotted chromatin, clustered in tubular formor isolated. It was not possible to differentiate the tubules or observed the glomeruli. Whereas, in the hepatic tissue the predominant cell type was hepatocytes with polyhedral shape, round nucleus, sometimes multiple, abundant cytoplasm, distributed in small cordsor clusters, it was also possible to see Kupffer and endothelial cells. **Conclusions:** It was possible to identify the normality characteristics of renal and hepatic tissue cells, which are of paramount importance, considering that they may be present in the cytopathological exams of these organs presenting or not pathological alterations.

Key words: nephron, FNAC, cytomorphology.

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Cytokine participation in the glomerulonephitis pathogenesis of experimental visceral leishmaniasis in mice

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Background: Visceral leishmaniasis is caused by the protozoan *Leishmania* (*Leishmania*) *chagasi* in Brazil. Renal changes are frequently observed in this pathology, characterized by proliferative glomerulonephritis. Immunocomplex deposition is been one of the most accepted mechanisms in studies concerning the glomerulonephritis pathogenesis. **Objective:** To detect the expressions of cytokines TGF-β, TNF-α and IL-1β in renal mouse tissue applying the real-time polymerase chain reaction (RT-PCR) technique. **Methods:** For the relative quantification of cytokine mRNA expression, isogenic BALB/c mice were infected with purified *L. (L.) chagasi* amastigotes (MHOM/BR/72/strain 46). Then, they were sacrificed at 7 and 15 days post-infection and the kidneys were removed for total RNA purification. Samples were homogenized in TRIZOL and submitted to reverse transcriptase (RT) to obtain cDNA. Real-time PCR reactions were performed with four mixtures: one primer mix was prepared for TGF-β, TNF-α and IL-1 each, respectively, while another primer mix was prepared for β-actin that served as the endogenous PCR control. The reactions were processed using the StepOne Plus apparatus (Applied Biosystems, USA). **Results:** TGF-β, TNF-α and IL-1β cytokine mRNA expressions were significantly higher in the 15-day post-infection group compared to the control and 7-day groups. **Conclusions:** All the cytokines presented significant increases in mRNA expressions 15 days post-infection, demonstrating that cytokines may act in the disease pathogenesis during longer infection times.

Key words: immunocomplexes, renal changes, *Leishmania chagasi*, Real-Time PCR.

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High grade oral squamous cell carcinoma with invasion to nasal turbinates and brain in african pygmy hedgehog (*Atelerix albiventris*)

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Background: Oral tumors in African pygmy hedgehog (*Atelerix albiventris*) are commonly reported, being squamous cell carcinoma (SCC) the most commonly diagnosed, with prevalence rates as high as 81%. In African hedgehog, SCC is highly aggressive and invasive, causing facial deformities. **Case report:** A three-year-old male African pygmy hedgehog was submitted for necropsy to the Veterinary Pathology lab at Universidad Mayor. The animal had a previous history of unilateral exophthalmia, with posterior enucleation (three months prior to necropsy submission). A smooth, pale pink, mass that extended from the second premolar to the oropharyngeal region was observed. The mass measured 1.0 cm x 0.1 cm x 1.0 cm, therefore, the entire head was decalcified with nitric acid 5% and a sagittal cut was done, followed by H&E coloration in the microscopic slides. No other lesions in the rest of the body were observed. **Results:** Grossly, the mass extended posteriorly to the sagittal cut from the palate and nasal turbinates. Microscopically, the neoplastic cells extended to the palatine epithelium, mucinous acini, nasal turbinate (cartilage and osseous portion), skeletal muscles (masseters, pterygoid and temporal) and brain. The predominant cells had marked pleomorphism, lumpy chromatin, evident single to multiple nucleoli, eosinophilic cytoplasm. They werearranged in cords and nest that occasionally formed keratin pearls (0-5%) and had low numbers of mitotic figures. **Conclusions:** While high grade SCC are commonly reported in this species, there are no previous reports with this distribution of invasion. The underreports could be due the fail to evaluate the section head sagittaly in cases were the palate is affected.

Key words: neoplasm, necropsy, SCC.

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Total amputation of auricular pavilion due to high degree mast cell tumor in a dog

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Background: Cutaneous mast cell tumors (MCT) are the most reported neoplasms in dogs, with a prevalence of 7-21%. Their graduation is carried out through a scale of 2 degrees (Low-high) fundamental for the choice of treatment and the patient's prognosis, corresponding 9.48% to high grade MCT. **Case Report:** Canine, mixed, 13 years old, admitted to the Teaching Veterinary Clinical Hospital of Universidad Mayor, with decay and abscessive injury and fistula on the skin and in the muscles of the right cervical region. Clinically, a mass of 5 x 7 x 3 cm was observed in the external auricular pavilion, performing incisional biopsy. 3 weeks later, the patient presented an exponential exophytic increase of ulcerative, pruritic, erythematous and circumscribed lesion in the auricular pavilion (20 x 15 x 7 cm) compromising about 80% of the internal and external auricular pavilion; an excisional biopsy was performed with 2-3 cm margins. Another cervical skin lesion of 5 x 7 x 4 cm was presented, extracted with wide margins. These samples were sent to the Veterinary Pathology Laboratory of the Universidad Mayor, for histopathological analysis. **Results:** Histopathology revealed high cellularity, marked anisokariosis, rounded polygonal cells, multinucleations, poor metachromatic granulations to Toluidine blue, high positivity in nucleolar organizer regions to the AgNOR silver technique, high mitotic count and diffuse eosinophilic aggregates. The auricular pavilion lesion had ulcerated epidermis and neutrophilic dermatitis, with bacterial content, together along with a reparative process. The edges of the lesion were highly invaded by neoplastic cells, so the total auricle amputation was performed. **Conclusions:** High-grade MCTs are characterized by a poor prognosis, risk of metastasis and a decrease in the life expectancy of the patient; only 6% of cases have a survival of more than 1500 days. In this case, the patient evolved favorably one month after the surgery.

Key words: neoplasm, AgNOR, toluidine blue.

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Sebaceous tumors in dogs

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Background: Tumors originated from the sebaceous glands frequently affect canine species, being represented by sebaceous hyperplasia, sebaceous adenoma, sebaceous epithelioma and sebaceous carcinoma. **Objective:** To analyze the frequency of cases of sebaceous neoplasms in dogs from Veterinary Pathology Anatomy Laboratory/UFF - Niterói, from 2014 to 2018. All the procedures were carried out under license from CEUA 4744180518 of the Federal Fluminense University, Rio de Janeiro. **Methods:** The cases diagnosed by the Laboratory of Veterinary Pathology/UFF – Niteroi, through histopathological evaluation were analyzed according to 6 variables: types of sebaceous tumors, presence of a single nodule, presence of multiple nodules with equal diagnosis, multiple nodules with different sebaceous diagnoses, sex and age. The analyzes were carried out with support of Excel® and Bioestat® software version 5.3. **Results:** In a total of 65 animals, 38 (58.5%) were females and 27 (41.5%) males and the mean age was 11.2 years. In these animals, 38 (58.4%) had only one nodule of sebaceous origin and 27 (41.5%) had multiple sebaceous nodules. Of these 27 animals, a total of 13 (48.4%) had different sebaceous diagnoses (hyperplasia, epithelioma, adenoma, carcinoma sebaceous) and 14 (51.6%) animals showed the same diagnosis, with multiple nodules of sebaceous hyperplasia. 136 nodules were analyzed, 81 (59,5%) of those represent sebaceous hyperplasia, 35 (25.8%) sebaceous adenoma, 12 (8.8%) sebaceous epithelioma, and only 8 (5,9%) sebaceous carcinoma. **Conclusions:** The difference between the animals' sex was statistically small, however, females were more frequently affected by sebaceous tumors. The age range of the affected animals were senile, older than 10 years. Among the animals that presented multiple sebaceous tumors, more than 50% had the same diagnosis of sebaceous hyperplasia. Most sebaceous tumors are benign.

Key words: skin, nodules, cutaneous attachments.

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Comparison of cytophatological exam and use of the immunocytochemistry protocol in the diagnosis of canine visceral leishmaniasis

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Background: Canine visceral leishmaniasis (CVL) is a zoonotic disease caused by protozoa and whose diagnosis can be accomplished through serological, molecular or parasitology examinations, which can associate markup techniques immunocytochemistry (ICC) to increase diagnostic accuracy. **Objective:** Evaluation of the immunocytochemistry effectiveness as a complementary method to the cytological exam for the CVL diagnosis. **Methods:** Cytopathological exam was performed with sprains of the bone marrow, skin and popliteal lymph node collected from 20 animals and Romanowsky staining was performed. Samples from the same tissues were harvested on slides silanized for ICC. These slides were fixed in methanol for 3 minutes and washed at the same time. The peroxidase blocking was performed by incubation in methyl alcohol solution and hydrogen peroxide and antigenic recovery was carried out with 10 mM sodium citrate buffer, pH6.0 for 6 minutes in microwave. Non-specific proteins were blocked with skimmed-milk powder (10%), Molico® for 55 minutes. Primary Polyclonal Antibody anti-leishmania 1:400 was used and incubated in moist and dark chamber to 37° C for 2 hours. Universal secondary antibody was DakoEnVision®, for 30 minutes and for revelation chromogen VECTOR®NovaRED was used for 6 minutes. The slides were rinsed in deionized water, counterstained with Harris Hematoxylin for 3 seconds, rinsed in deionized water and dried in an oven, dipped in xylene and assembled with cover slipping and Entellan®. **Results:** In bone marrow the number of positive animals was 15% high erusing ICC technique than with cytopathological exam and this increase in lymph node was 20%. There were no significant results on the skin. **Conclusion:** By using the ICC, employing the technique of fixation with methanol, which is fast and affordable, there was a considerable increase in the number of positives in relation to the cytopathological, proving to be an important ally for the diagnosis of CVL.

Key words: protozoan, zoonosis, parasitological diagnosis.

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Animal abuse associated with aspiration pneumonia in collared anteater (*Tamandua tetradactyla*): case report

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Background. In Brazil cases involving animal abuse are reported daily, although such practice is a crime. **Case report.** A female anteater was treated at the Veterinary Hospitals of UNINTA, in Sobral/CE. The animal had been beaten by blows with hard objects. The anteater was 2.4 kg, apathetic, prostrate and ataxic, had a cut in the labial region and some ticks. It was treated with mannitol and corticosteroids, showing improvement in general condition in the first six hours. After 16 hours, it began to present hypothermia and hypoglycaemia, so an orogastric tube feeding with Karo diluted in saline was attempted, but the swallowing reflex was reduced. Although the care the anteater presented respiratory complications and evolved to death. **Results.** In the necropsy, diffuse, intense cyanosis of the tongue and mucosas and epistaxis were found. Edema and hemorrhage in the radioulnar region, bilaterally. Bruise in the subcutaneous and musculature in the region of ment and of the parietal and occipital bones of the skull. Brain with extensive subdural hematoma, intense, in the region of the parietal, occipital lobes and in the cerebellum. Subconjunctival, diffuse, intense hematoma. Lung with multifocal to coalescent red-black, with edges and multifocal areas in the pale rosy parenchyma. It had in the small intestine of the species *Gigantorhynchus echinodiscus*. The histology was observed in the lung hyperemia, hemorrhage and edema multifocal coalescent intense associated with the presence of yellow-gold material and alveolar macrophages in the alveolar lumen. Alveolar and subpleural emphysema multifocal, moderate. Necrosis and loss of purkinje neurons multifocal, discrete, adjacent to leptomeninges hemorrhage focally extensive, intense. **Conclusions.** The traumas inflicted on the anteater resulted in a severe neurological injury that reduced the animal's reflexes which resulted in acute aspiration pneumonia and respiratory failure leading to death.

Key words: environmental crime law, expertise, necropsy, wild animals.

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Diprosopus, patent ductus arteriosus and foramen ovale in a dutch calf related to *in vitro* fertilization

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Background. *In vitro* fertilization (**IVF**) in cattle has gained worldwide interest in recent years, but the efficiency of using IVF embryos for calf production is far from optimal. A study showed that only 27% of the cows that received IVF embryos would produce a live calf. **Case Report**. In a Farm in the country of Ceará, Brazil, where only IVF is used for reproduction a two-headed calf was born. It had not fed, not been standing and remained in lateral decubitus since birth, the medial eyes did not respond to stimuli and the lateral ones presented nystagmus. It was a case of diprosopus and was euthanized. **Results**. The calf exhibited two heads joined at the level of an anomalous medial occipital bone, four eyes, and the central ones had no reflection and were opaque and the lenses were pigmented. Two brains, each with two morphologically normal hemispheres. The brainstem was only normal on the right side, the left side had morphological changes, both joined in the pyramid region and followed with only one medulla oblong. The occipital condyle was morphologically abnormal and just one foramen magnum. The vertebral column was single. Two nasopharyngeal and oropharyngeal cavities converged caudally into a single laryngopharynx. The esophagus, larynx and trachea were single. Tongue duplication was present. Patent ductus arteriosus and foramen ovale, was observed in the heart, without changing the thickness of the cardiac chamber. Facial duplication has been associated with IVF and other congenital abnormalities, including cleft lip and palate, and cardiac defects, particularly ventricular septal defects. **Conclusions**. Diprosopus rarely occurs in domestic animals, malformations in neonates often cause obstetrical problems with subsequent risks of females, have negative impacts on maternal reproduction, often require surgical treatment, and economic losses.

Key words: congenital malformations, dicefalia, IVF, cardiac malformation.

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Perforating duodenal ulcer in maned-wolf

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Background: Ulcers in the digestive system are considered rare and only a few cases have been described in the literature. The most common location is in the upper duodenum and the stomach pyloric region. The occurrence of peritonitis and adhesions related with ulcers have been described by some authors. **Case Report**: A male maned-wolf (*Chrysocyon brachyurus*) was rescued by the Environmental Police in Serra da Canastra region, located in the Araxá County. The maned-wolf was sent to the Veterinarian Hospital of Uberaba where it showed progressive weight loss and extremely debilitated stage, evolving to death. **Results**: The necropsy examination revealed the presence of bloody fluid in the thoracic cavity and blood in the abdominal cavity, solution of continuity of a left limb injury extending to the abdomen, pulmonary emphysema, pale and enlarged kidneys, pale pancreas, nutmeg liver, presence of perforating ulcer in the duodenal region, hemorrhagic enteritis and bilateral testicular hypoplasia. **Conclusions**: Based on the necropsy findings, the final diagnosis of perforating duodenal ulcer was established, which caused peritonitis and septic shock, leading to the animal's death.

Key words: ulceration, small intestine, perforation

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Mucocutaneous leishmaniasis in *Cavia porcellus*

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Background: Leishmaniasis is a disease caused by intracellular protozoa of the genus *Leishmania*. Transmission occurs when the infected vector female Phlebotominae of the genus *Lutzomyia*, feeds on the vertebrate blood. Leishmaniasis is present in about 98 countries and represents a growing public health problem. The epidemiological and clinical presentation varies according to the specific species of *Leishmania*. Studies in Latin America have acknowledged the presence of 20 species of *Leishmania* able of affectseveral species, including human. One of them is the *L. enrietti*, discovered in Brazil in 1946, causing mucocutaneous leishmaniasis in the species *Cavia porcellus*, without zoonotic potential. **Case Report**: Seven animals of the species *Cavia porcellus,* from the same property, created as pets in the city of Viamão, Rio Grande do Sul-Brazil, spontaneously presented ulcerated, crusted and bloody skin lesions, in the pinna, nasal cavity, vulva, and members of the periarticular region. Five animals died and were submitted to necropsy. The sixth animal showed lesions in the pinna and the seventh in the nasal cavity, pinna, and members. The lesions in the animal seven regressed spontaneously. **Results**: The macroscopic findings of the necropsy of the five animals were skin hyperkeratosis, only one of them presented lung lesions with bronchointerstitial neutrophilic, eosinophilic, diffuse histiocytic, moderate pneumonia, with a focal area containing parasitic amastigote. The lesions cytological exam in one guinea pig had macrophages containing parasitophorous vacuoles with morphology suggestive of amastigote of *Leishmania*. For this reason PCR was performed (mini-exon primer), from skin samples of two other animals, *Leishmania enrietti spp* was identified. **Conclusions**: Although it is characterized as mucocutaneous, *L. enrietti* can affect other organs such as the lungs. One of these animals presented spontaneous regression of the ulcerated lesions, period of three months until the total healing. These features should be studied.

Key words: L*eishmania*, *enrietti*, guinea pig.

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A case report of nasal canine transmissible venereal tumor with maxillary bone destruction

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Background: Canine transmissible venereal tumor (TVT) is a round cell neoplasm with widespread distribution, particularly in regions with tropical and subtropical climates. The most affected site for this tumor is the external genitalia of both sexes but extragenital involvement is observed following social behavior including sniffing, licking or scratching **Case Report:** A 8-year-old, 12 kg, sexually intact, male, cross-breed dog was admitted to the Veterinary Hospital of the State university of *Northern* Rio de Janeiro (UENF) in Campos dos Goytacazes. The animal had history of 60 days of bilateral epistaxis, sneezing, incrised volume in the right and left infraorbital region and bilateral infraorbitary fistula. Physical examination revealed a mild hard swelling at the hard palate and maxillary region. The owner informed that the animal had access to the street. For diagnostic purpose first intraoral radiography was performed, under general anestesia an incision wer carried out on the hard palate to expose the tumor and imprint the mass cytology **Results:** Deformity and lysis of the maxillary bone and palatine process of the maxilla were detected by intraoral radiography. The cytology showed numerous individualized rounded cells with rounded nuclei with clumped chromatin and singular prominent nucleoli. Moderate amount of pale basophilic cytoplasm containing multiplus punctate vacuoles were observed. **Conclusions:** The maxillary bone destruction and presence of infraorbital fistula. It is a rare clinical sign related to the nasal canine transmissible venereal tumor.

Key words: TVT, infraorbital, cytology.

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Case report of two developmental roots abnormalities in white shepherd dog

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Background: Developmental tooth abnormalities in dogs are rarely reported in the literature. Short root anomaly (SRA) is described as a dental disorder affecting tooth root development, resulting in short roots with rounded apices and reduced crown to root ratios. This disorder affects teeth bilaterally with a predilection for maxillary incisors, and maxillary and mandibular premolars. The mandibular canine is usually considered a single-rooted tooth with a single root canal and two root canals in a permanent canine is a rare condition. **Case Report:** A 3-year-old, 40 kg, sexually intact, female, white Shepherd dog was admitted to the Veterinary Hospital of the State university of *Northern* Rio de Janeiro (UENF) in Campos dos Goytacazes. The owners said that the dog was losing its permanent teeth. During intraoral examination no morphological changes were observed in the crown and enamel. For diagnostic prurpose full-mouth radiography was performed under general anestesia. **Results:** The examination of the intraoral radiographs showed the presence of short root anomaly for the first, second and third inferior premolars (305, 306, 307, 406, 407) and upper premolars (108, 208) and two roots in a mandibular canine. **Conclusions:** Thorough Radiographic analysis is extremely important to identify root malformation. This consists of the first case report of this two rare malformations occuring *simultaneously*.

Key words: malformation, tooth, short root anomaly.

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Kisspeptin reverts osteophenia caused by hypothyroidism

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Background: The bone changes resulting from hypothyroidism are directly related to the low serum levels of thyroid hormones. However, since thyroid function is closely related to the control of gonadotrophin and PRL secretion, it is likely that the bone dysfunctions observed in thyroid hypofunction also result from hyperprolactinemia. Although kisspeptin is known to regulate pulsatile secretion of GnRH and kisspeptinergic neurons have receptors PRL, the effects of thyroid hormones on central/peripheral expression of kisspeptin remain unknown. Thus, it is possible that the bone dysfunctions observed in hypothyroidism result from reduction of the hypothalamic and/or peripheral kisspeptin caused by hyperprolactinemia. **Objective**: To study the therapeutic potential of Kisspeptin in the reversal of osteopenia due to hypothyroidism. **Methods:** Adult Wistar rats were divided into groups: control (euthyroid), hypothyroid, hypothyroid treated with kisspeptin. Hypothyroidism was induced by oral administration of propylthiouracil (1mg/rat). The animals were sacrificed after 3 months of treatment for histomorphometric analysis of trabecular bone (femur and lumbar vertebrae), and epiphyseal cartilage (femurs). **Results:** The hypothyroid group presented significant reduction in the number of bone trabeculae in the femurs and lumbar vertebrae in relation to the control group. In addition, we found thinner and disconnected trabeculae with less osteoblastic coverage. The epiphyseal cartilage was thinner and the hypertrophic zone was reduced. The hypothyroid group treated with kisspeptin compared to the group hypothyroid showed significant increase in the number of bone trabeculae, with greater thickness and osteoblastic coverage, as well as a thicker epiphyseal cartilage with a greater hypertrophic zone, which justifies greater bone formation, similar to control. In the vertebrae, the group treated with Kisspeptin had more trabecular bone than the control group. **Conclusions:** It is concluded that the treatment with kisspeptin is capable of reversing the osteopenia that is caused by the reduction of the thyroid hormones.

Key words: bone mass, neuropeptide, endocrine dysfunction.

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Cor pulmonale in *Aelurostrongylus abstrusus* pneumonia in feline

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Background: *Cor Pulmonale* is the term that refers to the right ventricular enlargement (dilatation/hypertrophy) secondary to pulmonary, thoracic or respiratory control abnormalities. The disease may manifest acutely or chronically. Verminotic thromboembolism pneumonia is one of the main causes of *Cor pulmonale* in companion animals. **Case Report:** Feline, female, SRD, presented in the clinic a degree of blindness and pyometra, died after a surgical procedure of ovariohysterectomy. At necropsy examination, petechiae and multifocal areas of whitish color were observed on the surface of the pulmonary parenchyma, mild hydropericardium and right ventricular dilation, ascites, mild hepatomegaly, and hepatic and renal congestion were seen. **Results:** Histopathological examination revealed numerous evolutionary forms of the *Aelurostrongylus abstrusus* nematode multifocal in pulmonary parenchyma, associated with hemorrhage and inflammatory infiltrate of polymorphonuclear and mononuclear moderate, multifocal cells. In the kidney, necrosis and degeneration of tubule groups, multifocal, moderate glomerulosclerosis, multifocal and congestion of vessels and mild, multifocal mononuclear inflammatory infiltrate were observed. In the myocardium a light multifocal inflammatory infiltrate of macrophages, lymphocytes and eosinophils was observed. In the liver there was central-lobular hepatocytes necrosis associated with moderate, multifocal sinusoid congestion. **Conclusions:** Pulmonary hypertension caused by verminotic pneumonia led to the development of alterations such as *Cor pulmonale*, with dilation of the right heart ventricular chamber, hydropericardium, ascites, hepatomegaly and hepatic and renal congestion. These lesions are characteristic of the congestive heart failure, in this case secondary to pneumopathy.

Key words: right ventricular dilatation, pulmonary hypertension, verminotic thromboembolism, histopathology.

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Malignant histiocytoma diagnosed in a canine

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Background: Malignant histiocytoma is determined as a rare cutaneous neoplasm of histiocytic origin. In canines the histiocytoma has been reported benign and malignant with a fibrous character in dogs, there are reports in cattle, horses, humans and felines with lower rate of appearance. Histiocytoma has a higher incidence for young dogs less than two years old and their ability to express themselves diminishes from the age of three years, but the animal is still susceptible of manifestation. **Case Report**: A 3-years-old mongrel male canine weighing 7.5 kg with a history of local alopecia and itching at the site of the nodule appearance that was located in the near right mammary gland with proportions of 2.7 x 0.5 cm, was characterized as non-firm, non-adherent, allopathic, non-ulcerated, whitish with blackened areas. The clinical differential diagnosis possibly included mastocytoma and plasmacytoma. After the blood and physical examinations, the animal was referred to surgery procedure at the nodule site. **Results**: Histopathological examination showed densely cellular tissue, round cells, infiltrative character and derived from the Langherans cell line. Neoplastic cells had scarce vacuolated cytoplasm, central and hyperchromatic round nucleus, necrosis, neovascularization, inflammatory process, anisocytosis and moderate anisocariasis. **Conclusions**: To identify the origin of neoplastic cells, it is necessary fundamental to close the diagnosis and in the case of histiocytoma the histopathological examination and cytological analysis are were fundamental for the identification of this such unusual pathology.

Key words: alopecia, itching, Langherans, neoplasm.

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Multicentric lymphoma in blue-fronted amazon parrot (*Amazona aestiva aestiva*)

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Background: Lymphoma is the most common hematolymphoid neoplasia in birds, although the reports are scarce when compared to mammalian domestic animals. This disease affects mainly Passeriformes and Psittaciformes, without viral influence. **Case Report:** A Blue-fronted Amazon parrot (*Amazona aestiva aestiva*) of unknown age, male, and weighing 0.2 kg presented an ulcerated, well-vascularized, with intermittent hemorrhage, dark, palatine nodule measuring 3.0 x 1.7 cm, a subpalpebral nodule into the lower right eyelid (1.0 cm in diameter), intense dyspnea, sinusitis, and third eyelid blepharitis. The animal died one month after veterinary consultation. **Results:** The hemogram revealed hypochromic normocytic anemia (PCV 24%; MCV 143fL e MCHC 24.2%) and leukocytosis with heterophilia, monocytosis, and eosinophilia (13.9 10^3/µL, 2.2 10^3/µL e 1.7 10^3/µL). The cytopathological examination demonstrated moderate cellularity of neoplastic round cells showing moderate pleomorphism, anisokaryosis and anisocytosis, karyomegaly, binucleation, macronucleolus, and atypical mitotic figures. Necropsy findings consisted of multiples red to dark, firm nodules varying from 0.3 to 2.0 cm in the tongue, palate, trachea, brachial plexus and cloaca. Histomorphological examination revealed a poor-delimited proliferation of neoplastic round cells arranged in sheets enmeshed in fibrocollagenous stroma. There was a bone invasion, 13 mitotic figures in 10 high power fields (400x magnification) and similar criteria of malignancy to the cytopathological examination were seen. **Conclusions:** Only a few reports of multicentric lymphoma affecting the oral cavity are available on the literature, as well as anemia and cachexia a possible paraneoplastic syndrome. Therefore, reporting this case becomes relevant and aids better comprehension of this condition.

Key words: birds, Psittaciformes, neoplasia, cytology, histopathology.

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Detection of *Kudoa* spp. in fish fillets caught in para state

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Background: The genus *Kudoa* is a myxozoan of Multivalvulida order and Kudoidae family. Until now 63 species of this protozoan were described in fish species. This parasite is well described in the seafood musculature, causing myoliquefaction or cyst formation, which can depreciate the product, leading to economic losses. **Objective:** Due to not to report and impact evaluation in the fish fillets with *Kudoa* from Para state, this study aimed to describe lesions by necropsy and histopathology. **Methods:** Eighty-five fishes of the following species were randomly sampled through net fishing: *Brachyplatystoma filamentosum* (n=22), *Brachyplatystoma rousseauxii* (n=20), *Mugil curema* (n=13), *Plagioscion squamosissimus* (n=10), and *Oxydoras niger* (n=20) from Colares and Vigia, Pará, Brazil. After caught, fish necropsies were carried out to observe macroscopic lesions and sampling of the muscle fragments for histopathology due to the high occurrence of *Kudoa* spp. in this tissue. For this purpose, a 1-cm³ of muscle portion was fixed in 10% neutral buffered formalin followed by processing using standard histological techniques and embedded in paraffin. Hematoxylin and eosin were used for staining. **Results:** Necropsy examination revealed lesions in multiple-organs, as hemorrhage, increase in the organ size, and necrosis. Despite gross muscles injury was not observed, bacterium colonies, coagulative necrosis, dystrophic calcification, eosinophils, hemorrhage, parasites cysts, protozoan, and vacuolization were confirmed by histopathology. The most common alterations were coagulative necrosis, hemorrhage, and protozoan presence. **Conclusions:** With this study, it was concluded that *Brachyplatystoma filamentosum*, *Brachyplatystoma rousseauxii*, *Mugil curema*, *Plagioscion squamosissimus*, and *Oxydoras niger* were highly parasitized by *Kudoa* spp. With this, surveillance of this parasite is crucial in those fishes to decrease the economic loss.

Key words: Kudoidae, seafood, economic loss, histopathology.

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Systemic cryptococcosis in a feline

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Background: Cryptococcosis is an infectious disease caused by the fungus Cryptococcus spp., which affects several animal species, especially felines. In cats, the most common form is the nasal cavity infection, but it can cause cutaneous, respiratory, ocular and neurological signs. **Case Report:** The animal was attended for the first time at the Veterinary Hospital of UFSM 15 days ago with a history of respiratory disease. Previous treatment with corticosteroid was performed; later on prednisolone and doxycycline were used, without success. There was an increase in volume in the left ventral cervical region. Last week it had head tilt and anorexia for 3 days. Due to the worsening of the clinical signs, the owner opted for euthanasia. **Results:** At necropsy, an increase in volume was observed in the ventral cervical region (compatible with the retropharyngeal and right deep cervical lymph nodes), the lung was diffusely reddish with whitish multifocal spots; the larynx had a whitish mass; the nasal cavity, frontal sinuses and the brain leptomeninges had a gelatinous and slightly yellowish content. In histology, yeasts varying from 2 to 20 μm in diameter, with eosinophilic center surrounded by a colorless halo, morphologically compatible with *Cryptococcus* sp. were observed in the lungs, frontal sinuses, lymph nodes (retropharyngeal and right deep cervical), larynx, thyroids and in the meninges of cerebral cortex and cerebellum. To confirm the diagnosis, histochemical staining of Schiff's Periodic Acid (PAS) and Grocott were performed, allowing the yeast cell morphology to be observed, and of Alcian Blue, which stained the mucopolysaccharide capsule. **Conclusions:** Based on the histological and histochemical findings the diagnosis was confirmed as systemic cryptococcosis. Although this animal had the presence of the agent through several organs, it had no lesion on the skin or in the nostrils.

Key words: fungal disease, fungal rhinitis, fungal meningoencephalitis.

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Neoplastic alterations in wildlife animals attended at the Veterinary Hospital of Uberlândia Federal University

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Background: The increase of wildlife animals adoption as pets and their closeness to human beings has resulted in a raise of case numbers of neoplasia diagnosed in those animals. However, systematized studies about the principal neoplasms of wildlife animals in Brazil are still scarce. **Objective:** Verify the histological type and the frequency of neoplasia diagnosed in wildlife animals at the Veterinary Hospital of Uberlândia Federal University (HV-UFU). **Methods:** A retrospective study was performed at the archives of Animal Pathology Laboratory of HV-UFU, between the years of 2011 and 2016, and cases of neoplasia in wildlife animals were selected. The animals were grouped according to the species and the neoplasias were grouped according to their behavior and histologic classification. **Results:** 208 histopathological protocols were selected from wildlife animals. From these, 39% corresponded to inflammatory processes, 21.1% to neoplastic processes, 19.8% to degenerative processes, 17.3% to circulatory processes, 2.4% were inconclusive, and 0.49% received different diagnoses. 39 protocols of neoplasia were selected. Twenty animals were mammals, 8 were reptile and 11 were birds. Fifteen animals (38.46%) had benign neoplasia and 23 (61.54%) had the malign counterpart (Graphic 1). Among the mammals, the neoplasias were more diagnosed in rodents (80%) (Graphic 2). Lipoma was the most frequent histological type (45.5%). Snakes were the most frequent reptiles (75%) and among them, 67% of the neoplasias were malignant and the majority was of mesenchymal origin (87.5%) (Graphic 4). Among the birds, the mensenchymal neoplasias were also the majority (91%) (Graphic 3). **Conclusions:** Cutaneous neoplasias are the most diagnosed neoplasia in wildlife animals. The frequency of malignant neoplasms in wildlife animals is high, as well as mesenchymal origin tumors.

Key words: wildlife, cancer, diagnosis.

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Mammary carcinoma in female rabbit (*Oryctolagus cuniculus*)

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Background: Mammary carcinoma is a common neoplasm in dogs, however its occurrence in rabbits is rare. **Case report:** A 6-year-old female rabbit showing diffuse swelling of the mammary glands was referred to the Veterinary Hospital of Uberlândia Federal University. The tutor reported that the animal had pseudocyesis 4 years ago and since then it showed recurrent mastitis. The rabbit underwent through radical mastectomy, the mammary glands were inspected and tissue samples were collected for histopathology. Macroscopically, all glands were swollen. The right mammary chain showed smooth surface and at cut section it flowed a light-brown creamy material. The caudal thoracic left mammary gland presented a soft and smooth nodule measuring 1.5 cm of diameter, and the inguinal left mammary gland was firm and contained innumerous centimetric coalescing nodules. **Results:** Microscopically the swollen glands showed dilated ducts filled with eosinophilic material and mild lymphoplasmacytic infiltrate, implying in hyperplasia with secretory activity and lymphoplasmacytic mastitis. From the mammary glands that showed nodules it was noticed proliferation of epithelial cells forming tubules. The cells presented moderate amount of cytoplasm, oval and centralized nucleus, with prominent nucleoli and pronounced pleomorphism. No mitotic activity was seen. Based on the histopathological features the diagnostic of mammary carcinoma was established. **Conclusion:** Mammary tumors in rabbits are rare, however they can show high malignancy and should be considered as a differential diagnosis for mastitis.

Key words: cancer, exotic pet, mammary neoplasm.

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Main pathological changes in brown-booby (*Sula leucogaster*) in the central-south coast of São Paulo, Brazil

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Background: The brown-booby (*Sula leucogaster)*, inhabits the Caribbean and tropical islands of the Atlantic Ocean. The species is commonly sighted on the seashore, foraging shallow coastal waters. They usually fly over the water surface, when they are subjected to interaction with anthropic activities, such as fishing. Seabirds are generally found on beaches with nonspecific pictures of weakness. **Objective:** The objective of this study was to perform a retrospective study of the alterations found in the clinical examination, necropsy and histopathological analysis of *Sula leucogaster*, on the south-central coast of São Paulo. **Methods:** The animals were rescued on the strand by the Biopesca Institute in the cities of Praia Grande, Mongaguá, Itanhaém and Peruíbe from May 2018 to February 2019 during one of the monitoring programs required by the Brazilian federal environmental agency, IBAMA, for the environmental licensing process of the oil production and transport by Petrobras at the Santos Basin pre-salt province. **Results:** During admission clinical examination, 19 individuals were evaluated: 1) level of consciousness: alert (73.69%), depression (15.79%) or in shock (10.52%); 2) body score: skinny (47.37%), good (31.58%) or cachectic (21.05%); and 3) 26.31% of the animals presented hypothermia. From the total, 15 animals died within 36 days and a necroscopic examination was performed, alterations in the digestive, respiratory, cardiovascular and musculoskeletal systems with different degrees of severity were evidenced. The histopathological examination showed the systems with the greatest number of alterations were cardiovascular and digestive (60% each), endocrine (33.33%), respiratory and urinary systems (26.67% each) and musculoskeletal system (20%). **Conclusions:** The majority of *Sula leucogaster* rescued for treatment and rehabilitation presented bad body score, with high relation to alterations in the digestive, cardiovascular and respiratory systems, which determines a bad prognosis.

Key words: Sulidae, seabirds, histopathological.

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Cirrhosis in a parrot: Macroscopic and histopathological findings

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Background: Cirrhosis is characterized by the replacement of the hepatic parenchyma by fibrous connective tissue, modifying the lobes normal architecture. This could result in loss of cell function and portal hypertension. This disease is irreversible and can occur in parrots, cockatiel, macaws and Australian parakeets. Cirrhosis is mainly caused by aflatoxin intoxication. This mycotoxin is produced by *Aspergillus flavus* and *A. parasiticus*, which are commonly found in grains and seeds, such as peanuts, sunflowers and corn. Other causes are hepatic neoplasms and chronic hepatitis. **Case Report:** A 14-year-old captive parrot died and was necropsied. The bird was fed with an unbalanced diet that included sunflower seeds, peanuts and corn, along with fruits. **Results:** Macroscopically, the parrot was in good body condition. The liver was markedly enlarged with rounded edges. On the cut surface, there were multifocal to coalescing firm and white areas interspersed by well-defined white nodules. Microscopically, approximately 80% of hepatic parenchyma was replaced by fibrous connective tissue associated with marked bile duct hyperplasia and mild multifocal lymphoplasmacytic inflammatory infiltrate. There are multifocal regenerative nodules characterized by hepatic cells with wide eosinophilic and/or vacuolated cytoplasm and karyomegaly. These areas were surrounded by fibrosis. In the regenerative nodules there were moderate multifocal lymphocytic and heterophilic inflammatory infiltrate and hemosiderosis. **Conclusions:** A marked multifocal to coalescing fibrosis associated with regenerative nodules are characteristic of hepatic cirrhosis in this bird. According to the macroscopic and histopathologic findings, the lesions found are due to chronic injury possibly caused by nutrition imbalance or mycotoxins in the feed.

Key words: hepatic fibrosis, chronic injury, regeneration, Psittacidae.

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Correlation between IL-5 immunostaining and eosinophil count in canine mast cell tumors

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Background: Mast cells contain secretory granules that release various substances into the bloodstream. Their neoplastic proliferation, the mastocytoma occurs in the dermis and subcutaneous tissue and comprises from 7 to 21% of all dogs' cutaneous neoplasms. Interleukin-5 (IL-5) is produced by Th2 CD4 cells, mast cells, eosinophils and basophils, and is involved in several aspects of eosinophil biology. However, there is no consensus on the main eosinophil recruitment mechanism, which can occur by several mediators, including IL-3, IL-5, GM-CSF and PAF. **Objective:** To evaluate e the possible correlation between IL-5 production and eosinophil count in canine mast cell tumors. **Methods:** Thirty-one samples of canine mast cell tumors sent to the Veterinary Histopathology Laboratory located at the Veterinary Clinic School of the Pontifical Catholic University of Paraná (CVE-PUCPR) were processed through routine histological technique for H&E staining and viewed on light microscopy. Then, the slides were digitalized with the Axio Scan Z1 scanner (Carl Zeiss). With Zen 2.3 (Carl Zeiss, 2011) program an area was defined in which eosinophil counts were performed being the results expressed in number of cells per area. The same samples were submitted to immunohistochemistry using IL-5 polyclonal antibody, then the slides were digitalized and analysed with Image-Pro Plus 4 (Media Cybernetics Inc, 2001) program to calculate the percentage of immunostained areas for each sample. **Results:** The mean found for eosinophil count was $27x10^{-3}$cells/µ², and 2.8% for IL-5 immunostained area. There is a significant and positive correlation between the number of eosinophils and IL-5 ($p = 0.4428$) in the mast cell tumor samples analysed. **Conclusions:** This study shows that the higher the IL-5 production is the greater the recruitment of eosinophils will be in mast cell tumors samples. These data may aid in future research on the prognosis related to canine mast cells tumors.

Key words: cytokine, neoplasia, immunohistochemistry.

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Comparison of canine mastocytoma degrees by using the hematoxylin-eosin and toluidine blue staining techniques

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Background: Mast cells which arise from precursors in the bone marrow, are recognized in tissues by their cytoplasm metachromatic granules and their neoplastic proliferation is called mastocytoma. The vast majority of mastocytomas occurs in the dermis and subcutaneous tissue and comprises from 7 to 21% of all dogs 'cutaneous neoplasms. **Objective:** To compare the canine cutaneous mastocytoma (MCC) degrees stained by both Hematoxylin-Eosin (H-E) and Toluidine Blue (TB). **Methods:** Forty-three cases of MCC diagnosed at Clínica Veterinária Escola – PUCPR were selected and processed according to routine histological technique. The paraffin-embedded samples were stained by the H-E and TB techniques and graded at light microscopy according to the Patnaik (P) and Kiupel (K) systems. **Results:** Positively, H-E stained samples revealed 58.3% of MCC grade I (P), 33.3% grade II (P), 8.3% grade III (P), 75% low grade (K) and 25% high grade (K). The same samples, when stained by the TB technique, revealed 66.7% of MCC grade I (P), 33.3% grade II (P), 0% grade III (P), 91.7% low grade (K) and 8.3% high grade (K). All MCC grade I (P) were low grade (K), all grade III (P) were high grade (K) and most of grade II (P) were low grade (K). **Conclusions:** The results of this study highlight the importance to evaluate the MCC histological grade by the H-E staining, with the support of TB technique, which allows to observe a significant difference among neoplastic cells with different undifferentiation degrees, crucial parameter in determining the MCC prognosis and choice of treatment by the clinician.

Key words: mast cells, neoplasm, dye, comparison.

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Gastrointestinal pythiosis with chronic anemia in a dog

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Background: Pythiosis is a progressive granulomatous disease caused by *Pythium insidiosum*. Dogs are the second most affected species, and the most common clinical presentation is gastrointestinal. It is characterized by granulomatous masses affecting the esophageal, gastric and/or intestinal mucosa. Dogs are infected by ingesting contaminated water. **Case Report:** A 7-year-old, male, mongrel dog was sent for necropsy with a clinical history of nonregenerative anemia and leukocytosis, with no response to different treatments performed by different clinicians. The dog was admitted to the emergency room with cardiorespiratory arrest. It was euthanized after the second cardiac arrest. **Results:** At necropsy, the dog was in bad body condition and had pale mucous membranes. There were 400 ml of free fibrinous exsudate inside the abdominal cavity (peritonitis). A 33x9x5cm mass was found affecting the antro-pyloric region of the stomach and part of the duodenum. In the gastric region, the mass was firm and the cut surface was whitish with yellowish areas. The duodenal mass was brownish. At the beginning of the duodenum, there were mucosal perforated ulcers that communicated the intestinal lumen with a cystic fluctuating and partially perforated serosal cavitation that held blood clot, pus and fibrin in its interior. The pancreas was small and firm. On histopathology, the mass and the pancreas were infiltrated by epithelioid macrophages and multinucleated giant cells that contained negative images of intact and degenerate hyphae. Grocott methenamine silver stain (GMS) and Immunohistochemistry (IHC) with anti-*P. insidiosum* antibody were used for better visualization and confirmation of the etiological agent, respectively. **Conclusions:** The chronic anemia of this dog was a consequence of chronic blood loss caused by duodenal ulcers induced by pythiosis. Fecal examination and ultrasound would be useful tools in the investigation of the source of the anemia of this dog.

Key words: hyphae, canine, granulomatous inflammation.

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Aplastic bone marrow in a dog with a sertoli cell tumor

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Background: The testis is the second most common anatomic site for cancer development in intact male dog, and testicular tumors account for approximately 90% of all cancers of male genitalia. Sertoli cell tumors are fairly common in retained testicles. Most dogs with Sertoli cell tumors are more than 6 years of age with a mean age of 9.5 years. One third of canine Sertoli cell tumors are associated with excess estrogen production. Dogs can present clinical signs of feminization, including bilaterally symmetric alopecia and hyperpigmentation, a pendulous prepuce, gynecomastia, atrophic penis, squamous prostate metaplasia, and/or bone marrow suppression caused by myelotoxic estrogen. **Case Report:** A 10-year-old male canine, mix breed, was presented to the hospital with a history of apathy, exercise intolerance, and increased volume in the left inguinal subcutaneous region, suggestive of ectopic testicles. **Results:** Hemograms were performed on days 0, 4 and 10 after presentation to urgent care. Each hemogram revealed normocytic normochromic anemia, leukopenia and thrombocytopenia, characteristic of pancytopenia. An ultrasound examination revealed a heterogeneous mass in the left inguinal subcutaneous region with central hypoechoic areas and slightly irregular contours. On cytological evaluation of the left testis, neoplastic cells suggestive of Sertoli cell tumor were observed. A cytologic examination of bone marrow was performed, revealing medullary aplasia. The serum estradiol level was 168.0 pg/mL. Orchiectomy was performed and the testis was sent for histopathological evaluation. The histological findings were compatible with a Sertoli cell tumor. **Conclusions:** Based on the histopathological findings, and on the elevated serum estradiol level, it was concluded that the bone marrow aplasia was caused by hyperestrogenism triggered by the Sertoli cell tumor. Prolonged exposure to high doses of endogenous estrogens may result in bone marrow suppression.

Key words: pancytopenia, estrogen, myelotoxicity.

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Canine babesiosis in a litter of belgian shepherd malinois

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Background: Canine babesiosis is a hemoprotozoan disease caused in Brazil by infection of *Babesia canis vogeli*, an apicomplexan protozoan, most often transmitted through tick bite (*Rhipicephalus sanguineus*). Immunocompetent animals most often have only a subclinical disease. However, young dogs are more likely to be clinically ill with hemolytic anemia and can be infected via placenta. **Case Report:** A 23-day-old Belgian Shepherd Malinois dog manifested apathy, anorexia, and died in less than a day. Another pup of the littermate died two days before. All the pups of the litter received anthelmintic (Pyrantel and Praziquantel) when they were 15 days old. **Results:** At necropsy, the conjunctival and oral mucosa were pale and icteric and the subcutaneous skin was diffuse and moderately icteric. The spleen was moderately increased and no blood flowed at cut; the urine was slightly deep red. The liver had a discreet accentuated lobular pattern and the gallbladder was distended. Imprint preparations from the brain, bone marrow, spleen, and liver showed many intraerythrocytic paired (two and multiples of two) and rounded organisms within erythrocytes from capillaries, compatible with *Babesia canis vogeli*. The histopathological exam showed extramedullary hematopoiesis in the liver and spleen. In the kidneys, an abundant amount of granular to globular red-brown brightly casts were observed in the cytoplasm of tubular epithelium and intratubular, mainly in the medulla. In the bladder, there was capillary distension with a large number of erythrocytes parasite by paired organisms in the submucosa. Brain and spinal cord also revealed congestion associated with large amounts of parasitized erythrocytes. **Conclusions:** The imprint preparations from the brain and bone marrow allowed to confirm the diagnosis of canine babesiosis at necropsy. The occurrence of babesiosis in three-week-old pups suggests the possibility of transplacental transmission, although the transmission most often occurs by tick bites and two weeks are sufficient for the incubation period.

Key words: Hemoprotozoa, *Babesia canis vogeli*, anemia.

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Comparison between two techniques of cells fixation on glass slides subjected to immunocytochemistry protocol in the diagnostic of Canine Visceral Leishmaniasis (CVL)

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Background: Leishmaniasis is a disease caused by protozoan that affects mammals, mostly men and dogs and the direct examination is an important disease diagnostic tool. **Objective:** The work aims to compare two fixation techniques in glass slide of biological material of dogs serum reagents for leishmaniasis and subject them to immunocytochemistry (ICC). **Methods:** Biological materials collected from bone marrow, skin and lymph node of 20 dogs serum reagents for CVL, that were fixed in methanol and paraformaldehyde. In the first technique the material was dried for 3 minutes in silanized glass slide and then stayed for 3 minutes submerged in methanol, washed and dried at room temperature. In the second technique the samples collected in 2-ml vials were added to be diluted in PBS paraformaldehyde (4%), in a proportion of one part of biological material to two of reagent and centrifuged for 10 minutes at 3000 rpm. The ICC protocol was performed on silanized, slides using polyclonal antibody. **Results:** In the slides fixed in methanol there was ICC markup in the bone marrow of 12 dogs, 6 positive dogs in the analysis of skin and lymph node. Upon setting in paraformaldehyde there was positivity in the bone marrow of 9 dogs, and in skin and lymph node of 5 dogs. The alcohol technique also presented improved visualization of cells compared to paraformaldehyde/PBS, thus facilitating the amastigotes identification. The paraformaldehyde technique, although obtained success in markup ICC, showed flaws in the spreading cellular, leading overlay and lower quality in the slide making. **Conclusions:** This study suggests that the methanol fixation technique is more efficient due to the fact that they have better amastigote marking and identification, besides being easily accessible.

Key words: leishmania, parasitic disease, dogs, bone marrow.

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Epidemiological aspects of avian botulism outbreak

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Background: Avian botulism is an emerging disease in wild and domestic birds caused by botulinum toxin ingestion produced by *Clostridium botulinum*. Animal develops a flaccid paralysis, reported in chickens (*Gallus gallus domesticus*), ducks (*Cairina moschata*) guinea fowl (*Numida meleagris*). The purpose of this study is to report the epidemiological aspects of an avian botulism outbreak in a backyard poultry farming[1]. **Case Report**: Six hens from a backyard poultry farming, with approximately 30 chicken, were found dead and four with classic signs of botulinum toxin poisoning. The farmer reported that the birds developed cyanotic and wattle comb, dyspnea, different degrees of flaccid paralysis in the neck, and feathers detachment after ingesting decaying vegetables. In the same week of the event, a large amount of vegetables was provided, and the leftovers of the food remained in the hen house, even in deterioration, and the chickens ingested this organic matter. Thus, four chickens were euthanized and necropsied and organs fragments were collected and fixed in 10% buffered formalin and processed for paraffin inclusion and hematoxylin-eosin staining (HE), serum aliquots were collected as well to botulinum toxin detection. **Results**: During the necropsy, macroscopic alterations were not observed, as microscopic findings were. The chickens' serum was reagent for botulinum toxin. **Conclusions**: Against epidemiological aspects related to access and ingestion of decaying organic matter, cases of deaths with acute evolution, development of flaccid paralysis, absence of macro and microscopic lesions and toxin detection in the animals' serum, it is concluded that the access to decaying vegetables are a botulinum toxin possible infection source.

Key words: botulinum toxin, organic matter, poultry.

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Unilateral renal infarction in a goat

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Background: Renal infarctions occur in several species of domestic animals and even in man. They present varying etiologies and commonly involve only a few segments of the organ, depending on the amount of vessels involved during the process and the vessels caliber. However, infarcts that affect the kidney are completely considered to be uncommon in veterinary medicine. **Case Report:** An Anglonubian goat of approximately 14 months of age was admitted to the Veterinary Hospital of the Federal University of Piauí presenting, among other symptoms, anorexia, depression, abdominal pain and anuria, being diagnosed with acute renal failure. The animal died within 24 hours after the primary care, and was then referred to the Animal Pathology Sector for necroscopic examination. During the study, fragments of various organs including kidneys, liver, heart, spleen, intestines and testes were collected and fixed in 10% buffered formalin, routinely processed for histopathological evaluation. The left kidney was intensely enlarged. **Results:** At necropsy the left kidney increased in volume, exhibited strongly adhered capsule and extensive subcapsular hemorrhage. After its removal, a large, whitish focal area was observed, delimited by hyperemic halo, and at the cut presented an extensive clot occupying the entire medullary and pelvic region. The contralateral kidney showed a slight increase, pallor and moderate hydronephrosis, both of which showed marked ureters ectasia. Microscopically, in the left kidney, areas focally large of coagulation necrosis associated with fibrin thrombi delimited by areas of hemorrhage were observed. There was moderate inflammatory infiltrate predominantly neutrophilic and moderate number of hypotrophied glomeruli, multifocal tubular degeneration and ectasia. **Conclusions:** Based on the Anatomopathological findings, it was possible to establish the diagnosis of unilateral total renal infarction.

Key words: infarction, kidney, goat.

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Spirocercosis in dog (*Canis familiaris)* in the city of Teresina-PI: case report

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Background: Spirocercose is a disease caused by the parasite *Spirocerca lupi*, which has among other definitive hosts dogs and foxes. This parasite has indirect life cycle, with adults being able to be found in nodulations that are formed in the esophageal wall, communicating with the lumen where the eggs will be eliminated. Esophageal lesions caused by *S. lupi* can be difficult to diagnose and are often found only during necropsy. In some cases it is possible to observe thoracic aortic artery aneurysm, which may progress to possible rupture. **Case Report:** At the Animal Pathology Sector of the Federal University of Piauí, female, undefined, adult dog was necropsied, with no previous clinical history. During the necropsy organs fragments such as heart, lungs and esophagus were collected, this last one which presented irregular and firm nodulations. Subsequently these were fixed in 10% buffered formalin and routinely processed for histopathological evaluation. **Results:** At necropsy when opening the thoracic cavity, a cylindrical parasite was observed measuring approximately 2 cm free in the cavity and wall thickening of the thoracic esophagus near the cardia. In the esophageal lumen these parasites crossed the wall and were housed in an adjacent nodular region. Microscopically, the nodules in the esophagus exhibited a moderate inflammatory process composed of neutrophils, macrophages, lymphocytes and rare plasmocytes, and moderate fibroblastic proliferation, with the presence of intralesional nematode larvae, which characterize it as a piogranulomatous lesion due to parasitism. **Conclusions:** Based on the anatomopathological findings, it was possible to establish the diagnosis of Spirocercose in dogs.

Key words: Nematodes, parasites, canids.

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Hematology and seric eletrophoresis proteinogram in positive leishmaniasis dogs

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Background – Visceral leishmaniasis (VL) is a chronic disease existent all the world. It can attack humans, dogs and wild animals. Most of hematologic alteration in attacked dogs are hyperproteinemia, hyperglobulinemia, hypoalbuminemia, anemia, thrombocytopenia, proteinuria and azotemia. **Objective** – The aim of this study was to determine changes in serum total protein concentration and fractions by electrophoresis method in dogs attacked by VL. **Methods** – 15 natural infected dogs from LV endemic area were studied, the diagnosis was performed by popliteal lymph node biopsy by needle puncture and aspiration, and serology by ELISA. Jugular vein was punctured after local antisepsis, and the blood was processed to obtain serum, it was employed for the electrophoretic transfer of proteins from sodium dodecyl sulfate-polyacrylamide gels (SDS-PAGE) to obtain complete proteinogram. **Results** – The most important blood changes were anemia 40% (6 of out 15 dogs), thrombocytopenia 80% (12 of out 15 dogs), leukocytosis 13,33% (2 out of 15 dogs), leukopenia 13,33% (2 out of 15 dogs), proteinuria 60% (9 out of 15 dogs), hyperproteinemia 66,66% (10 out of 15 dogs), hypoalbuminemia 100% (all dogs), hyperglobulinemia 93,33% (14 out of 15 dogs) and decrease of albumin: globulin ratio 93,33% (14 out of 15 dogs). In globulin fraction, an increase of n gamma globulins was observed, what is called polyclonal gammopathy. **Conclusions** – The gamma globulins increase in VL infected dogs is related to polyclonal antibodies productions, what promotes a humoral answer and contributes to albumin: globulin ration decrease. These results confirm that the most important findings in chronic infected dogs are related to hypergammaglobulinemia.

Key words: canine visceral leishmaniasis, *Leishmania infantum chagasi*, hematologic alteration, polyclonal gammopathy.

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Expression of the enzyme Indoleamine-2,3-Dioxygenase in the eye of dogs with visceral leishmaniasis

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Background: Visceral Leishmaniasis (VL) is caused by the protozoan *Leishmania infantum*. Domestic dogs are considered the main reservoir of the VL etiologic agent. Few studies describe the ocular lesions in dogs with VL. In these studies the eye anterior chamber exhibits the main clinical and pathological changes. Eyes are a site of immune privilege, where imune tolerance is essential for the survival of non-regenerating cells. The eye anterior chamber microenvironment is rich in soluble factors, cell membrane proteins and cells with immunosuppressive profile, among them the enzyme idoleamine 2,3-dioxygenase (IDO). **Objective:** The aim of this study was to analyze the intensity and distribution of ocular lesions in dogs with VL and to immunolabel the IDO enzyme associated with these lesions. **Methods:** Sixteen naturally infected dogs were used, from endemic area to LV. The dogs' eyes were submitted to histopathological and immunohistochemical analyzes. The parasite load and the presence of IDO were determined by immunohistochemistry. **Results:** Chronic inflammation, parasite load and the IDO enzyme detection were observed mainly in the eye anterior chamber and in the periocular tissues. There was a positive and significant correlation (0.62; $P < 0.05$) between parasite load and the number of cells immunostaining with IDO enzyme. **Conclusions:** Probably the IDO enzyme may contribute to the parasite chronicity of infection and persistence, due to immunotolerance environment in the eye anterior chamber in dogs infected with VL.

Key words: IDO, anterior chamber, immune tolerance, canine visceral leishmaniasis.

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Sebaceous gland carcinoma with regional lymph node metastasis in a dog – case report

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Background: Cutaneous neoplasias are the most common tumors in dogs, especially because they are easily noticeable by the owners and the skin is usually exposed to external threads that lead to neoplasia. However, sebaceous carcinoma is a rarely reported tumor in dogs, including when compared to other sebaceous neoplasias. **Case Report:** An 11-year-old, mixed breed, female dog was examined at the Veterinary Hospital of Uberlândia Federal University (UFU), and presented a 5 cm of diameter lump, close to the right cranial abdominal mammary gland. The right mammary gland chain and inguinal lymph node were excised, and all the material was sent to the Animal Pathology Laboratory of UFU for histopathological analysis. Results: At macroscopic evaluation, the tumor showed a firm, adhered and ulcerated mass that on cut surface had white to brownish color. The lymph node was firm and on cut surface showed a reddish color. At microscopic evaluation, the neoplasia was restricted to the skin surface where epithelial cells proliferation was disposed in sheets and lobules, entrapped by trabeculae of fibrovascular tissue. The cells were oval to round and showed a large cytoplasm filled with variable size vacuoles. There was moderatecellular pleomorfism, and it was observed on average one mitotic figure per high power field. At the histopathological analysis of the inguinal lymph node, the same neoplastic cells were observed causing the cortical organ region invasion. **Conclusions:** Based on the morphology similarity of the neoplastic cells proliferated at the primary nodule site and the lymph node, the diagnosis of sebaceous gland carcinoma was stated. Metastases of sebaceous gland neoplasias are rare, thus this report shows the importance to follow up close the clinical course to make sure the tumor will not progress and cause farther metastases.

Key words: neoplasia; cutaneous; malignancy; canine.

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Pathologic findings and causes of death of leatherback sea turtles (*Dermochelys coriacea*) stranded during an unusual mortality event in São Paulo, Brazil (2016)

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Background: Sea turtles encompass seven extant species. Of these, the leatherback sea turtle (LST; *Dermochelys coriacea*) is a highly migratory species with worldwide distribution. The populations found in Brazil are critically endangered and there is little information on health and disease aspects for these animals compared to other sea turtle species. **Case Report:** An unusual mortality event (UME) occurred between August and November 2016 with a total of 22 LST stranded along 100 km of Iguape, Ilha Comprida and Ilha do Cardoso in southern coast of São Paulo State. This study investigated the pathologic findings and most likely causes of death (CD) of 10 LST stranded during this UME that were deemed suitable for pathologic analysis according to preservation status. **Results:** Male (n=9) and adult (n=9) animals predominated. All but one animal presented good body condition and all of them were found dead. The most prevalent gross findings were suggestive of bycatch, *i.e*., cutaneous erosions, abrasions and/or lacerations around the neck and flippers (n=9); generalized congestion (n=8); and pulmonary edema (n=6). Other prevalent gross findings were: cutaneous epibiosis by *Stomatolepas elegans* (n=7); ileocecal diverticulitis (n=7); distal esophagitis (n=5); and fibrinous coelomitis (n=5). Microscopically, the most prevalent findings were: melanomacrophage center hypertrophy/hyperplasia in liver (n=9); interstitial pneumonia (n=8); multisystemic congestion (n=6); pulmonary edema with/without aspirated material (n=5); adrenal coccidiosis (n=5) with variable multiorgan involvement; and multiorgan bacterial disease. Five animals had food ingested in the esophagus and/or stomach; only one animal had evident macroplastic foreign bodies. Asphyxia due to by-catch/entanglement was the most prevalent CD (n=8). A CD was not evident in two animals. **Conclusions:** The findings in this study provide evidence of severe negative impact of anthropic factors, specifically by-catch/entanglement in LST, raising concerns for conservation. These findings also contribute to stablish baseline pathology knowledge of LST in South American populations.

Key words: anthropogenic impacts, bycatch, pathology, diverticulitis, coccidiosis.

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Traumatic reticulopericarditis in a bovine from a degraded area environment in the state of Minas Gerais

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Background: Gastrointestinal disorders are quite common among herbivores. Due to several factors directly associated to the species own alimentary habits, the foreign bodies ingestion is far more frequent in cattle than other ruminant species. This basically relies on their diet, in addition to the greedy and poorly selective appetite. **Case Report:** An adult mixed-breed bull was rescued from a risk area after the tragic collapse of a dam used to store mining waste in Brumadinho, Minas Gerais, Brazil. The animal presented a marked dyspnea and dehydration, being diagnosed with pneumonia and treated with antibiotics. It was admitted to the University Veterinary Hospital. The major hematological findings consisted of mild neutrophilic leukocytosis and lymphopenia. The animal naturally died during its manipulation and referred for *post-mortem* examination. **Results:** The thoracic cavity was filled with 18.5 litters of yellowish fibrinous exudate. A focally extensive fistulated area connecting the pericardial surface to the endocardium was found, along with a diffuse fibrinonecrotic and neutrophilic endocarditis, myocarditis and pericarditis with vascular thrombosis and intralesional colonies of gram-positive coccoid bacteria. A similar lesional pattern was mainly found in the thoracic aorta and pulmonary parenchyma of the cranial left lobe, despite the entire compromise of the pleural surface. The gastrointestinal tract examination revealed a 9.0 centimeters-long sharp wire firmly adhered to the reticulum wall. Next to it, there was an extensive fibrous adherence to the diaphragm. In addition, suppurative and thromboembolic nephritis with marked areas of acute infarcts and a mild focus of thromboembolic meningitis were also found. **Conclusions:** Macroscopic and histopathological findings in the heart were thought to be caused by the perforating metal object stuck to the reticulum, with subsequent extension of infection to the thoracic artery, lungs and pleura. Furthermore, septic thromboembolism produced lesions in multiple organs.

Key words: bull, hardware disease, septicemia, Brumadinho, Brazil.

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Tegumentary micobacteriosis in a dog

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Background: Mycobacteriosis is a disease caused by a *Mycobacterium* bacteria genus. The disease importance in dogs has increased, however its diagnosis is not easy and its incidence is underestimated in veterinary medicine. **Case Report:** A 10 year-old, mixted breed, thin dog, initially presenting alopecia and hyperkeratosis in the lumbar region and pelvic limbs. After two weeks the dog presented muzzle, ears, lips and scrotum nodules. **Results:** The fungal culture revealed *Alternaria* sp., positive hemoparasite screening for *Erliquiose* sp., cytology of bone marrow and serological test for *Leishmania* sp. were negative. Orchiectomy was performed, and fragments of nodular lesions in the scrotum and skin of the other affected regions were collected for histopathological evaluation. The nodules had a brownish, smooth surface and soft consistency macroscopically. Microscopically, a lymphphoplasmocytic inflammatory infiltrate, with epithlioid cells and foamy machophages were found in biopsed skin and scrotum fragments, compromising the deep skin layer. Individualized bacillary morphology bacterial structures were observed in macrophages cytoplasm and epithelioid cells, which in staining by hematoxylin and eosin (HE) presented negative image form. The search for acid-alcohol resistant bacilli (BAAR) by Ziehl-Nielsen stain was positive due to the presence of long bacilli in the macrophages cytoplasm. **Conclusion:** Based on the histopathological findings associated with the acid-alcohol resistant bacilli in the macrophages cytoplasm, the skin mycobacteriosis diagnosis was established. This ante-mortem diagnosis is difficult because the infection clinical sings are nonspecific and mimic other skin diseases that present solid formations (papules or nodules).

Key words: nodule, *Mycobacterium*, skin, scrotum.

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Reactive astrogliosis induced by pain relievers in rats

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Background: Although pain is traditionally considered to be mediated by neurons, recent research shows important roles of glial cells in pain sensitization. Microglial cells have been implicated in such processes, but it is less known regarding the role of astrocytes. Astrogliosis is a defense reaction conceivably aimed at limiting tissue damage and restoring homeostasis. **Objective:** This study aimed to observe the expression of glial fibrillary acidic protein (GFAP) in astrocytes from the frontal cortex, hypothalamus and periaquedutal gray (PAG) area after administration of short term doses of distinct drugs used for pain management, but in the absence of any specific painful stimuli. **Methods:** Male Wistar rats were divided into the following groups, receiving for 10 days- (1) amitriptyline (Amt- 10 mg/kg/day, by gavage); (2) gabapentin (Gb- 60 mg/kg/day, by gavage; (3) methadone (Me- 4.5 mg/kg/day, intraperitoneal route- IP); (4) morphine (Mo- 10 mg/kg/day, IP); (5) carbamazepine (Cbz- 40 mg/kg/day, IP); (6) fluoxetine (Fx- 10 mg/kg/day, IP); (7) amantadine (Ama- 10 mg/kg/day, IP); (8) S-ketamine (Ke- 50 mg/kg/day, IP); (9) dipyrone (Dip- 16 mg/kg/day, IP); or (10) 0.9% saline solution (daily, IP). Brain samples were collected for immunohistochemical study of GFAP expression in the frontal cortex, hypothalamus and periaqueductal gray (PAG) area. Morphometry was done using Image Pro-Plus 6.0 software. **Results:** All the administered drugs increased GFAP expression in the frontal cortex and hypothalamus in relation to the control group. However, at the PAG this expression was increased in groups treated with Amt, Me, Mo, Ama, Flx and Ke, but not with Gb, Cbz and Dip. **Conclusions:** Although the precise meaning of such changes remains unclear, it is important to notice that astrocytes seemed to react phenotypically to distinct classes of pain modulators in almost all the investigated areas, suggesting astrogliosis, and probably influencing neurons and the entire central nervous system microenvironment in physiological conditions.

Key words: analgesics, astrocytes, central nervous system, glial fibrillary acidic protein.

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Spinal cord meningioma in a Puma (*Puma concolor*) – case report

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Background: Neoplasms in wild animals are rare, but are common in captive non-domestic felids. Until now, there were diagnosed about seven meningomas in captive *Panthera* species and one psammomatous meningioma in a female cougar, but both in cerebral tissues. In domestic feline, spinal cord meningioma represented only 7% of the cases and 1.8% of them affected the lumbar spinal cord. Here a spinal cord meningioma is described in a puma. **Case Report:** A 12-year-old male captive cougar (*Puma concolor*) presented clinical signs of paralysis of both pelvic limbs with scabs and lack of proprioception two months ago. The radiographic examination was normal. The palliative treatment was done with no success. Euthanasia was performed**. Results:** Necropsy examination revealed a tumor in the lumbar spinal cord localized at L5-6 with approximately 1.0 cm of length and brownish, upon the cut the surface was friable and homogeneous, compromising both matters. Hemorrhagic cystitis was also observed. The histopathological analysis revealed solid, infiltrative, arranged in papillary form and sometimes in incompact nests proliferation compromising both matters composed by polygonal cells to cuboidal cells, with eosinophilic moderate cytoplasm, with round to oval nuclei having 1 to 2 conspicuous nucleoli. The cells showed moderate pleomorfism represented by moderate anisocaryosis and anisocytosis and high mitotic index, about 6~7 mitosis/field 400x. In the middle of the neoplastic cells eosinophilic circulate structures (psamomas) and binucleated cells were also noted. **Conclusions:** Based on the gross and histologic findings, the diagnosis of spinal cord meningioma was made. This is the first spinal cord meningioma in a captive puma.

Key words: cougar, captive feline, spinal cord neoplasm, central nervous system neoplasm, meningeal tumors.

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Alimentary lymphoma and paraneoplastic cachexia: case report

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Background: Alimentary lymphoma is characterized by the neoplasm presence at the gastrointestinal tract and/or at the mesenteric lymph nodes. Alimentary form represents 5 to 7% of lymphoma incidence in dogs, mainly for middle-aged and elderly individuals, regardless of gender, being more common in cats rather than in dogs. Paraneoplastic syndromes reported in dogs with lyphomas include cachexia, hypercalcemia, hyperglobulinemia, cytopenias and leucocytosis. Paraneoplastic cachexia is a result of metabolic changing of carbohydrates, proteins and lipids, leading to involuntary and progressive weight loss, being a characteristic of such malignancy. **Case Report:** A Dalmatian canine corpse, 11-year-old male individual, with anorexia, soft stools and cachexia background was taken to the Animal Pathology Department at the Veterninary Hospital, São Paulo State University (UNESP) School of Veterinary Medicine, Araçatuba, São Paulo, Brazil. **Results:** At the necropsy, the animal was cachectic and presented an increase of all mesenteric lymph nodes, and at incision, smooth and white surface. There was neoplastic proliferation of great lymphoid cells at the cytology of mesenteric lymph nodes. Histopahology of mesenteric lymph nodes presented neoplastic lymhpocyte infiltrates and regions with multifocal necrosis. **Conclusions:** Alimentary lymphoma causes clinical signals resembling other ones that affect the gastrointestinal tract. Early diagnosis of alimentary lymphoma increases chances for the animal's prolonged survival.

Key words: neoplasm, gastrointestinal, lymph nodes, dogs.

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Bone trauma survey with wild animals in the Pathology Department of UNESP in Araçatuba

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Background: Traumatic musculoskeletal conditions are highly incident within wild animals. Bone fractures are normally caused by motor vehicle trauma, fights and hunting. Radiographic exams performed in wild mammals report that pelvic members are the most affected, with tibia and femur being the most affect bones[1]. In birds, tibiotarsus, radius and humerus fractures are the most reported ones.[1] In reptiles, fractures differ among the species, given the anatomical variations from the Orders Crocodylia, Squamata and Testudinata.[2] **Case Report:** A survey was performed with wild animals which were subjected to necropsy at the Veterinary Pathology at the Veterinary Medicine College in Araçatuba-SP (FMVA/ UNESP), from 2003 to 2018, aiming to analyze bone trauma prevalence in wild animals belonging to the classes Mammalia, Reptilia and Birds, as well as the bones that most commonly suffered with such fractures. **Results:** From the 407 wild animals under necropsy, 14.7% (60) presented bone fractures. From these 60 animals, 66.7% were from Mammalia Class, and Carnivora Order presented greater prevalence (45%); 21.7% were from Bird Class with prevalence of Psittaciforme (21.4%) and Cariamiforme (21.4%) Orders and 11.7% were from Reptilia Class, prevailing Squamata Order (62.5%). Spine fractures were the most observed in mammals, (21.4%), followed by cranioencephalic trauma (17.9%). Regarding the birds, wing fractures (40%) and pelvic limbs (33.3%) were the most frequent. In reptiles, cranial fractures (44.4%) were the most observed, followed by rib fractures (22.2%). **Conclusions:** In observed casuistic of macroscopic exams in animals from Araçatuba surroundings, spine and cranial traumas are frequent in dead mammal and reptile victims of motor vehicle trauma. In birds, wing fractures were more prevalent. Vehicle speed at the impact on the bodies of these animals that results in spinal-medullar trauma, polytrauma and further death must be determinant for differences between the casuistic of image exams and necropsy.

Key words: fractures, exotic animals, necropsy.

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Pathological features of the endomyocardium fibrosis form of restrictive cardiomyopathy in a 10-year-old cat: a case report

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Background: Restrictive cardiomyopathy is a specific entity, multifactorial and unknown disorder distinguished by diastolic dysfunction and concentric hypertrophy. Morphologically subclassified into two forms: myocardial and endomyocardial. **Case Report:** A 10-year-old cat (*Felis domesticus catus*), female, mixed breed due to 2 weeks of inspiratory dyspnea was referred to the Veterinary Hospital of Guarulhos University. Blood count and biochemical blood analysis, thoracic radiography, ultrasound scan, arterial systolic pressure and doppler echocardiogram were performed which showed a marked diastolic dysfunction associated with a mildly decrease of the systolic function, marked biatrial dilation, left atrial to aortic root ratio decrease and pleural effusion. The patient was submitted to thoracocentesis, oxygen therapy and systematic treatment protocols were performed. Due to a worsening of heart failure the patient died because of an advanced cardiac insufficiency. **Results:** At postmortem examination a hallmarked gross thickening finding of the left ventricle (LV) endocardium, mural thrombi, loss of opacity, marked diffuse fibrosis, discreet hypertrophy and a biatrial enlargement were observed. Histologically cuts were obtained from slices of the heart, fixed in formalin 10%, embedded in paraffin wax, sectioned at 5µm and stained with hematoxylin and eosin. Sections of LV were also stained with Masson's trichome for collagen fibers, Verhoeff-Van Gieson for elastic fibers, alcian blue and toluidine blue for acidic glycosaminoglycans. The LV endocardial thickening revealed two layers: A superficial layer consisted of a major concentration of mesenchymal cells with oval or rounded form and elongated distribution. The deep layer features a densely arrangement of wavy collagen fibers with interspersed mesenchymal cells and foci areas indicating chondrogenic differentiation. In some areas fibrous tissue proliferation of the endocardium form trabecular bands which extends into the myocardium. **Conclusions:** Based on the histologic findings the characteristics above coincide through Kimura *et al.* (2016) description for a third type of endomyocardial form of restrictive cardiomyopathy.

Key words: lung cancer, feline, histopathology.

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Feline primary adenosquamous pulmorary carcinoma: a case report

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Background: Lung cancer in domestic animals occurs as a sporadic geriatric disease that does not have association to any infection cause. According to the World Health Organization classification, malignant pulmonary tumors are classified on the basis of morphology and on the cell of origin: adenocarcinoma, bronchioloalveolar carcinoma, squamous cell carcinoma, adenosquamous carcinoma. Cats diagnosed have a poor prognosis and median survival time has been statistically related with histologic morphology. **Case Report:** A 14-year-old cat, male, mixed breed was attended due a 2 moths of hyporexia, dyspnea and coughing. Thoracic radiography and Computed Tomography scan were performed and demonstrated pneumothorax and neoformation on the right lung lobes. The patient was subjected to a thoracocentesis and presented a worsening of general clinical conditions. The surgical intervention was performed and the tutor opted for euthanasia due to the fact that the condition was inoperable. **Results:** Necropsy examination revealed a mass occupying 4-6 intercostal spaces and two bronchial ruptures. The mass was firm with hard areas, pale, with nodular surface and on the cut surface a central area with necrosis and hemorrhage was observed. The cranial lobes of right lung parenchyma were affected, as well, the extension of the mediastinum causing a total loss of respiratory functionality. Histologically, the lung tumor slide was examined microscopically and classified based on their sites of origin. The histological cuts presents polygonal cells with moderate anaplasia, consider pleomorphic characteristics and some mitosis figures. The cells form solid groups with intense juxtaposition and tubular structures with 1 to 3 layers, and cords structures that indicate local stromal invasion. In some areas the epithelial proliferation presents a similarity with a squamous nonkeratinizing stratified epithelium. **Conclusions:** According to Wilson (2017), primary lung tumors with bronchogenic derivation are rare. The admixture of tubular structures and squamous proliferation characterized an adenosquamous pattern.

Key words: lung cancer, cat, histopathology.

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Hepatic lipidosis in Turquoise-fronted amazon (*Amazona aestiva*)

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Background: *Amazona aestiva* species, also known as turquoise-fronted amazon, is one of the most trafficked species in Brazil, due to its docile behavior and cognitive abilities. Domestic environment is responsible for flaws in the animal keeping, thus causing metabolic disturbances. Hepatic lipidosis is the lipids accumulation in the hepatocytes and has a number of etiological factors, whilst feeding is the most common one, because the lack of choline, methionine, biotin and B2 vitamin, mainly by excessive consumption of fatty acid, especially in oleaginous seeds such as sunflower and nuts. **Case Report:** An 11-year-old turquoise-fronted amazon was taken to the Veterinary Hospital of the Veterinary Medicine College in Araçatuba-SP (FMVA) presenting breathing distress and apathy, after a 6-day disappearance, its diet was mainly sunflower-seed based. Emergency treatment was followed, but the animal died. The corpse was sent to the Veterinary Pathology Department of FMVA. **Results:** During necropsy, the animal was underweight and the liver was yellow, with green and darkened irregular regions, with less than 0.5 cm diameter, multifocal andcoalescent, at incision, parenchyma standard was preserved. At the liver microscopic exam, there was increased fat degeneration associated with multifocal necrosis. Lung, kidney, brain and cerebellum were congested and other parts had no alteration. **Conclusion:** Hepatic Lipidosis mainly affects adult animals kept in captivity, due to sedentary life associated to food which is rich in fat and proteins.

Key words: steatosis, psittaciformes, fat, liver.

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Dioctophyme renale occurrence in maned wolf (*Chrysocyon brachyurus*) in Araçatuba-SP surroundings: case report

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Background: *Dioctophyme renale*, mainly affects carnivores, especially those who feed from raw fish, like canids, mustelids and procyonids, besides men them selves. Dioctophymiasis is frequently reported in maned wolves (*Chrysocyon brachyurus*), with accounts about it in the states of Goiás, Minas Gerais and São Paulo, but there are no such reports of the condition in Araçatuba-SP surroundings. **Case Report:** The animal was sent to the Center for Rehabilitation and Screening of Wild Animals (CERETAS) at the Veterinary Medicine School in Araçatuba-SP (FMVA/ UNESP) with a history of road run over. After several clinical exams, it was diagnosed with multiple fractures, and due to adverse prognosis, the course of action was euthanasia. The corpse was forwarded to necropsy at the Veterinary Pathology Department at the FMVA-UNESP. **Results:** In abdominal cavity, there was the presence of 2.5 liters of yellow turbid material and, involved in the omentum, there was a specimen of *D. renale* with approximately 30 cm length. Right kidney was irregular, at incision, presence of a specimen of *D. renale* associated to hydro nephrosis with necrohemorrhagic content. The left kidney, serous presented hemorrhagic regions, at incision, cortical and medullar congests. **Conclusions:** Monitoring parasite load on this species is paramount, as reports indicate that such parasitism results in population decline. Besides, this is the first report about *D. renale* in maned wolf (*Chrysocyon brachyurus*) in Araçatuba-SP surroundings.

Key words: dioctophymiasis, parasite, kidney, pathology, wild animal.

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Systemic mycobacteriosis: incidental findings in a wild *Leptodactylus vastus* (amphibia-anura: Leptodactylidae) in Ceará, Brazil

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Background: Mycobacteriosis is a chronic granulomatous inflammation, characterized by solitary or multifocal nodules, on the skin or in the internal organs, being subclinical until the disease becomes extensively systemic. Among captive anurans, *Mycobacterium* spp. have been commonly isolated and reported in the USA, but rarely elsewhere. **Case Report:** Two anurans were collected from April/2018 in a private nature reserve in Pacatuba enclave, under ICMBio #58036, to a transcriptomic research. They were submitted to euthanasia at Universidade Federal do Ceará by approved lidocaine injection. One of the two specimens showed gross lesions. The specimen was an adult female, measuring snout-vent length 144.9cm. Externally, it was observed firm edema in the left carpal- metacarpal and tibiofibular regions, with multiple elliptical and symmetrical incisions. Gross and microscopic findings were compatible with mycobacteriosis, presented in Table 1. Short and grouped acid-fast bacilli seen in the liver were suggestive of *M. avium*, a logical hypothesis, once there was a commercial poultry farm in the surroundings of that nature reserve. *Mycobacterium tuberculosis* and *M. bovis* are traditionally transmitted by aerosol, milk and feces of the infected hosts. However, other uncommon routes have been reported, as potable water and probably through bites from racoons, snakes or monkeys, as some of these host species were found carrying mycobacteria in their oral cavities. The morphology of the external lesions was suggestive of predation by snakebite, what may have been the way of transmission or, at least, a portal of entry to ubiquitous mycobacteria. Zoonotic risk must be considered, since tuberculosis by *M. bovis* was recently reported in an American bullfrog. **Conclusions:** The gross and microscopic findings were compatible with mycobacteriosis in a wild *L. vastus*, possibly caused by *M. avium*. As far as we are concerned, this is the first report of mycobacteriosis in a frog in Ceará.

Key words: *Mycobacterium*, granuloma, abscess, wildlife, frog

Table 1. Necropsy and histopathological findings.

Organ	Gross lesions	Histopathology HE	Histopathology Ziehl
Left limbs	firm edema in the left carpal-metacarpal and tibiofibular regions, with multiple elliptical, symmetrical and laterally corresponding incisions	Severe multifocal to coalescent necrohemorrhagic dermatitis, myositis and osteomyelitis, heterophilic and histiocytic infiltration in the perineuro on the dermis; extensive necrosis and hemorrhage of muscle bundles; lysis and necrosis of digital phalange bone trabecula	N/A
Liver	yellow-whitish multifocal nodules	Multifocal to coalescent caseous abscesses, measuring up to 0.1cm in diameter, surrounded by 1-10 histiocytes layers, with cellular debris and central calcifications	Short and grouped bacilli staining in red/magenta; fragments staining red/magenta in histiocytes
Spleen	Splenomegaly; yellow-whitish multifocal nodules	Idem liver	Fragments staining red/magenta in histiocytes
Ovary	yellow-whitish multifocal nodules	13 abscesses and 50% (53/108) atretic follicles	NAD
Pancreas		Focal lymphocytic infiltration	NAD
Kidney		Mild multifocal lymphocytic infiltration in hilum and cortex; Mild histiocytic infiltration in one glomerulus; moderate hemosiderosis in the tubules, and one caseous microabscess, calcification in the center, in the tubular interstitium, measuring up to 0.01cm in diameter	
Colon		Caseous abscesses, measuring up to 0.1 cm in diameter, surrounded by 1-10 histiocytes layers, with cellular debris and central calcifications in the lamina propria	fragments staining red/magenta in histiocytes

*N/A = not applicable / NAD = nothing abnormal detected

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Cavity mycetomas in reptiles

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Background: Mycetomas are granulomatous nodules that may be caused by saprophyte fungi or actinomycetes bacteria. It presented as chronic, suppurative and deforming inflammatory reactions in human and animal species, especially in the skin and connective tissues, but less frequently described in organs and cavities as well. **Case Report:** Seven reptiles were examined but in only three cases it was possible to diagnose visceral and cavity mycetomas. **Results:** Case 1: *Boa constrictor* snake, captive for ten years, died of pneumonia; macro: irregular, smooth, well demarcated, greenish tan color, gelatinous nodule, focal in pulmonary mucosae; micro: branched and septate hyphae, histiocytes associated with chlamydospores, suggestive of *Candida* sp. pulmonary eumycetoma. Case 2: *Tropidurus hispidus* lizard found dead in a southern metropolitan area of Fortaleza; macro: spherical, smooth, well demarcated whitish and firm nodule, focal in the subserosa of stomach, multiloculated at the cut surface; micro: histiocytic granuloma, with cellular debris, necrosis, calcification foci in the center; branched and septate hyphae, with budding and blastospores in the intermediate region, suggestive of *Candida* sp. gastric eumycetoma. Case 3. *Diploglossus lessonae* lizard, captive for four years, died of chronical kidney failure; macro: two spherical, smooth, well demarcated, tan and firm nodules, one medial to the minor curvature of the stomach and the other medial to the duodenum, next to the spleen; micro: cellular debris, histiocytes, basophilic filamentous structures with spherules within, suggestive of *Nocardia/Dermatophilus* actinomycetoma. **Conclusions:** The current findings were compatible with those described in medical literature but not frequently reported in veterinary journals. Fungal infections in reptiles are opportunistic in the most of the cases, except for case 2, which was an uncommon finding in a wildlife lizard and might indicate a subjacent primary comorbidity. Histochemisty must be employed in every fungal infection suspected, in order to increase sensibility of etiological diagnosis of granulomas.

Key words: mycosis, *Candida*, granuloma, lizards, snakes.

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Pyometra and leiomyoma in a captive lioness (*Panthera leo*)

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Background: Uterine leiomyoma is a benign firm, well-marked, usually spherical, slow growing, non-invasive and non-metastatic neoplasm. Pyometra in bitches and queens is characterized by an uterus inflammation that develops during the diestrous. In these cases, there is accumnulation of endometrial secretion in the uterine lumen, creating an environment that favors bacterial growth. *Escherichia coli* is commonly isolated in cases of pyometra. This study aims to report a pyometra associated with *E. coli* infection in a lioness (*Panthera leo*) that also had a leiomyoma. **Case Report:** An adult lioness that was kept captive at Fundação de Parques Municipais e Zoobotânica de Belo Horizonte was prostrated, and was chemically restrained for physical examination. There was vaginal purulent exudate suggestive of pyometra, from which *Escherichia coli* was isolated. **Results:** The uterus was surgically removed. Grossly, it was makedly dilated, with an irregular and friable endometrium, and large amounts of pinkish secretion filling the uterine lumen. In the left uterine horn, there was a nodule measuring 3 x 2.5 x 2.5 cm inside the muscular layer. This tumor was unencapsulated, but well demarcated, yellowish with a white center, and dark brown margins. Histopathology, it demonstrated a diffuse neutrophilic and lympho-histio-plasmacytic inflammatory infiltrate in the endometrium with endometrial glands ectasia, and high numbers of degenerated neutrophils, macrophages, and cellular debris in the lumen. The tumor was characterized by an expansive proliferation of well differentiated bundles of leiomyocytes arranged in different directions, with eosinophilic fusiform cytoplasm, oval nucleus with mild anisocariosis and anisocytosis, and rare mitotic figures. At the center of the neoplasm, there was a large proliferation of fibrous connective tissue with abundant collagenous extracellular matrix. **Conclusion:** The anatomopathological and bacteriological findings in this case support the diagnosis of uterine leiomyoma and pyometra associated with *E. coli* infection.

Key words: zoological, pathology, wild animals, uterus, reproductive neoplasia.

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Heterophilic and granulous arthritis associated with gram positive bacteria in a captive mallard (*Anas platyrhynchos*)

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Background: Septic arthritis is occasionally diagnosed in birds, associated with trauma, infectious diseases, or metabolic disorders. It is usually unilateral involving the distal joints of the pelvic limbs. Many agents are described as the cause including *Staphylococcus* sp., *Escherichia coli*, and *Salmonella* sp. Orthopedic lesions affecting the pelvic limbs alter the body weight sustentation o and reduces the animal's survival. This report aimed to describe a case of arthritis in a captive mallard (*Anas platyrhynchos*) caused by a Gram-positive bacteria. **Case Report:** An adult female mallard that was kept captive at Fundação de Parques Municipais e Zoobotânica from Belo Horizonte, developed a swollen left tibiotarsus and tarsometatarsus joint associated to the joint decreased mobility since October 2018. The lesion did not respond to treatment. Radiographic examination indicated changes compatible with joint degeneration, with a compensatory overload of the contralateral limb. The animal was euthanized in January due to poor prognosis. **Results:** Grossly, the left tibiotarsus and tarsometatarsus joint had decreased mobility and marked enlargement with multifocal to coalescent nodules. The other organs had no significant changes. Histopathology evidenced periarticular fibrosis with a severe heterophilic inflammatory infiltrate with macrophages and multinucleated giant cells associated with intense necrosis, and myriad of intralesional Gram positive bacteria, morphologically compatible with *Staphylococcus* sp. **Conclusion:** The anatomopathological findings support the diagnosis of a severe granulomatous and heterophilic arthritis with myriad of intralesional Gram-positive monomorphic coccoid bacteria morphologically compatible with *Staphylococcus* sp.

Key words: zoological, pathology, wild animals, pelvic limbs, joint degeneration.

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E-cadherin expression and its relationship with α-catenin, β-catenin and p-120 catenin expression in canine mammary tissues

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Background: the cadherin-catenin complex is responsible for cell adhesion and also the maintenance of the tissues normal architecture. There is a lack of studies focusing of the expression of this complex in canine female mammary tissues. **Objective:** the aim of the study was to assess the expression of E-cadherin and its relationship with the expression of α-catenin, β-catenin, and P-120 catenin in canine mammary tissues. **Methods:** seventy-two mammary tissues from female dogs were included and analyzed in the present study. The histological classification was performed using the World Health Organization (WHO) criteria for canine mammary tumors. Additionally, all the carcinomas were graded according to the modified Nottingham grading system. The antibodies expression was assessed by the immunohistochemistry technique. **Results:** two normal mammary glands, twenty-five benign tumors and forty-seven malignant tumors were analyzed in this study. Complex adenoma and complex carcinoma were the most prevalent benign and malignant tumors, respectively. According to the Nottingham system, nineteen tumors were graded as low grade, twenty-three as moderately differentiated and seven as high grade. E-cadherin, α-catenin, β-catenin and P-120-catenin had preserved expression in more than 80% of the benign tissues, while in malignant tumors, E-cadherin and P-120-catenin, 20% of the cases had reduced expression. In addition, α-catenin and β-catenin had 10% and 90% reduction of expression in malignant tumors, respectively. The immunoreactivity described in all the antibodies was classified as membranous, cytoplasmic or both (membranous and cytoplasmic). **Conclusions**: a correlation between E-cadherin and P-120-catenin expression was found, as well as a significant relationship described between the histological type and the expression of α-catenin in malignant tumors, which demonstrates that these molecules could be used as a prognostic tool in future studies in canine mammary tumors.

Key words: mammary carcinoma, cadherin, catenins, immunohistochemistry.

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Nasal cryptococose in domestic cat (*Felis catus*): case report

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Background: Yeasts of the genus *Cryptococcus* spp. (*Cryptococcus neoformans* and *Cryptococcus gatti*) can cause opportunistic infections in immunocompromised animals and humans. The fungus reproduces in bird excreta. In domestic cats that are unhealthy or immunosuppressed by FELV (Feline Leukemia Virus) or FIV (Feline Immunodeficiency Virus), the infection causes granulomatous cutaneous lesions mainly located in the upper respiratory tract commonly known as clown nose due to the yeast inhalation from the environment. The lesions are found in the head and neck, being erosions, ulcerations, papules and nodules, evolving to a serious neurological picture. **Case Report:** The carcass of an adult male feline, mixed breed, body score 6/9, was referred to the Department of Veterinary Pathology of FCAV-Unesp / Campus Jaboticabal-SP, with suspicion of infection by *Cryptococcus spp.* **Results:** Necroscopic examination revealed a cutaneous lesion in the head, with a soft and gelatinous consistency, covered by partially ulcerated skin, measuring 9x12.5 cm and ulceration measuring 2.5x1.5 cm. The lungs were hypocrepitant, with moderately reddish left cranial lobes. The right pulmonary lobe was diffusely reddish and with whitish multifocal areas, mainly in the caudal lobe. The kidneys had whitish streaks in the cortico-medullary transition. In the microscopic analysis there was pulmonary congestion, eosinophilic intralveolar content (edema), foci with granuloma adjacent to the bronchi, composed of giant cells, lymphocytes, plasma cells, surrounding rounded structures with basophilic central nucleus, delimited by amphiphilic capsule. These yeasts were also seen in the macrophages cytoplasm. The cutaneous lesion presented multifocal necrotic areas and inflammatory infiltrate (lymphocytes, histiocytes and plasma cells) associated with a decent amount of yeast structures. **Conclusions:** anatomopathological findings are compatible with *Cryptococcus spp*. in the feline's cutaneous and pulmonary tissues.

Key words: opportunistic mycosis, yeast, granulomatous lesions, clown nose.

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Rupture of chordae tendineae in a dog with mitral valve prolapse: case report

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Background: The chordae tendineae rupture in the dogs' atrioventricular cardiac valves may be directly related to the anomalous tendinous chords when their number or location of insertion in the endocardium is abnormal. They may also be of indirect origin, due to circulatory alteration that results in increased blood pressure on the atrioventricular valves, and consequently on the chordae tendineae, resulting in rupture, such as in endocardiosis, Tetralogy of Fallot and Congestive Heart Failure. **Case Report:** An adult, female, non-castrated canine was referred to the Veterinary Hospital (FCAV-Unesp) for abdominal ultrasonography. Soon after, the dog exhibited cyanotic and crepitus in the pulmonary auscultation, evolving to cardio-respiratory arrest without response to resuscitation, and death by euthanasia. **Results:** In the necroscopic analysis there was a moderate amount of reddish and foamy fluid in the tracheal bifurcation region, the lungs were little crackling, reddish, and a moderate amount of bloody and foamy fluid flowing at the cut. In the heart, there was opacity, shortening and thickening of both atrioventricular valves, in addition to rupture of one of the chordae tendineae. Microscopically, the lungs presented moderate edema and emphysema, and a discreet interstitial mononuclear inflammatory infiltrate. **Conclusions:** Chronic evolution of endocardiosis led to the chordae tendineae overloading that evolved to rupture and prolapse of one of the cusps, observed by cardiac echocardiography. The valve functional failure resulted in congestive heart failure, pulmonary edema, and cardiorespiratory arrest.

Key words: cardiomyopathy, congenital heart diseases, endocardiosis, congestive heart failure.

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Howler monkey electrocution (*Alouatta* sp.): case report

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Background: Electrocution involves contact to an electricity source and a body that does not offer resistance to the electric current, and such explosion leads to serious burning due to the energy conversion from electric to thermal. Furthermore, there is an increase in vascular permeability, hemorrhage, congestion and petechias. In primates, about 31% of electrocution episodes are fatal, being such statistics supported by the great interaction of these animals to urban areas. **Case Report:** The Municipal Zoo of Araçatuba (SP) sent the corpse of a primate howler monkey (*Alouatta* sp.), female, adult, with history of access to power pole, to the Center for Control of Zoonosis (CCZ) that contacted the Service of Veterinary Pathology of the Veterinary Medicine Course in Araçatuba (UNESP/FMVA) to proceed with necropsy. **Results:** At necropsy, ocular and oral mucosa were congest. At the carpus region and phalanxes of thoracic member right through the skin, subcutaneous and skeletal musculature exhibited necrosis on a focally extensive region, associated to exposure and bone lysis, injury that is compatible to carbonization. At the subcutaneous and at the skeletal musculature of the lumbosacral region and frontal area of the skull there was focal and moderate hemorrhage, probably due to falling. Lungs, liver, spleen and encephalon were congested. **Conclusions:** Macroscopic findings are compatible to electrocution and blunt trauma. Diagnosis is presumptive given it is a free primate, with access to power poles.

Key words: electric shock, primates, carbonization.

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Retrobulbar squamous cell carcinoma in a dog: case report

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Background: squamous cell nasal carcinoma can be classified in three stages, and the last one has an invasive characteristic that could affect nasal and cranial bones, and also the brain. **Case Report**: a 6-year-old pit bull, with a right-sided unilateral facial asymmetry underwent surgery for exenteration due to a possible right-sided retrobulbar squamous cell carcinoma. Previous cytological exam showed cells arranged in nests, a few of which contained little eosinophilic cornified material. **Results**: The dog was euthanized due to the lesion and was submitted to necropsy where a neoformation of approximately 8.0 cm x 8.0 cm, bone adhered and originating focal osteolysis in the parietal bone was evident. The central area was necrotic and presented fistula through exterior. A cranial cut in transverse plane unveiled the infiltration and adherence to dura mater, extending up to the paranasal sinuses. The brain right frontal lobe was deformed due to the tumor compression. Histologically, the neoplastic epithelial cells presented moderate pleomorphism, marked anisocytosis and anisokaryosis, eosinophilic cytoplasm, with large, pale nucleus presenting prominent nucleolus. Cells arranged in trabecular pattern up to digitiform formation with the trabecular central area presenting cells with marked eosinophilia up to discreet keratinization. **Conclusion**: The diagnosis of periorbital cancer usually depends on histopathologic examination. In this case, moderately keratinized cells observed in cytology was valuable to the diagnosis of squamous carcinoma with invasive characteristics and extensive tissue destruction.

Key words: carcinoma, dog, nasal cavity, skull.

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Suffocation due to a foreign body in a dog: case report

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Background: habits of destruction and deglutition of domestic objects are related to lack of appropriate stimulation, absence of a tutor for long periods and lack of environmental enrichment, being a common occurrence among dogs. Most episodes of airway obstruction resulting in death happen in small animals due to the smaller size of oral structures and tubular organs. **Case Report**: a 1-year-old female Maltese dog. The tutors reported that the dog seemed normal when they left home, and that when they returned seven hours later, they found the animal dead, in rigor mortis, and in lateral decubitus position. They did not notice remnants of vomit, feces or other secretion in the room. **Results**: the animal was sent to the Pathology Sector of FMVA (UNESP-Araçatuba). During the internal examination, it was noticed the presence of a rounded light brown structure, with approximately 7.0 cm x 3.0 cm, blocking the entrance of the esophagus and trachea. The object was compatible with expanded clay. It was observed the presence of bloody liquid in the trachea and bronchi, congestion, moderate diffuse hemorrhage in the lungs. The stomach was full of food and its mucosa was swollen and congested. The encephalon presented moderate diffuse congestion. **Conclusions**: death caused by asphyxiation presents five classical signs identified postmortem: cyanosis, fluidity of blood, engorgement of the right ventricle, visceral congestion and petechia. In this case, visceral congestion in the lungs and stomach was confirmed. The foreign body that blocked the trachea or larynx during postmortem examination facilitated the diagnosis since not all the signs were noticed in this case. The final diagnosis was oropharynx obstruction due to foreign body, resulting in asphyxiation and death caused by respiratory failure.

Key words: airway obstruction, asphyxia, respiratory insufficiency.

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Case report - progressive paresis of Nellore bovine due to bone callus and spinal abscess

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Background: vertebral fractures affect all the domestic species; however, despite their high occurrence in large animals, this situation is still little described in the literature. Spinal canal protects the spinal cord and the meninges; the signs of vertebral fractures with spinal cord compression are acute and differ from abscesses and spinal neoplasm that tend to present progressive paths more slowly. **Case Report:** a 4-year-old Nellore female bovine presented paralysis in the pelvic limbs during thirty days. Euthanasia was determined due to the unfavorable prognosis. **Results:** in the necropsy, there was presence of bone callus in the right transverse process of the 7th cervical vertebra. At the cut, absence of intervertebral disc was noticed between the 6th and the 7th cervical vertebras. In the spinal canal of the 7th cervical vertebra, there was an area of spinal cord compression and presence of an abscess measuring approximately 1.0 cm x 1.0 cm. In the microscopic examination of the spinal cord (C6 and C7), there was thickening of dura mater in association with necrosis, polymorphonuclear inflammatory infiltrate, bacteria and calcification. **Conclusions:** macroscopic and microscopic findings are consistent with bone callus that causes spinal cord compression and it is associated with the abscess, leading to the animal's paralysis.

Key words: spinal cord compression, quadriplegia, euthanasia.

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Data collection about exogenous intoxication in small animals treated by the pathology sector of UNESP/FMVA

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Background: epidemiological studies have pointed out that carbamates are mainly responsible for poisoning cats and dogs, accidentally or intentionally. Aldicarb®, commonly known as "chumbinho" in Brazil, is an agricultural pesticide that belongs to the carbamate group and, despite recommended for agricultural use only, it is illegally marketed as a rodenticide. Animals' intoxication due to Aldicarb® is frequent and extremely lethal because it inhibits the acetylcholinesterase enzyme, blocking the nerve impulses transmission. **Objective:** this paper aimed to conduct a retrospective study elaborating a profile of death cases by exogenous intoxication in cats and dogs treated at Pathology Services of UNESP-FMVA, from 2009 to 2019. **Methods:** the collection of information obtained in the Necropsy Reports during the above-mentioned period. **Results:** it was concluded that from 79 necropsies resulting in "suspicion of exogenous intoxication", 52 (65.8%) presented macroscopic evidence of carbamate in the gastric content and 21 (26.6%) deaths in suspicion of intoxication were undetermined. According to information provided by the tutors, 3 (3.8%) were intoxicated by dicumarinics, 2 (2.5%) by sodium monofluoroacetate and 1 (1.3%) by warfarin. Still from these 79, 44 (55.7%) were feline and 35 were canine. Comparing collected data with literature data, carbamate still remains as the most common poison in small animals' routine. Regarding to the species, there are reports of canines being the most affected, however, dogs represent the largest number of cases in the clinical care. **Conclusions:** carbamate is still the main cause of exogenous intoxication of domestic animals in Araçatuba region.

Key words: forensic medicine, carbamates, aldicarb, poisoning.

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Heartworm disease in a canine in the north region of Mato Grosso- case report

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Background: Dirofilariosis is a parasitic disease caused by *Dirofilaria immitis*, transmitted by mosquitoes of the gender Aedes, Culex and Anopheles. It is a zoonosis and in dogs causes endothelial lesions and blood vessel obstruction by the adult parasite that is lodged in the right ventricle. **Case Report:** A canine, male, adult, English Bulldog along with an adult female of the same breed were taken to a veterinary clinic for artificial insemination procedure. The animals remained in the clinic for ten days and during that time both showed signs of apathy, fatigue and panting even in mild temperatures. During the transport to the tutor's house at night, the canine began to struggle and died right after. The animals were acquired from a kennel in the State of Rio de Janeiro already adults. **Results:** The animal was referred to LAPAN, UFMT, Sinop for necropsy examination. The corpse was frozen and with evident postmortem changes. Macroscopically, congestive mucosa and globose heart which at the cut, presented eccentric hypertrophy of the right ventricle and five parasites compatible with *Dirofilaria immits* clad in clot medium, measuring between 16 and 30cm. In the lung, there were multifocal red areas blackened and at cut, in the diaphragmatic lobe multiple specimens of the same parasite with sizes varying from 2 to 10cm, inside the arteries were observed. Microscopically, in spite of marked autolysis, it was possible to observe in the lungs, marked diffuse edema, congestion and multifocal thrombosis, liver with marked diffuse congestion and in the heart, thin ventricular wall with fat infiltration in the myocardium. **Conclusions:** Based on anatomopathological changes and parasites observation in the heart and lung, despite the tissue autolysis, it was possible to establish the diagnosis as congestive heart failure associated with Heartworm in a canine.

Key words: *Dirofilaria immitis*, parasitic disease, zoonosis.

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Dysgerminoma in a bitch: case report

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Background: dysgerminoma is a neoplasm of ovarian germ cells that rarely appear in domestic animals, affecting uncastrated bitches with an average age of ten years. The neoplasm is usually unilateral, characterized as undifferentiated and benign, histologically similar to the testicular seminoma. It presents high mitotic rate, however, the metastasis presence is rare. **Case Report:** a 12-year-old female Pinscher dog was subjected to the Veterinary Hospital "Luiz Quintiliano de Oliveira" of the Veterinarian Medicine School in Araçatuba, São Paulo (FMVA/UNESP) presenting neoformation in the left ovary identified in the ultrasonographic evaluation. The dog underwent to the ovariosalpingohisterectomy procedure, and the ovaries and uterus were sent to the Veterinary Pathology Sector of FMVA/UNESP for histopathological examination. **Results**: macroscopically, one of the ovaries presented fluctuating aspect neoformation, measuring 6.0 cm x 5.5 cm. Transverse mass section unveiled friable cut surface, with white content and blood secretions foul-smelling, as well as uterine horns with discrete blood aspect secretion. The microscopic evaluation showed clusters of large round neoplastic germ cells in a polyhedral shape, with vesicular and pleomorphic nuclei, evident nucleolus and scarce cytoplasm with amphofilic characteristics. These structures were found interwoven by connective tissue septa and discrete diffuse mononuclear inflammatory infiltrate. **Conclusion:** dysgerminoma is a neoplasm that rarely occurs in bitches due to the early ovariosalpingohisterectomy procedure, pointing out the importance of the elective procedure in young animals, as well as the histopathological examination performance to diagnosis and prognosis of animals suspicious of this pathology.

Key words: neoplasm, dog, histopathological.

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Papillary carcinoma of mammary gland in guinea pig (*Cavia porcellus*)

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Background: dysgerminoma is a neoplasm of ovarian germ cells that rarely appear in domestic animals, affecting uncastrated bitches with an average age of ten years. The neoplasm is usually unilateral, characterized as undifferentiated and benign, histologically similar to the testicular seminoma. It presents high mitotic rate, however, the metastasis presence is rare. **Case Report:** a 12-year-old female Pinscher dog was subjected to the Veterinary Hospital "Luiz Quintiliano de Oliveira" of the Veterinarian Medicine School in Araçatuba, São Paulo (FMVA/UNESP) presenting neoformation in the left ovary identified in the ultrasonographic evaluation. The dog underwent to the ovariosalpingohisterectomy procedure, and the ovaries and uterus were sent to the Veterinary Pathology Sector of FMVA/UNESP for histopathological examination. **Results**: macroscopically, one of the ovaries presented fluctuating aspect neoformation, measuring 6.0 cm x 5.5 cm. Transverse mass section unveiled friable cut surface, with white content and blood secretions foul-smelling, as well as uterine horns with discrete blood aspect secretion. The microscopic evaluation showed clusters of large round neoplastic germ cells in a polyhedral shape, with vesicular and pleomorphic nuclei, evident nucleolus and scarce cytoplasm with amphofilic characteristics. These structures were found interwoven by connective tissue septa and discrete diffuse mononuclear inflammatory infiltrate. **Conclusion:** dysgerminoma is a neoplasm that rarely occurs in bitches due to the early ovariosalpingohisterectomy procedure, pointing out the importance of the elective procedure in young animals, as well as the histopathological examination performance to diagnosis and prognosis of animals suspicious of this pathology.

Key words: neoplasm, dog, histopathological.

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Anatomopathological characterization of spontaneous poisoning by *Brachiaria decumbens* in bovine in Distrito Federal

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Background: One of the most important forages on the tropical region is *Brachiaria spp.*, which is present in many countries of Australia, Asia, Africa and South America. In the Brazilian cerrado there are more than fifty million hectares of *Brachiaria* species, mainly *B. brizantha* and *B. decumbens*[1]. **Case Report:** Two Nellore calves one-and-a-half-year-old started clinical signs such as hyporexia, irritation, crusted hyperemic cutaneous lesion with skin detachment on the neck, limbs and abdominal region (photodermatitis) and searching for shaded locations after they were transferred for a *Brachiaria decumbens* pasture. The animals were submitted to topic treatment of the skin lesions and protected in shaded place. However, one of them came to death and the necropsy was performed. Organ samples were collected, fixed and stained by hematoxylin and eosin for the microscopic evaluation. **Results:** Necropsy examination revealed mild muscle and subcutaneous fat icterus; yellowish and enlarged liver with round borders and the ribs impression; and multifocal photodermatitis. Histologically, the liver exhibited centrilobular necrosis, periportal fibrosis, bilestasis, multifocal crystals and foamy macrophages. These foamy macrophages were present also in the lumen of renal tubule and mesenteric lymph nodes. In the kidney, there was mild mononuclear cell infiltration. Besides that, moderated parakeratotic hyperkeratosis, acanthosis and epithelial discontinuities areas were viewed in the epidermis. There were multifocal necrosis areas and multifocal moderated inflammatory infiltrate of mixed inflammatory cells, mainly neutrophils, lymphocytes and macrophages, in papillary and the dermis reticular layers. **Conclusions:** Based on epidemiologic, clinical signs, necropsy and histologic findings, the photosensitization by *Brachiaria decumbens* was concluded.

Key words: hepatogenous photosensitization, nellore, toxic plants.

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Unusual case of a sertoli cell tumor in a young dog

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Background: Sertoli cell tumor is one of the most common neoplasms of male reproductive system. This neoplasm rarely appears in young dogs, being more common in dogs older than ten years, however, cryptorchid animals may develop the tumor earlier. A Sertoli cell tumor is usually benign and it is related to feminizing paraneoplastic syndrome that excessively produces estrogen, causing behavioral, dermatological and physical alterations such as gynecomastia and pendulous prepuce. **Case Report**: a one-year-old male Shih Tzu dog was attended at the Animal Reproduction Sector of the Veterinary Hospital "Luiz Quintiliano de Oliveira" at the School of Veterinary Medicine of Araçatuba (FMVA – Unesp) where a physical examination was performed attesting the presence of bilateral cryptorchidism. The right testicle was enlarged and the left one was hypoplastic; the prepuce was pendulous and the gynecomastia was visible. Consequently, an orchiectomy was performed. The testicles were sent to the Veterinary Pathology Sector of FMVA for histopathological examination. **Results:** the right testicle was firm, measuring 3.0 cm x 2.0 cm. Upon the cut, the testicle was white with cystic areas sometimes filled with black bloody content. In the microscopic examination, long neoplastic cells were noted with abundant acidophilic cytoplasm, sometimes vacuolated, with diffuse or intratubular arrangements. These cells were aligned along the fibrous stroma or perpendicularly aligned to the basement membrane (with a palisade aspect), forming tubular structures interwoven by a large amount of fibrous connective tissue. Sertoli cell tumor was the final diagnosis. **Conclusions:** although the histopathological alterations are consistent with those found in the literature, it was described here a rare case of canine Sertoli cell tumor in a young dog with feminizing syndrome.

Key words: cryptorchidism, histopathological, neoplasm.

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Cervical apocrine cystadenocarcinoma in canines

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Background: Sweat gland neoplasias correspond to 2% of cutaneous neoplasias in dogs. Apocrine adenocarcinomas are uncommon malignant skin neoplasias, and the cystic subtype may present several places, similar to the benign corresponding, apocrine cystadenoma. **Case Report:** A canine, male, 11 years old, was treated in the HVU (University Veterinary Hospital) of UFPI, with a skin nodule in the left dorsolateral cervical region, manifested 7 months ago. Fine needle aspiration cytology and surgical excision of the nodule was performed, both samples being sent to the Animal Pathology Sector. The fragment was fixed in 10% buffered formalin solution, cleaved and processed by routine paraffin inclusion and Hematoxylin-Eosin staining. **Results:** Cytopathological examination suggested low grade malignant epithelial neoplasia. The histological sample was a fragment of hairy skin with subcutaneous nodule of 9x5x6 cm, multilobulated, firm and, to the cut, whitish, with solid and other floating areas. Histologically, a cut of hairy skin with a neoplastic proliferation area extending from the surface to the deep dermis was observed, composed of multiple cystic structures of several sizes, mostly filled by an amorphous eosinophilic fluid with a small number of cells. Larger cysts were coated by multiple layers of epithelial cells, mostly three or four, sometimes forming long and slender or short broad papilliform projections, with a central axis of delicate conjunctive, towards the light. The smallest cystic structures were partially or totally filled by small neoformed tubules, delimited by slender connective layer and covered by several layers of epithelial cells similar to those that covered the cysts, but bulkier. Neoplastic cells were flat or cubic polygonal, with high nucleus cytoplasm, bulky nucleus, loose chromatin, prominent and sometimes multiple nucleoli, sparse and poorly eosinophilic cytoplasm, moderately pleomorphic, moderate mitotic index, and atypical mitoses in small numbers. **Conclusions:** Based on histopathological findings, it is an apocrine cystadenocarcinoma.

Key words: adenocarcinoma, epithelial neoplasia, oncology.

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Intestinal mucinous adenocarcinoma with metastasis to regional limph node in a dog

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Background: Intestinal neoplasms have been described in several species, but are uncommon in dogs, representing less than 1% of tumors in this species. Adenocarcinomas and lymphomas are the most common intestinal tumors in dogs and are commonly reported in older male, especially in German Shepherd and Collie breeds. Intestinal carcinomas are classified in distinct histological subtypes, based on the most predominant feature, being the adenocarcinoma mucinous one of them. **Case Report:** A 14-year-old male, black and white Border Collie, was sent for necropsy at the Veterinary Pathology Sector of UFLA. The animal presented progressive weight loss for more than 6 months, anorexia, sporadic hyporexia and black diarrhea. **Results:** At the necropsy two points of thickening of the intestinal wall were observed. One of them was a whitish and solid jejunum mural mass, with 13 cm long that projected into the lumen, with significant luminal stenosis. The second mass, with 3 cm in diameter, had the same mucosa color and was protruding from the ileum mucosa. Mesenteric lymph node was enlarged, some of them with 8 cm in diameter and whitish at surface cut. Histologically, jejunum and ileum neoplastic epithelial cells, forming acinar structures, had oval or irregular nuclei, with marked anisokaryosis, and moderate to accentuated amount of acidophilic cytoplasm. In some areas, neoplastic cells exhibited a signet-ring cell aspect, with peripheralized nuclei and round mucoid-rich cytoplasm. Neoplastic cells were seen in the mesenteric lymph node and infiltrating the intestinal submucosa and muscular layer, associated to multifocal extracellular lakes of mucin, better evidenced by Periodic acid-Schiff (PAS) staining. Also, mucin was seen in the lumen of dilated glands. **Conclusions:** The diagnosis of mucinous adenocarcinoma was based on microscopic findings. The epidemiological aspects of this case reinforce the Collie breeds predisposition for intestinal carcinomas.

Key words: neoplasm, PAS, small intestine.

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Unilateral renal agenesis in dogs

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Background: Unilateral renal agenesis is an infrequent congenital abnormality in small animals, which one or both kidneys may be absent. The unilateral renal agenesis is compatible with life as long as the contralateral kidney function is maintained,. by compensatory mechanism. Whereas, the cases of bilateral renal agenesis are incompatible with life. There may be association with other malformations, mainly of the reproductive tract, most commonly in females. There are reports of this anomaly in several species, such as humans, cats and dogs, being in this suggesting genetic predisposition in some breeds, such as Beagle, Pinscher and Dobermann. **Case Report:** Two puppies of the French Bulldog breed, 45 days old from the same litter, were sent for necropsy at the Veterinary Pathology Sector of Fundação Educacional de Lavras. The animals presented apathy, dehydration of 6%, vomiting and diarrhea, sometimes watery or pasty with mucus. They were treated with sulfadimethoxine and metronidazole for five days, without improvement. Fluid therapy with lactated ringersolution, antibiotic therapy and support treatment was started.. Tests were peformed for canine distemper and parvovirus, being negative for both. Two days after hospitalization the animals presented clinical worsening, with excessive vocalizations and died. **Results:** Necropsy examination revealed absence of the right kidney and the cranial extremity of the right ureter begins as a blind pouch. The contralateral kidney was enlarged in both dogs. **Conclusions:** Based on the absence of the right kidney associated with the absence of embryonic remnant at the microscopy, the diagnosis of unilateral renal agenesis was made.

Key words: development anomaly, kidney, French Bulldog.

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Cases of multicentric lymphoma with ocular globe involvement in dogs

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Background: Lymphomas are malignant lymphoproliferative disorders that originate in solid hematopoietic organs outside the bone marrow. Although not considered a primary tumor, when it occurs inside or adjacent to the eyeball, the lymphoma is one of the most common ocular tumors in dogs. **Case Report:** The objective of this study is to describe cases of ocular globe involvement by multicentric lymphoma in dogs. **Results:** Two dogs necropsied in the Department of Veterinary Pathology of UFLA were diagnosed with multicentric lymphoma and had ocular involvement. Lymphadenomegaly and splenomegaly were observed in both animals and one of them had also an accentuated lobular pattern in the liver. Neoplastic lymphoid cell proliferation was observed in the lymph nodes, spleen, liver, and lungs. The eyes histopathological examination revealed a predominantly perivascular distribution of neoplastic lymphoid cells in the limbus region. Therefore, the same type of cells was seen diffusely distributed throughout the uvea, as well as in retrobulbar tissue. In one of the dogs, the neoplastic cell invasion was extended to the cornea, in which vascular proliferation was also observed. **Conclusions**: The the ocular globe involvement by lymphomas reveals the great importance of the collection and the eyes microscopic analysis for the ocular lesions diagnosis.

Key words: lymphoproliferative disorders, eyes, ophtalmology.

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Bilateral vein testicular thrombosis associated with varicocele in a sheep- case report

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Background: Thrombosis is the formation of a blood clot, which partially or totally blocks the vascular flow. Several factors can lead to the thrombus formation, such as an endothelial lesion, infectious agents, changes in blood flow and hypercoagulability. Varicocele is a dilatation and tortuosity of the pampiniform plexus and the cremasteric veins, which can lead to dilatation and thrombosis of the internal spermatic vein. It is observed occasionally in stallions, rarely in bulls. Due to the severity and rarity of this condition, the aim of this study was to report a case of bilateral vein testicular thrombosis associated with varicocele in a sheep. **Case Report:** A male sheep, Santa Inês breed, adult, was referred to the Animal Pathology Laboratory of Universidade Federal do Espírito Santo from the Experimental Area of the same institution with the history of apathy for five days followed by death. **Results:** At necropsy, an increase was observed in the volume of the bilateral spermatic cords, more evident on the right side, which showed large organized laminated thrombi inside the testicular vein. In addition, the right testicular vein was dilated and tortuous. Both testicles were pale and reduced in size. Pulmonary edema and congestion were observed. White and firm multifocal nodules caused by *Oesophagostomum* sp were also observedin the intestinal serosa. At the microscopic examination, it was possible to observe bilateral venous thrombus containing foci of mineralization and intense diffuse testicular degeneration and mineralization. **Conclusions:** Based on the pathological findings, the diagnosis of bilateral vein testicular thrombosis associated to varicocele was established. Once it is an uncommon condition in sheep and other animals, a greater study of this disease is important in order to establish a treatment protocol in the future, as well as to improve the clinical tests to obtain an accurate diagnosis.

Key words: coagulopathies, vein thrombus, testicular degeneration.

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Occlusive aortic and iliac thrombosis associated to paresis in a dog - case report

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Background: Thrombosis is defined as a fibrin aggregate formation that is always adhered to the wall of a blood vessel or cardiac chamber. It may be associated with red blood cells and platelets. Thrombus formation is a rare condition in dogs and may be caused by changes in blood flow, coagulation disorders, and endothelial lesions, including those caused by infectious agents. The aim of this study was to report a case of occlusive aortic and iliac thrombosis in a dog. **Case Report**: An adult male dog, mixed breed, 10.4 Kg, presented a clinical history of progressive weight loss for about six months and intermittent episodes of hind-limbs lameness. During the clinical examination, mitral cardiac murmur (IV / VI), pendulous abdomen, ascites, seborrheic skin, ataxia and decrease in pelvic limbs proprioception were observed. Furthermore, ultrasound examination verified an increase in size of the adrenal gland. Seven days after the first evaluation, the patient presented acute vocalization and limp of the right pelvic limb, which was cyanotic, swollen and with lower temperature, so arterial thromboembolism was suspected. Due to clinical worsening and unfavorable prognosis, euthanasia was proceeded with the owner's approval. **Results**: Necroscopic examination revealed hepatomegaly, pulmonary emphysema and congestion, bilateral ventricular cardiac dilation, splenomegaly, multiple splenic infarct areas, right hind-limb edema of the subcutaneous tissue. A thrombus was also observed causing a complete occlusion of the vascular lumen from the infrarenal aorta until the right iliac artery as well as an aortic aneurism. During the microscopic evaluation, bacterial clots associated with the thrombus were present. **Conclusions**: The necroscopic findings and the patient's clinical condition were consistent with aortic and iliac thrombosis. The presence of bacterial aggregates may be associated to primary or secondary causes, however, it was not possible to establish the origin of the infectious process**.**

Key words: aneurysm, circulatory changes, coagulopathies, thrombus.

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Cutaneous myxosarcoma in a dog – case report

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Background: Cutaneous myxosarcoma is a malignant neoplasm of primitive mesenchymal cells in which altered fibroblasts produce mucin. It is a rare tumor of middle-aged or old dogs and cats, arising mainly from the trunk and limbs skin. Macroscopically it has soft masses, poorly delimitated with gray to white cut surface. Histologically it consists of spindle-shaped to stellate cells in an abundant myxoid matrix rich in mucopolysaccharides and poor in collagen. The myxoid matrix is usually evidenced by the Alcian Blue special staining. **Case Report:** A 6-year-old, Dachshund female dog was presented for evaluation of a soft cutaneous mass in the left thigh, measuring 8cm. The evolution time was 8 months approximately. After clinical evaluation the animal was submitted to surgical excision of the entire mass. The mass in the dermis had a smooth white surface and was white, gelatinous, and bright on cut section. A tumor sample was fixed in 10% neutral buffered formalin, embedded in paraffin, sectioned, and stained with hematoxylin and eosin (HE). **Results:** Histologically, with routine HE stains, the cutaneous mass was composed of an abundant, pale light blue myxoid matrix in which were scattered spindle-shaped to stellate cells that had scant eosinophilic fibrillar cytoplasm and round to ovoid shaped nuclei. Masson's Trichrome and Alcian Blue staining were performed. Masson's Trichrome revealed sparse collagen fibers and on Alcian Blue the myxoid matrix stained on deep-blue. Differentiation from myxosarcoma and other fibroblast neoplasms can be made based on the presence of this matrix. **Conclusions:** Based on gross and histologic findings the diagnosis of myxosarcoma was detected. The use of special histological stains is necessary to differentiate myxosarcoma from other fibroblasts neoplasms and provide a precise diagnosis.

Key words: fibroblast, mesenchymal, myxoid, neoplasm.

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Accidental arsenic toxicosis in cattle

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Background: The cattle access to pasture sprayed with arsenic usually causes intoxication. **Case Report:** 2-year-old female bovine, Girolando breed, was treated in the Animal Hospital of Araçatuba for 14 days and died after deterioration of its clinical condition. The owner reports that 20 animals died on the property after the pasture being sprayed with monosodium methyl arsenate acid. Clinically the animals exhibited diarrhea, lethargy, weight loss, and death after 5 to 15 days of the beginning of the symptoms. **Results:** At necropsy, ulcerative lesions were observed in the pre-stomachs and abomasum, congestive kidneys and urinary vesicle with petechiae in the mucosa. In the histopathological exam there was the presence of diffuse and accentuated mixed inflammatory infiltrate, with necrosis areas in the pre-stomachs and abomasum mucosa, kidney presenting congestion in the medullary region, and presence of hemorrhage and necrosis areas in the mucosa and submucosa of the urinary vesicle. Samples of tissue and feces were collected for toxicological analysis including arsenic. The analysis resulted in <1µg / g of arsenic in liver, kidney and ruminal contents, <1µg/mL in blood and 44µg/g in feces. **Conclusions:** This concentration is quite significant considering that the samples were collected after 14 days of contact with arsenic. Gonçalves et. al.[1] reported a case of arsenic intoxication where the toxicological analysis of the cattle's liver and kidney after 10 days of contact with arsenic presented concentration <0.5µg / g. Therefore, the clinic historic, the gross and histopathological lesions, associated with toxicological analysis made it possible to conclude the diagnosis of arsenic toxicosis.

Key words: herbicides, cattle, ulcer.

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Feline cutaneous mast cell tumors with regional lymph node metastasis - case report

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Background: Cutaneous mast cell tumors (MCT) have been more described in dogs than in cats. Feline cutaneous MCTs mainly affect animals older than 4 years and are usually seen as a single nodule in region of the head or neck. The pleomorphic form is histologically more anaplastic, clinically more malignant with worse prognosis whereas the well-differentiated form represents 50-90% of the cases and is associated with a more benign behavior. C**ase Report:** A 15-year-old mixed breed female cat presented a nodule at the tip of the ear, measuring 2 cm of diameter, soft and ulcerated. Cytological examination was performed. After clinical evaluation the cat underwent a conchectomy for excision of the nodule with surgical margin and the regional lymph nodes removal. The tissue samples were sent to histopathological evaluation. **Results:** Cytological analysis revealed round cells with large cytoplasm, containing a small quantity of purple granules, eccentric and rounded nucleus, with scattered chromatin and prominent nucleolus, and exhibiting pleomorphism. Histological features of the nodule included neoplastic proliferation of pleomorphic round cells distributed on the dermis. The cells were large with large cytoplasm containing small granules, with eccentric and prominent nucleoli. There was the presence of cytomegaly, megalokaryosis and giant cells, and the mitotic index was 2 mitoses per high-power field with rare eosinophils. These characteristics are associated with the pleomorphic type of MCT. Cervical lymph node showed microscopic metastasis of mast cells. Histochemical technique of Toluidine Blue staining was performed which better evidenced the cytoplasmic metachromatic granules. **Conclusions:** The cat was diagnosed with pleomorphic cutaneous MCT with regional lymph node metastasis. The metastatic MCT behavior in cats is uncommon, highlighting the importance of this report to add data in the literature of feline MCT.

Key words: cat, neoplasm, round cell, skin.

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Abortion in cattle due to infection with *Staphylococcus* spp. and *Streptococcus* spp.

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Background: Most bacteria causing bovine abortion are opportunistic pathogens and that can find their way into the bloodstream and cause sporadic abortion, such as *Staphylococcus* spp. and *Streptococcus* spp. These organisms usually get to the placenta and fetus through the cow's circulatory system. The fetus seems to be more susceptible, in large part because of its immature immune system. The resulting bacteriagrowth can cause the fetus death. **Case Report:** A fetus of bovine abortion with estimated gestational age at eight months from a farm with high abortion and stillbirth incidence. **Results:** Necropsy was performed on the aborted fetus and revealed increased presence of serosanguineous fluids in the thoracic cavity as well as a large quantity of fibrin adhered to the pulmonary pleura and pericardial sac. The caudal lung lobes had firm consistency and dark red staining. When cutting, there was presence of reddish liquid in the lumen of the bronchi and bronchioles (edema). No gross lesions were apparent in the other organs. Histologically, there was an intense inflammatory neutrophilic infiltrate in the bronchi, bronchioles and alveoli, multifocal and coalescing, and frequently associated with large amounts of basophilic bacterial aggregates. Furthermore, there was diffuse edema, fibrin in the alveoli, an increase in the space between the interlobular septa and discrete multifocal brown-orange pigmentation in the alveoli (meconium). Bacteriologic culture was performed, and *Staphylococcus* spp and *Streptococcus* spp were recovered in lung. PCR in some fresh tissues samples were negative for bovine herpes virus (BHV-1), *Leptospira* spp and *Brucella abortus* as well as Elisa for bovine viral diarrhoea virus (BVDV). **Conclusions:** Histopathological and microbiological findings are consistent with bacterial origin abortion. Bacteria of the genus *Staphylococcus* spp. or *Streptococcus* spp. can infect the gravid uterus, and consecutively the fetus causing sporadic abortion in the property.

Key words: opportunistic pathogens, bovine, pneumonia, fetal loss, bacteria.

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Uterine carcinoma associated with paraneoplastic syndrome in a German Spitz dog - case report

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Background: Uterine carcinoma is a malignant tumor of epithelial origin, rare in domestic animals, differently to the its prevalence in women, which has been associated with paraparesis. In such context, it was aimed to report an unusual case of uterine carcinoma associated with paraneoplastic syndrome in a bitch. **Case Report**: An eight-year-old female canine German Spitz was presented to the Veterinary Hospital of Federal University of Espírito Santo, due to acute paraparesis in the right and left pelvic limbs, with evolution to tetraparesis in three days. During clinical examination, dysphonia, and increased uterine horns volume were noticed. Neurological tests showed decreased limbs reflexes, and abdominal ultrasound was suggestive of pyometra or uterine neoplasm. The animal was subjected to ovariohysterectomy, and the uterus and ovaries were referred to histopathological examination. **Results:** At macroscopic examination the surgical specimen presented a bilateral increase of uterine horns, and on the cut, wall thickening was also observed with total occlusion of the uterine lumen by a firm white material. Histopathology revealed malignant epithelial proliferation of intense diffuse papilliform pattern. The neoplastic cells formed cords with anaplastic epithelium, and atypical mitosis. In addition, vascular sclerosis was observed between the serous and muscular layers, and muscular layer hypertrophy. The ovaries had no alterations. The diagnosis was uterine carcinoma. One week after the surgical procedure, the animal presented an improvement in the overall condition and a gradual return of limb movements. **Conclusions:** The diagnosis of uterine carcinoma is uncommon in bitches, being rarely reported its association with a paraneoplastic syndrome in veterinary medicine, thus, early diagnosis is important to knowledge of the etiopathogenesis of this disease and the establishment of an adequate treatment.

Key words: bitch, neoplasm, paraparesis, uterus.

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Hydrallantois in a Jersey cow: case report

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Background: Hydrops of fetal membranes is a fluid accumulation inside the gravid uterus. The amniotic sac (hydramnios), the alantois (hydrallantois) or both may be affected. Hydrallantois more commonly occurs during the last third of pregnancy. This process is rare and frequently associated to a reduction of the placental vascularization, leading to metabolic changes in the placental tissue, pregnancies with multiple fetuses, cloning, fetal malformation, fetal hepatic or renal disorders and umbilical cord torsion. The aim of this study was to describe the necroscopic findings of hydrallantois in a Jersey cow. **Case Report:** A 2.5-year-old Jersey cow was referred to the Animal Pathology Laboratory of Universidade Federal do Espírito Santo, from the experimental area of the same institution for necropsy. For information only, the animal was in the final period of gestation and died without obvious clinical signs. **Results:** During necropsy, pronounced abdominal distention, pale ocular and oral mucous membranes, dehydration signs and retal prolapsus were observed. The abdominal cavity revealed discrete fibrinous exudate, measuring 1000 mL and, intense symmetrical increase of the uterine horns. The uterus revealed suffusions on the serosa layer and 40000 mL of serous fluid with urine odor containing fetus without malformations. Splenomegaly, renal congestion, hepatomegaly and, hepatic steatosis were also observed. Thoracic cavity examination revealed hydropericardium, atelectasis of the lung caudal lobes, pulmonary congestion and hemorrhage. Fetus necropsy unveiled intense hydrothorax and hydroperitoneum and intense diffuse pulmonary atelectasis (congenital). **Conclusions:** Based on the necroscopic findings and considering that the placenta was macroscopically normal, the case was concluded as hydrallantois. This condition led to the death not only of the fetus, but also to the cow's death due to its rapid progression. Therefore, the early diagnosis of this process is very important to prevent dystocia, prolonged gestation and fetal death.

Key words: bovine, fetal death, hydrops.

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Bacterial cholecystitis in a dog

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Background: Bacterial cholecystitis is an inflammatory gallbladder disease, not frequent in dogs, mostly caused by *Escherichia coli* infections of the gastrointestinal tract. The most common infection routes are the ascending duodenum or the haematological pathway. This paper aims to report the case of a dog diagnosed with bacterial cholecystitis **Case Report:** A three-year-old Bull Terrier dog, with history of vomiting, apathy, hyporexia and yellow gold urine with strong odor, was attended at the Veterinary Hospital of the University of Franca (UNIFRAN). At the physical examination, hyperthermia and slightly icteric mucosa were found. As a basic screening procedure, laboratory tests and ultrasonography were performed, and thrombocytopenia, neutrophilic leukocytosis with mild lymphopenia, eosinopenia and monocytopenia were found. At the biochemistry profile there were increased Alanine Amino Transferase (ALT) and Alkaline Phosphatase (FA), along with hyperproteinemia. Total bilirubin and fractions showed significant hyperbilirubinemia, mainly of direct bilirubin. Ultrasonography revealed a generalized gallbladder wall thickening and presence of biliary sludge. **Results:** Due to the animal's general clinical history, it remained hospitalized for six days to perform the clinical treatment. In one of the imaging exams it was possible to observe the gallbladder and bile duct dilation, suggesting gallbladder obstruction. Due to this, the animal was referred for surgery. The material removed from the gallbladder was sent for cytology, bacterial culture and antibiogram. The bacterial culture and antibiogram revealed *E. coli* infection, with sensitivity to doxycycline. Gallbladder content cytology revealed a large number of cocci and bacillus bacteria, biliary pigment and rare neutrophils, leading to the diagnosis of cholecystitis. **Conclusions:** The complementary examinations, both laboratory and imaging, contributed to an early diagnosis of bacterial cholecystitis favoring the animal's clinical treatment, promoting a good prognosis for the disease.

Key words: Bull Terrier, *Eschericia coli*, gallbladder, inflammatory.

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Disseminated canine histiocytic sarcoma complex

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Background: The canine histiocytic sarcoma complex is a rare neoplasm derived from interstitial dendritic cells or macrophages, grouped in histiocytic proliferative diseases. Bernese Mountain, Rottweiler and Golden Retriever breeds in middle-age, have more predisposition. The histiocytic complex sarcoma may be in localized form, affecting a single organ or disseminated when more than one tissue is involved. **Case Report:** A male dog, mongrel, seven years old, was referred to the Veterinary Hospital of Universidade de Franca (UNIFRAN), due to distended abdominal volume secondary to the effusion, that was classified as modified transudate. Abdominal ultrasound, showed mesenteric lymphomegaly and intestinal thickening, having intestinal lymphoma as the main suspected diagnosis. Due to the clinical conditions, euthanasia was required by the owner and the routing necropsy was performed. **Results:** Necropsy examination revealed multifocal elevated nodules to coalescent in spleen and liver, also a nodule in duodenal serous with involvement of the right pancreatic lobe and gastric lymph node. Lungs with multiple miliary nodules in the parenchyma. On surface cut, the nodules had a reddish coloration with whitish and regular areas. Histologically, the nodules unveiled neoplastic proliferation of large round to fusiform cells with abundant eosinophilic cytoplasm arranged in sheets, ovoid to reniform nuclei. Anisocytosis, anisokaryosis and nuclear pleomorphism was increased. Many multinucleated cells with frequent atypical mitotic figures and apoptotic bodies, confirm the diagnosis of histiocytic sarcoma complex. **Conclusions:** Modified transudate is often associated with cardiovascular abnormalities and / or neoplasms. Among the neoplasms, histiocytic sarcoma is uncommon, but it should be included as a differential diagnosis of effusions in dogs.

Key words: dog, effusions, modified transudate, neoplasm.

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Isthmic tricholemmoma in the mammary gland region

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Background: Trichilemmoma is a rare benign cutaneous neoplasm in dogs that has intradermal growth and develops from the external root sheath cells of a hair follicle. Two variants have been observed in dogs, the isthmus type and inferior type. Although head and neck are the most reported regions involved, the neoplasm does not have specific topography or breed predilection. **Case Report:** A female dog, mongrel, 11 years old, castrated 4 years ago, was referred to the Veterinary Hospital of Universidade de Franca (UNIFRAN) due to a cutaneous mass, firm in the right caudal abdominal mammary gland, of about 12 cm in diameter, and non-ulcerated. The development started two years ago and had rapid growth two months ago. The suspected diagnosis was mammary carcinoma. The result of fine-needle aspiration biopsy was inconclusive, and then the biopsy was indicated. The patient was submitted to right unilateral mastectomy and surgical excision of the right inguinal lymph node to histopathology examination. **Results:** The histopathological findings unveiled skin tissue with non-encapsulated circumscribed dermal proliferation of epithelial cells arranged in cords with focal areas of tricolemal keratinized in the center of the epithelial proliferation. Cells with moderated amount of eosinophilic cytoplasm, nuclei ovoid with open chromatin and central nucleolus were observed. Nuclear anisocytosis, anisokaryosis and pleomorphism were minimal. **Conclusions:** Neoplasms from mammary gland origin are more common, however, the distinction among other tumors in this region must be carried out. Although its rare occurrence, trichilemmoma should be included as a differential diagnosis of unique mammary neoplasms, avoiding an invasive and radical surgery such as mastectomy.

Key words: dog, hair follicle, histopathology, neoplasm.

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Squamous cell carcinoma in vulva of two sheeps

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Background: The squamous cell carcinoma (SCC) is considered by international literature unusual in sheep, and when it occurs, it affects mainly the ears and oral cavity. In Brazil there are reports of sheep and goats with SCC presence in Rio Grande do Sul, Paraíba, Pará and Acre; however, no reports were found in the state of Minas Gerais. It is associated with exposure to ultraviolet rays and frequently reported in pure animals which have cutaneous depigmentation **Case Report:** Two 6-year-old White Dorper sheep subjected to semi-intensive management system, caudectomized, presented swelling in the vulva. In the first sheep, the nodule presented approximately 7cm of length by 2 cm of width with ulcerated aspect, whereas in the second animal, the neoplasia had about 2 cm of length by 1 cm of width with presence of integral epidermis. Cytology was performed with fine needle and the diagnosis was suggestive of epithelial neoplasia. Due to suspected diagnosis, samples of both nodules were surgically excised by punch and sent to anatomopathological evaluation. **Results:** Both nodules microscopically presented rare corneal pearls, marked squamous cells pleomorphism, which invaded the dermis and two mitosis figures were observed in ten large magnification fields. Treatment followed with surgical excision and cryosurgery, when the surgical margins were compromised. **Conclusions:** The anatomopathological findings associated with clinical and historical signs allow to conclude that both animals presented Squamous Cells Carcinoma in the vulva. Although uncommon, this neoplasm should be investigated and prevented avoiding marked exposure to the sun, and caudectomy should be avoided. Although Minas Gerais did not fit the largest herds in Brazil, the neoplasia was found in two animals with marked malignancy characteristics.

Key words: sheep, neoplasia, inflammation.

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Uterus adenoma in a guinea pig: case report

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Background: Uterine adenoma is considered by the international literature as a very rare and difficult to differentiation neoplasm in domestic animals, which is characterized by a proliferative mass in uterus with glandular elements, generally unilateral and rarely with metastasis. This neoplasm is considered a differential diagnosis for uterine carcinoma, focal adenomyosis and uterine stromal polyp. There are reports in cattle, cats, dogs and *Oryctolagus cuniculus*. The uterus adenoma is correlated with older animals. **Case Report:** A female 3.3 years old, English breed, 1kg, guinea pig *(Cavia porcellus)* was subjected to ovariohysterectomy (OSH) due to the need to remove a mass with dimensions of 2x1.5cm in the uterine horn region observed during previous ultrasonographic examination. Anamnesis reported that the patient presented nonspecific clinical signs, such as dysuria, diarrhea and anorexia. **Results:** Microscopically, the nodule presented a proliferation of glandular epithelial cells with discrete cellular pleomorphism and absence of mitosis figures associated with a growth of distinct glandular formations located only in the endometrium and discrete neutrophilic inflammatory infiltrate. **Conclusions:** Although the uterine adenoma is considered rare in the literature and is not reported in the guinea pig, the microscopic findings are consistent with this neoplasm. Histopathological diagnosis is fundamental to differentiate malignant neoplasm from other diseases since the former requires prolonged and special treatment.

Key words: tumor, *Cavia porcellus*, ovariohysterectomy.

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Data collection about patent ductus arteriosus in Senepol calves from 2017 to 2019

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Background: during fetal life, the ductus arteriosus establishes a connection between the pulmonary artery and the aorta. Patent ductus arteriosus (PDA) is a congenital alteration wherein the ductus arteriosus fails to close after birth. This is the most common congenital alteration in all the species, being frequent in dogs and rare in cats. In large animals, as bovines, there is little information on predispositions related to the PDA. **Case Report**: necropsies of 23 Senepol calves were performed from 2017 to 2019. All of the animals were born in the same farm where in vitro fertilization (IVF) is performed. 12 animals out of the total were males and 11 were females with age varying between five and 120 days. All of the animals were admitted at the Veterinary Pathology Services at UNESP of Araçatuba, São Paulo, for diagnosing the cause of death. **Results**: approximately 30% of the Senepol calves (7/23) were diagnosed with PDA. About 65% of the calves (15/23) presented pneumonia. In 35% of the animals (8/23), enteritis was determined to be one of the death causes. **Conclusions**: Pneumonia and enteritis are common causes of death in calves. Ventricular septal defect (VSD) is the most common cardiovascular abnormality in bovine neonates[1]. However, a high percentage of PDA was observed. Ductus arteriosus closes when breathing starts and placental blood circulation is removed in response to decline pulmonary vascular resistance and increased systemic vascular resistance. The cause of congenital cardiac abnormalities was still unknown in calves. Genetic implications related to Senepol breed is a suggestion for further studies.

Key words: bovine, necropsy, congenital alteration.

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Disseminated transmissible venereal tumor with intraocular involvement in a dog

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Background: The canine transmissible venereal tumor (TVT) is a round cell neoplasm. Studies using immunohistochemical examination suggested a histiocytic origin. This neoplasm is often disseminated during the coitus. It can be implanted on the mucosa and less commonly in the skin and intraocular. Metastases are rare and occur in immunosuppressed dogs. **Case Report:** A 3-year-old, female, mixed-breed dog, had a history of being rescued from the street when young. The animal was diagnosed with vulvar TVT and treated with Vincristine sulfate (5 sessions). In January of the current year, the animal had neurological signs. A mass was diagnosed using tomography. Another mass in the left eye with involvement of bulbar conjunctiva was diagnosed as TVT by cytopathology. Treatment with corticoid decreased both masses. In the eye, there was partial regression and enucleation was performed. **Results:** Macroscopically the eye had a well-delimited whitish area of 0.7 x 0.7 cm through the cornea, that obliterated 70% of the pupil. On the cut surface, the iris and ciliary body had whitish, solid, poorly delimited and firm nodules. Histopathology revealed iris, ciliary body and posterior chamber with infiltrative round cell neoplasia. The cells were arranged in nests or mantles and sustained by scarce fibrous stroma. The cells had round and well-defined borders. The cytoplasm was weakly eosinophilic and markedly vacuolated. The nucleus was rounded, with dense chromatin, containing single or multiple nucleolus. Anisocariose and anisocytoses were moderate. There were 26 mitotic figures in 10 high power fields (400x). **Conclusion:** All findings described here contributed with a diagnosis compatible with transmissible venereal tumor. TVT has association with epidemiological and behavioral factors in dogs and metastasis in the eye is rare. Surgical treatment can be associated with chemotherapy. In this case, the eye was marked affected and enucleation could prevent resurgent and new dissemination.

Key words: neoplasm, intraocular tumor, eye, TVT.

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Case report of a canine fibrous meningioma

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Background: meningioma is an intracranial tumor that may appear in any of the three meninges and it is originated from highly differentiated cells called arachnoid cells. This tumor is frequently reported in dogs, cats and rats, being the main intracranial dogs CNS neoplasm. **Case Report**: a 5-year-old male Australian Cattle Dog, presenting episodes of collision with objects, was treated for cranial trauma. A corticotherapy was administered; however, the dog kept presenting the symptoms after dose reduction. Due to the dog's weakness, the tutors opted for humanitarian euthanasia, taking the animal to the Veterinary Pathology Service at UNESP of Araçatuba, São Paulo. **Results:** necropsy showed a firm nodule attached to the skull bone at the base of the ear that was connected to the encephalon by an osteolytic area in the occipital bone, compressing the occipital cortex and cerebellum. Histological examination showed high cellularity with cells arranged in interwoven bundle and cell nests supported by a thin stroma intercalated by fibrovascular tissue. Spindle-shaped cells and eosinophilic cytoplasm varying from moderate to scarce were found. These cells had different forms and sizes of nuclei, however, there were scarce mitoses. In the adjacent nervous tissue, there was discrete mixed inflammatory infiltrate associated with diffuse moderate congestion. Immunohistochemistry revealed positive staining for vimentin. Conclusions: the vimentin is a very effective marker [1]. Based on the necropsy, histological patterns and vimentin positive cells, the unusual presence of fibrous meningioma in a younger patient that is mesaticephalic was reported.

Key words: *Canis familiaris*, meninx, histopathology.

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Feline large granular lymphoma: case report

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Background: feline large granular lymphoma is a rare neoplasm and, in most cases, it is followed by a bad prognosis. This condition is an atypical variant of feline lymphoma in which neoplastic lymphoid cells present in the cytoplasm multiple azurophilic granules that may vary in quantity and size **Case Report:** a nine-year-old, random breed, female feline weighing 2.96 kg was admitted to the Veterinary Hospital "Luiz Quintiliano de Oliveira" at UNESP of Araçatuba – São Paulo. The cat's owner described the symptoms such as hyporexy, oligodipsia and progressive weight loss. Physical examination detected the right prescapular lymph node enlargement, abdominal discomfort in the mesogastric region and cachexia, leading to the suspicion of alimentary lymphoma. **Results:** ultrassonographic examination detected an increase of the lymph nodes chain, especially the mesenteric lymph nodes, presenting alterations in the shape, parenchyma, contour and echogenicity; hepatosplenomegaly was also noticed. A cytological examination was performed for lymphoma research and it showed large amount of immature neoplastic lymphocytes, with fine granules diffusely distributed in the cytoplasm. Mitotic figures were not noticed. **Conclusion:** the large granular lymphoma diagnosis is based on widely accepted cytological criteria such as mature or immature uninucleate lymphocytes, with many granules in a large cytoplasm as the cytological finding of this case.

Key words: cat, neoplasia, lymphoid cell, rare.

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Phaeohyphomycosis in a horse – case report

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Background: Phaeohyphomycosis is a disease that may affect both human and animals. It is caused by an opportunistic deuteromycota fungus. The hyphomycetes are dusky or brown due to the melanin deposition. They are saprophyte cosmopolitan microorganisms which are found on wet soil, water, and deteriorating organic material in warm and humid environments. Clinical manifestations in animals are usually nodular lesions on digits, pinna, nasal cavity, or planum. Upper respiratory mycotic infections in horses are uncommon, but they may be caused more frequently by *Aspergillus* sp., followed by other agents including *Rhinosporidiun* sp., *Conidiobollus* sp., *Criptococcus* sp., and *Pythium insidiosum.* This report aims to describe a granulomatous rhinitis caused by a deuteromycota hyphomycete in a horse. **Case Report:** A tissue sample from a nodule in nasal cavity of a horse was received at the Veterinary Pathology Lab. The age and breed were not recorded, but the clinical records had cited a recurrent tumor with no previous histopathological analysis which was causing nasal obstruction and respiratory distress. After a few months, it recurred with more severe clinical sings. Macroscopically, it was 2.5 x 1.5 x 1.0 cm, nodular and soft fragment. It was solid, whitish with brown areas on cut surface. **Results**: Histological sections showed granulomatous submucosal reaction characterized by intense, focally extensive, histiocytic and lymphocytic infiltrates with rare multinucleated giant cells, neutrophils, and plasma cells. The lesion was associated with moderate connective tissue proliferation and mild multifocal necrosis. Occasionally, transversal and longitudinal sections of a tubular and brown fungi were seen extracellularly or within giant cells. In addition, the hyphae were both PAS (periodic acid Schiff) and GMS (Grocott-Gomori). **Conclusion**: Although the mycotic rhinitis may be considered uncommon in horses, deuteromycota fungi must be part of the differential diagnosis for this disease in horses.
Key words: equine, histopathology, fungal rhinitis.

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Cattle sudden death caused by *Amorimia* (mascagnia) *septentrionalis* intoxication - case report

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Background: Intoxication by plants in cattle causes significant economic impairs in Brazilian northeastern livestock. Even though few Brazilian states do not present substantial statistical data of their losses neither promote epidemiology studies. The *Amorimia septentrionalis*, locally known as "Tingui", is a toxic plant found in "Capibaribe" and "Itabaiana" regions of the Brazilian northeastern. The outbreaks mainly occur during or after the rainy seasons (January to July). Anatomopathological diagnosis usually is restrict to the microscopy examination once there are no regular lesions grossly. This work aimed to describe the microscopic alterations of two cases of sudden death caused by Tingui poisoning. **Case Report:** Two oxen from Goiânia and Limoeiro cities, Pernambuco, Brazil, referred as case 1 e 2 respectively, died and tissue samples were sent to the Biopsie Veterinary Pathology Laboratory. The case 1 ox had clinical changes after the herd management characterized by positive venous pulse, motor incoordination, sternal recumbence, muscle tremors, pedal movement and death (duration of 5 to 7 minutes). The case 2 farm just reports cases of sudden death after handling livestock. Both farms have Tingui on pasture and the outbreaks occurred in rainy season. **Results**: The same lesions were seen in both cases, but with different intensity. The heart fragments had pale and hemorrhagic lesions in the papillary muscles. Microscopically, they showed cardiomyocytes losses, degeneration, and tissue fibrosis. The kidneys had tubular degeneration and necrosis associated with intraluminal casts. There was also discrete perivascular infiltrate of lymphocytes, plasma cells and macrophages with hypertrophy of the middle layer of arterioles and mild fibrosis. **Conclusions**: The microscopic findings of myocardial fibrosis and renal necrosis associated to the clinical history, support the diagnosis of intoxication by *Amorimia septentrionalis* (Tingui).

Key words: plant toxicosis, "Tingui", bovine.

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Vascular neoplasms in dogs - retrospective study

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Introduction: Vascular neoplasms are of mesenchymal embryonic origin, usually of the endothelium of blood and lymphatic vessels, and dogs are the most affected. **Objective:** To present a retrospective study of canine vascular neoplasias, in the period of 2015 and 2016, observing factors such as age, gender and affected organ. **Methodology:** The results of histopathological examinations of a Veterinary Pathology Laboratory of Goiânia, Goiás from the years 2015 to 2016 were analyzed. Of those referring to vascular neoplasms, the morphological diagnosis, anatomical location of the lesion, animal' s sex and age were collected. **Results:** During the study period, 1,882 histopathological diagnoses were performed in dogs. Of these, 133 (6.49%) were vascular neoplasms, the most frequent being hemangiosarcoma (80.45%) and hemangioma (18.04%). The most affected organs by these neoplasms were skin (69.53%), spleen (21.09%). Whereas, 50.37% of these animals were females and 49.63% males. The median age of the affected animals was 9 years. **Conclusion:** Hemangiosarcoma was the most prevalent vascular neoplasm, having as its most affected organ the skin in elderly animals. There was no predilection for sex.

Key words: dog diseases, oncology, pathology, hemangiosarcoma.

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Florida keratopathy is associated with alterations in the collagen fiber network of the cat cornea

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Background: Florida keratopathies are opaque corneal lesions that affect dogs, cats, and horses. They are characterized by one or several multi-sized gray or gray white round opacities in the corneal anterior stroma, and do not respond to therapy with corticosteroids. Several etiological and histopathological aspects related to Florida keratopathy are unknown. For example, there is no information about the impact of the disease on the collagen fiber network of the corneal stroma. Collagen fiber network has a role in the cornea refractive and biomechanical properties. **Objective:** To characterize the collagen fiber network of the anterior stroma of cat corneas with Florida keratopathy through a birefringence-based histopathological approach. **Methods:** Four corneas with Florida keratopathy (from 2 cats) and six healthy corneas (from 3 cats), which underwent euthanasia for reasons not related to this research, were evaluated. Corneal tissues were sectioned into 10-µm-thick slices and evaluated under a quantitative polarized light microscope (BX-53P, Olympus). No stain was performed. Information on the topography, the morphology, and the collagen fibers packaging was extracted from the intensities of the birefringence brightness emitted by the samples, using monochromatic light, Sénarmont compensator, and ImageJ® software. **Results:** In healthy corneas, the collagen fibers showed well-defined crimps, characterized by an alternation of light (birefringent areas) and dark bands. The crimps were absent, or fewer evident, in the opaque corneas with Florida keratopathy. The intensity of the birefringence brightness emitted by the corneas with Florida keratopathy was 17.2% higher than those observed in the control samples, indicating that the disease increased the ordered aggregational state of the stromal collagen fibers. **Conclusions:** In cats with Florida keratopathy, the loss of corneal transparency is associated with changes in collagen fiber network of the anterior stroma. This study was supported by CAPES (financial code 001).

Key words: birefringence, corneal opacity, polarized light microscopy.

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Superficial necrolytic dermatitis in a dog

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Background: The superficial necrolytic dermatitis (SND) is an uncommon necrotizing skin disorder in dogs and very rare in cats. It is frequently associated with metabolic hepatic disease also known as hepatocutaenous syndrome and metabolic epidermal necrosis. It is not still known how the lesion occurs, however, it is believed to be related to hyperglycemia, hyperaminoacidemia, hypoalbuminemia, zinc deficiency and fatty acids. Clinically, the lesions exhibit alopecia and are erythematous, crusty, sometimes necrotic, ulcerated or vesicular ulcers and erosions with exudate and adhered crusts, especially on cushions, leading to digital hyperkeratosis and mucocutaneous junctions such as labia and anus, as well as affecting the face, support regions or trauma, limbs, legs, trunk, scrotum and foreskin. In addition to skin lesions, the animals often exhibit systemic changes such as low body score, weight loss, and signs of liver failure. **Case Report:** A dog (*Canis lupus familiaris*), unknown age, mixed breed, female, history of clinical signs of cutaneous erosions, ulcers, and crusts in medial portion of left pelvic limb. **Results:** At histopathological examination the epidermis became divided into three colors of keratinocytes: red, white and blue, respectively, referring to the colors of the French flag. The most superficial layer is characterized by parakeratosis with crusts containing neutrophil debris. The middle layer is characterized by pallor, due to expressive inter and intracellular edema. In the latter layer, the basal layer exhibits hyperplasia of basal and suprabasal keratinocytes, forming a basophilic layer. It is possible to observe separation or necrolysis of the epidermis layers. In the dermis, there is an inflammatory lymphoplasmocytic infiltrate discrete multifocal perivascular and mild to moderate multifocal congestion. **Conclusion:** Based on the histologic findings, superficial necrolytic dermatitis could be concluded. The case report is important for being an uncommon injury.

Key words: skin, dermatopathology, hepatocutaneous syndrome.

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Agenesis of the diaphragm and the pericardium in colt - case report

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Background: congenital abnormalities are structural or functional malformations that appear during fetal development, rarely noticed in horses. The etiology of the diaphragm congenital malformations is unknown due to its little discussion in the literature; however, it seems to be a heterogeneous condition with different affected genes. **Case Report:** equine, colt, American Quarter Horse, male. The colt died twenty minutes after its birth. Its corpse was submitted to the Veterinary Pathology Services of São Paulo State University of Araçatuba for necropsy. **Results:** in the necropsy, the absence of diaphragm was observed. Plastron with muscular structure departing from the xiphoid process and extending along the ribs (rudimentary diaphragm). Inside the thoracic cavity, there were parts of large intestine, liver, spleen and stomach. The heart was had no pericardium. In the histopathology, lungs with atelectasis and emphysema areas**. Conclusions:** based on macroscopic and microscopic examinations, the diagnosis was confirmed as agenesis of the diaphragm and the pericardium. The animal died due to lungs and heart compression, resulted from displacement of abdominal viscera to the thoracic cavity. Cardiorespiratory comprise was confirmed by the existence of areas with pulmonary atelectasis. Isolated pericardium congenital agenesis does not confer to the animal a condition of incompatibility with life.

Key words: horses, abnormalities, congenital.

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Embolic suppurative nephritis in bovine - case report

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Background: embolic nephritis affects all the domestic species, therefore, it is difficult to diagnose due to the lack of evident clinical sins. It is characterized by septic embolism induced by bacteria in glomerular and peritubular capillaries, followed by abscess formation. In large vessels, the occlusion may result in septic infarct. The disease etiology presents primary suppurative lesions or systemic infections. **Case Report:** a 1-year-old male Nellore bovine presenting historic of chronic hematuria. **Results:** in the necropsy, right kidney with thickened capsule, and serous membrane with multiple abscesses and multifocal hemorrhage. At the cut, multiple abscesses and areas of focally extensive necrosis. Left kidney enlarged and thick capsule. At the cut, pelvic dilation associated with moderate liquid content. Bladder full of friable or soft pink-straw color content that sometimes formed cylindrical structures. Right and left ureters dilated with thickened mucosa, filled with large friable pink-straw color content. In the microscopy, the right kidney presented degeneration, and tubular and glomerular, large and diffuse necrosis, associated with the presence of multifocal abscesses and bacterial colony. Submucosal urinary bladder with diffuse and moderate mixed inflammatory infiltrate. **Conclusions:** macroscopic and microscopic alterations are consistent with embolic nephritis.

Key words: kidney, cattle diseases, pyelonephritis.

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Canine cutaneous histoplasmosis in acre state, brazil: first report in the Amazon

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Background: This paper reports the first case of canine histoplasmosis in the Brazilian Amazon with unusual involvement of cutaneous lesions. **Case Report:** An adult Schnauzer dog was admitted to a veterinary clinic located in the city of Rio Branco/Acre, presenting nodular lesions, claudication, diarrhea and hyporexia with evolution of one month. Presence of bilateral nasal secretion, ulcerated nodules in the caudal and medial region of the pelvic limbs and scrotal region, and slight pulmonary sounds were observed during physical examination. A complete blood count, renal and hepatic biochemical profile and lesions cytopathology were requested. **Results:** Blood counts revealed normocytic normocromic anemia, neutrophilia with left shift, lymphopenia, thrombocytopenia, and hyperproteinemia. In the biochemical examinations, the serum decrease of the urea and creatinine parameters and the increase of the enzyme alanine aminotransferase (ALT) were observed. In the cytological analysis it was possible to observe leveduriform forms in the interior of macrophages with morphology compatible with Histoplasma spp. After the fungus identification, the therapy was prescribed with itraconazole that resulted in the lesions remission. **Conclusions:** The cytology of ulcerated lesions has been shown to be useful in the mycosis identification and diagnosis.

Key words: cytopathology, systemic mycosis, dog.

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Cytauxzoonosis in a domestic cat

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Background: Cytauxzoonosis is a tick-borne disease of domestic and wild felids caused by the apicomplexan protozoan *Cytauxzoon felis.* The disease has an early tissue mononuclear phagocyte phase, with vascular occlusion by schizont-laden macrophages, and a late erythrocytic phase that can lead to intravascular and extravascular hemolysis. Naturally affected cats develop nonspecific clinical signs that lead to a rapid course of illness and death. Neurological injury is uncommon. **Case Report:** A 2-year-old male domestic shorthaired cat with history of abdominal pain, anemia, nystagmus, ataxia, pleural effusion, and anorexia was necropsied. **Results:** Gross anatomic changes included icterus, pulmonary edema, splenomegaly, hepatomegaly, hemothorax, and hemorrhage in the lungs, brain, heart, and skin. Microscopically, intravascular macrophages occluded the vascular lumina and contained multiple, 20-35 µm in diameter, irregularly round schizonts containing many basophilic merozoites morphologically consistent with *C. felis.* Schizont-laden macrophages were found in the spleen, liver, lungs, heart, and brain, causing vascular obliteration, vasculitis and mononuclear inflammatory infiltrate in the parenchyma. **Conclusions:** The diagnosis of cytauxzoonosis was based on the histological findings. To our knowledge, cytauxzoonosis causing neurological changes is uncommon in cats in the Brazilian Midwest.

Key words: blood vessels, *Cytauxzoon felis*, feline, neuropathology, protozoan.

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Ovarian teratoma with neural differentiation in a dog

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Background: Teratomas are a germ cell origin neoplasm that could occur in the ovary. Teratomas are composed by two or more pluripotent cells that usually are well differentiated and benign. Histologically, the main tissues involved are bone, cartilage, skin and teeth. **Case Report:** An adult female Rottweiler with mammary gland tumor was referred for oncological evaluation. Upon ultrasonographic examination for oncologic staging, splenic and ovarian nodular lesions were found. The patient was submitted to splenectomy and hysterectomy. Fragments of ovary and spleen were collected, placed in 10% neutral buffered formalin, routinely processed for histology, and stained with hematoxylin and eosin. **Results:** The ovary was lobulated, soft with multifocal firm areas. On sectioning, there was a cyst filled with hair surrounded by a beige solid area. The splenic lesion was 1.6 cm in diameter with a white and regular surface and white and firm on cut section. Microscopically, the cystic ovarian was surrounded by stratified keratinized squamous epithelium, compatible with epidermis, with sebaceous gland, hair follicle and apocrine gland, as well as adipose tissue. In the solid region of the cyst, neurons, astrocytes and oligodendrocytes were observed. In the spleen, there were large multifocal lymphoid nodules that sometimes coalesced and resulted in a single nodule. **Conclusions:** The two different embryonic layers found in the ovarian neoplasm were essential for the diagnosis, since the teratoma is usually asymptomatic. Unlike cutaneous tissue, the development of nervous tissue in a teratoma in a dog is rarely reported.

Key words: canine, neoplasm, ovary.

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Lapatinib effects on HER2 positive canine mammary carcinoma cells

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Background: Mammary gland tumors are spontaneous and frequent tumor in female dogs. Besides that, canines can be considered good model for studying human Brest Cancer (BC). In human BC, HER-2 expression is a pivotal protein for molecular classification, directing the treatment. Lapatinib is a HER-2 receptor tyrosine kinase inhibitor and a therapeutic alternative for metastatic HER2+ BC, resistant to trastuzumab. **Objective:** This study aimed to evaluate the lapatinib antitumoral effect in HER2-positive canine mammary carcinoma cells in vitro. **Methods:** Nine canine mammary gland tumor cells were established from four different primary tumors (N=9). Then, qPCR and immunohistochemistry were performed for HER-2 to select the HER-2 positive cells. The HER-2 immunohistochemical expression was determined using the Herceptest ™ kit (Dako, Carpinteria, CA, USA). After selecting HER-2 positive cells, the MTT assay was performed with different dosages of Lapatinib. **Results:** Of the nine cell lines (N=9), three (3/9) were negative for HER-2 expression and six (6/9) were positive. The mean of HER-2 relative quantification (RQ) for HER-2 gene expression in HER-2 negative cells was 0.74 (±0.31) and the mean RQ for HER-2 positive cells was 1.89 (±0.71). The six HER-2 positive cell lines were evaluated in MTT assay and presented an antitumor response according to HER-2 gene expression. Thus, cell lines with higher HER-2 transcripts showed a lower IC50. **Conclusions:** This study demonstrated a dose dependent effect of Lapatinib in canine mammary gland cells with higher HER-2 protein/gene expression.

Key words: canine, mammary gland tumors, inflammatory cells, lymphocytes, mononuclear cells.

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Case report of suppurative encephalomyelitis post meningocele rupture of Quarter Horse Foal

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Background: Cranium bifidum is a malformation in the skull midline that prevents it from closing properly, leaving an opening on it varying from two to ten centimeters in diameter. Meningocele occur when meninges tissue protrude outside through a defect in skull's bone. The herniated pouch could be either or not covered by a hairy skin. Suppurative enchephalomyelitis is usually a response against bacterial or fungal infections, and it may occur due to different causes, for example perforating wounds. **Case Report:** Quarter Horse foal, one day old, with a history of birth with increased volume in the occipital region with posterior trauma, perforation, fluid drainage, and tissue invagination. Surgery was performed, with favorable evolution. On the thirteenth postoperative day, the animal started presenting ataxia, difficulty maintaining quadrupedal position, and discrete bilateral protrusion of the ocular globe. Hydrocephalus was suspected and clinical worsening continued with opisthotonus, spasticity of thoracic and pelvic limbs, and pedaling movements, undergoing euthanasia. **Results:** The necropsy revealed a cranium bifidum measuring approximately four centimeters, with the encephalic tissue invagination and yellowish contents. On closer examination, purulent contents were observed in the cerebellum region with partial loss of cerebellar tissue, reddened encephalon with vessels congestion, thickening of the meningeal and frothy fluid in the brainstem. Culture of the purulent content was positive for *Escherichia coli*. In the histopathological exam it was observed in the cerebellum, meningeal, medulla and choroid plexus an intense suppurative inflammatory infiltrate in the leptomeninges and basophilic bacterial colonies. **Conclusions:** Based on histological finds, there was a suppurative encephalomyelitis by *E. coli*, that was associated with clinical history indicating nervous tissue contamination probably due to the meningocele rupture.

Key words: cranium bifidum, meningeal, encephalon.

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Necrotizing pyelonephritis ascendant by an infected urachal remnant in a lamb - case report

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Background: The internal umbilical remnant consists of the urachus, umbilical arteries, and umbilical vein. Tearing of the umbilical cord at birth opens a potential path for infection. Poor hygiene of the navel area and the surrounding environment at the time of birth often predisposes the animals to internal umbilical remnant infections. These infections frequently serve as a source for bacterial infections in other parts of the body. **Case Report:** A four-month lamb of the Laucane breed, weighing 16 kg and with history of dysuria, anorexia, apathy and progressive weight loss. In the clinical evaluation vermiform appendix necrosis, necrotic purulent plaques lesions on the foreskin were observed. The animal had unproductive urination position, presenting only drip. There was a progression in the urethral catheter, but no urine flow. After the treatment the animal did not get better and, due to the poor prognosis, euthanasia was performed. **Results:** The necropsy showed necrotic areas in the penile mucosa, fibrinous peritonitis with adhesions of intestinal loops and the bladder, and urachal and bladder abscesses. The urine was granular brownish and fetid**.** Cystocentesis was performed for the samples collection for microbiological culture and *Trueperella pyogenes* was isolated. The kidneys presented irregular surface with an adhered capsule, and the cut surface presented loss of the marrow region with fetid brownish content in the right kidney and marked hydronephrosis in the left kidney. Microscopic kidneys examination showed a pronounced interstitial pyogranulomatous inflammation and intraluminal composed of macrophages and degenerate neutrophils, forming microabscesses. In addition, bacteria colonies in the renal papilla of the right kidney were found, and in the left kidney capsule. **Conclusions:** According to macroscopic, histopathologic and the microbiological findings, the lamb diagnosis in this study was urachal remnant and ascendant cystitis and necrotizing pyelonephritis by *Trueperella pyogenes*.

Key words: kidney, necrosis, hydronephrosis, microabscesses.

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Research of *Leishmania* sp. by fine-needle aspiration (fna) biopsy of lymph nodes in endemic area: a retrospective study

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Background: Araçatuba is a city in the countryside of São Paulo state and it is located in an endemic region for canine visceral leishmaniasis. FNA of peripheral lymph nodes presents 100% specificity when the parasite amastigote form was visualized. **Objective:** To evaluate the FNA importance of peripheral lymph nodes in definitive diagnoses or as a trial test for canine visceral leishmaniasis. **Methods:** The files of the cytological reports for *Leishmania sp.* research between the years 2008 and 2018 of the Service of Veterinary Pathology of the Faculty of Veterinary Medicine of Araçatuba were verified. Diagnostic exams were classified as: reactive lymph node, positive for *Leishmania sp.*, Suspect for *Leishmania sp.*, Lymphadenitis, and material not suitable for diagnosis were included. Results: Within the established period, 3,564 FNA of peripheral lymph nodes were evaluated, and 24.5% (873) of the samples were positive for *Leishmania sp*.; 20.03% (714) suspects; 42.2% (1504) of the lymph nodes were reactive; 1.12% (40) were lymphadenitis and 12.15% (433) were unfit for diagnosis. **Conclusion:** FNA of peripheral lymph nodes was able to confirm approximately 25% of the suspected samples for canine visceral leishmaniasis and about 20% of the samples were suspicious for the disease, being a satisfactory screening method, along with complementary tests such as serology.

Key words: cytology, leishmaniasis, zoonoses.

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First case report of mycobacteriosis in Royal tetra (*Inpaichthys kerri)*

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Background: Fish mycobacteriosis is a chronic progressive disease caused by ubiquitous acid-fast bacilli, identified as nontuberculous mycobacteria. Piscine mycobacteriosis is a common disease of marine, brackish and freshwater fish, infecting more than 200 species of freshwater and marine fish in a vast region extending from the subarctic zone to the tropical one. *Mycobacterium* sp. has been identified as one of the essential micro-organisms causing morbidity and mortality in cultivated and wild fishes all over the world. **Case Report:** Three Royal Tetra (*Inpaichthys kerri*) fish from the Amazon basin, purchased from the registered collector, presented excessive mucus loss, erratic swimming, accelerated breathing movements, which quickly culminated in death. Animals were submitted to direct examination for parasites and anatomopathological examination. **Results:** Microscopic analysis of the skin superficial scarification revealed the presence of the protozoa *Chillodonela* spp. and *Icthiophtirius multifilis*. Histopathological examination showed typical multifocal granulomas in the kidney and liver consisting of a caseous necrotic center containing acid-fast bacilli negative in the Gram and Schiff Periodic Acid staining. The samples were submitted to immunohistochemistry procedure with rabbit polyclonal anti-BCG antibody accompanied by positive control. The samples presented positive immunostaining at the center of the granulomas compatible with *Mycobacterium* sp. infection. **Conclusion:** The mycobacteriosis confirmation in aquarium fish alerts to the death investigation in fish and the obligation of quarantine for this type of animal. Besides that, as far as we know this is the first case report of mycobacteriosis in royal tetra.

Key words: *Mycobacterium* infections, fish diseases, characiformes.

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Atresia of the preputial ostium in Texel sheep

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Background: The preputial ostium atresia refers to the interruption of external urinary flow, resulting in obstruction and consequent urine accumulation in adjacent structures, causing edema, with a gelatinous appearance due to the yellowish fluid accumulation in the subcutaneous tissue. The most commonly found pathology in farm animals, according to the literature, is the preputial ostium stenosis, also known as phimosis, partially obstructing the flow. Atresia can lead to the animal's death, as seen in this case, depending on the consequences caused. **Case Report**: A 3-month-old Texel sheep, 10 days before the euthanasia, presented increased volume in the abdominal region and due to this alteration, motor incordination. After that, it became apathetic and no urination was observed in this period. The animal was submitted to euthanasia, without previous treatment and then sent to the necropsy at Laboratório de Patologia Veterinária (LABOPAVE). **Results**: During necropsy, an increase in volume was seen in the abdominal region extending from the scrotal sac to the preputial region, with a gelatinous aspect, characterized as edema. In the kidneys cortical surface, multifocal ecchymoses of approximately 03 mm and hydronephrosis were observed. Still, it presented narrowing and occlusion of the preputial ostium. After collection, the organs were submitted to 10% formalin fixation, for histological analysis, processed and stained routinely by Hematoxylin and Eosin. After reading the histological slides, in addition to preputial ostium atresia, lymphoplasmacytic nephritis associated with tubular degeneration were also noticed. The other organs did not present significant alterations. **Conclusions:** Edema in this case is caused by increased hydrostatic pressure and fluid extravasation to the interstitium, another consequence is hydronephrosis characterized by dilatation of the renal pelvis due to the urinary flow obstruction being caused mainly by the slow or intermittent increase of the pelvic pressure.

Key words: nephritis, edema, hydronephrosis.

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Prolonged eletric shock by eletric fence in bovine

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Background: Electric shock is the effect of an electric current passing through the animal body, both of natural origin, called fulguration, is the death of animals by the action of atmospheric electrical currents or lightning, during storm or artificial one (electrical fences), the later is also called electrocution. Cases involving electrical fences occur usually because of the incorrect handling or dispersion of herd frightened by people. **Case Report:** A one year old, female, Charolais cow weighing 250kg, after some hunters entered the property without prior notice and scared the herd, the animal was found with posterior limb stuck in the electric fence, the animal appeared apathetic and with an unbalanced walk, after it was treated with beta complex, there was a quick improvement, the animal started ingesting water and pasture, however not spontaneously. Followed by this, the animal fell and remained in decubitus, until the moment of the euthanasia, after that , it was sent for necropsy at the Laboratório de Patologia Veterinária (LABOPAVE), Centro de Ciências Rurais, Campus Curitibanos. **Results:** In the course of necropsy, the animal presented relevant changes, considering the previous history, among them, the principal, was found in the skeletal muscles, that showed pale areas, the bladder had multiples hemorrhagic foci, and the rest of the organs no meaningful macroscopy alteration, After the collection the samples were fixed in 10% formalin for histological analysis, the skeletal muscle cells were described as necrotic, characterized by eosinophilic and hyaline cytoplasm associated with calcification. The ischial nerve showed wallerian degeneration. **Conclusions:** In this case report, the presence of necrotizing myositis is related to electrical discharges in an animal that did not die immediately after the trauma, peripheral nerve lesions often involve the limbs in contact with an energy source, consequently the paresthesias may be immediate and transient or late onset.

Key words: necrosis, muscle, lightning, myositis.

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Chemodectoma with multiple metastases in a Boxer bitch: case report

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Background: Mammary gland tumors are spontaneous and frequent tumor in female dogs. Besides that, canines can be considered good model for studying human Brest Cancer (BC). In human BC, HER-2 expression is a pivotal protein for molecular classification, directing the treatment. Lapatinib is a HER-2 receptor tyrosine kinase inhibitor and a therapeutic alternative for metastatic HER2+ BC, resistant to trastuzumab. **Objective:** This study aimed to evaluate the lapatinib antitumoral effect in HER2-positive canine mammary carcinoma cells in vitro. **Methods:** Nine canine mammary gland tumor cells were established from four different primary tumors (N=9). Then, qPCR and immunohistochemistry were performed for HER-2 to select the HER-2 positive cells. The HER-2 immunohistochemical expression was determined using the Herceptest ™ kit (Dako, Carpinteria, CA, USA). After selecting HER-2 positive cells, the MTT assay was performed with different dosages of Lapatinib. **Results:** Of the nine cell lines (N=9), three (3/9) were negative for HER-2 expression and six (6/9) were positive. The mean of HER-2 relative quantification (RQ) for HER-2 gene expression in HER-2 negative cells was 0.74 (±0.31) and the mean RQ for HER-2 positive cells was 1.89 (±0.71). The six HER-2 positive cell lines were evaluated in MTT assay and presented an antitumor response according to HER-2 gene expression. Thus, cell lines with higher HER-2 transcripts showed a lower IC50. **Conclusions:** This study demonstrated a dose dependent effect of Lapatinib in canine mammary gland cells with higher HER-2 protein/gene expression.

Key words: chemoreceptors, heart, histopathology, necropsy.

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Multiple splenic abscesses in a naturally infected sow by *Corynebacterium* sp.

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Background: Splenic abscesses are considered rare in different animal species. This study aimed to report a case of multiple splenic abscesses in an adult sow. **Case Report:** An adult sow of commercial breeding, with an abortion history on the day preceding death. The owner also reported that the sow was lean for months and presented nodulations on the subscapular region, that were unresponsive to antibiotic therapy. Necropsy was recommended and performed at the property. Tissue Fragments were collected and fixed in 10% formalin for histopathologic analysis. Microbiological Analysis was also performed. **Results:** At necropsy, an abscess was observed amid the muscle tissue of the subscapular region, which, when cut, flowed with purulent material of putrid odor. The heart was diffusely hypertrophied, the liver was enlarged, with bulging edges and nutmeg aspect, lesions compatible with right-sided heart failure. The spleen measured 25x15x9 cm, exhibiting multiple elevations and nodulations of various sizes that replaced the splenic parenchyma. The nodulations were soft in the terminal portion and hardened in the body and head of the organ. When cut, extravasation of a large amount of brownish purulent content with a putrid odor was observed. At various points only the capsule remained. Histologically, the spleenparenchyma was totally replaced by extensive areas of necrosis, at some points presenting basophilic granular material (calcification). Necrosis areas were surrounded by intense infiltrates of neutrophil, lymphocytes, plasma cells, macrophages, multinucleated giant cells, and connective tissue proliferation. In spleen and subcapsular abscess samples, pure colonies of *Corynebacterium* sp. were isolated. **Conclusions:** The isolation of *Corynebacterium* sp. from spleen samples and the subscapular lesion suggest that the most probable entrance door of the bacteria was an old skin lesion, with posterior septicemia and installation of splenic injury.

Key words: splenitis, hemolinfopoietic, bacteremia, histopathology, necropsy.

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Spontaneously heterologous uterus carcinosarcoma in pet guinea pig (*Cavia porcellus)*

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Background: Carcinosarcomas or Malignant Mixed Mesodermal Tumors (MMMTs) have been described in women, however are rare in other mammals species. There are description in rat, chinese hamsters, rabbits, ferrets and guinea pig. In heterologous carcinosarcomas there is mesenchymal differentiation usually not found in the uterus, such as cartilaginous or bony tissue (1). **Case Report:** A 4-year-old, guinea pig (*Cavia porcellus*), weighing 0.768 kg had history of clinical signs of progressive weight loss, bloody vaginal secretion, dehydration and abdominal pain. Abdominal ultrasound was performed and pyometra and ovarian cyst were suspected. After ovariohysterectomy uterus, ovaries, and appendages were sent to the Laboratório de Patologia Veterinária (LABOPAVE) of Universidade Federal de Santa Catarina. **Results:** Macroscopic examination of the left uterine horn revealed a mass rounded and firm that measured 2.3x2.8x2.8 cm. On cut surface, the mass was firm, cavitated and had whitish mottled with brownish areas. In endometrium histopathology, neoplastic proliferation of tubuloacinar epithelial cells, sometimes with more than one cell layer, some cells that rupture the basal membrane of the acini and were found in moderate fibrous stroma. The cells are cubic to columnar with indistinct cytoplasm, rounded nucleus, finely chromatin, sometimes with evident and unique nucleolus. There are neoplasm regions with cartilage formation composed by atypical and pleomorphic cells, sometimes forming isogenic groups. **Conclusions:** neoplasms of the reproductive tract represent approximately 25% of spontaneous tumors in this species (2). Elective ovariohysterectomy is recommended as well as the animal's clinical follow-up.

Key words: MMMTs, pathology, veterinary, OSH, neoplasm.

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A cutaneous composite tumor with a carcinoma and mast cell tumor in a dog

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Background: Mesenchymal and epithelial skin tumors, such as mast cell tumors, adenomas and carcinomas, are common in middle-aged to older dogs. However, composite tumors are rarely described in veterinary medical literature. **Case Report:** This report presents the case of an 11-year-old, mixed-breed, orchiectomized dog, that presented a pedunculated skin tumor on the ventral neck aspect. The lesion appeared six months before the medical appointment, with a very rapid evolution and no history of previous neoplasms. Fine needle aspiration cytology was performed, with the diagnostic suspicion of adenoma. The tumor was resected and sent to histopathological examination. Immunohistochemical analysis was also performed. **Results:** On gross examination, the tumor was ulcerated, firm, whitish and multilobulated. Histochemical staining, as hematoxilin and eosin, toluidine blue and periodic acid-Schiff were performed. Neoplastic mast cells were disseminated in the dermis and infiltrating the epithelial tumor, which was arranged in multiple, large irregular islands and trabeculae, separated by a delicate fibrovascular stroma. The neoplastic epithelial cells were polyhedral, with abundant eosinophilic cytoplasm containing granules and rare vacuolization. Histopathological examination revealed a grade II mast cell tumor and a carcinoma. The immunohistochemical analysis was performed in automated processing using PT Link equipment (Agilent Dako, Agilent Technologies®) and Autostainer Link 48 (Agilent Dako, Agilent Technologies®). Epithelial tumor cells were immunoreactive to pancytokeratin AE1/AE3 and negative for vimentin, GFAP, chromogranin, S100 and NSE; mast cell tumor cells were positive for CD117 and vimentin. In both tumors (epithelial and mast cell tumors), cells immunostained for Ki-67 and were negative for CD45. **Conclusions:** Composite tumors, as the mixed mast cell tumor/carcinoma described in this report, involve two morphologically and immunohistochemically distinct neoplasms coexisting within a single site and exhibiting cellular intermingling.

Key words: *Canis familiaris*, histopathology, immunohistochemistry, neoplasm, mast cell.

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Description of psittacid herpesvirus (pshv) infection in Eastern rosella (*Platycercus eximius*)

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Background: Bacteria belonging to Chlamydiaceae family, *Chlamydia* genus, are obligate intracellular organisms that affect both mammalian and birds. Within birds, the Psittaciform order are the most affected by *Chlamydia psittaci*. Birds are generally asymptomatic and shed the bacteria in their feces and secretions. The most common clinical signs in birds are pneumonia, airsacculitis, hepatitis and splenitis. In humans, *C. psittaci* infections are denominated psittacosis and is usually underdiagnosed as atypical pneumonia, being treated without pathogen identification. The increase in birds' domestication, especially psittacines, associated with the immunosuppression generated by captive stress, traffic and animal transport, raises the concern related to *C. psittaci* infection in pet birds and its zoonotic potential. **Case Report:** Three young eastern rosella were imported from Belgium with no clinical signs of the diseases. After arriving in the aviary, one young male started to present respiratory clinical signs, with acute death one day after. The other birds started to present similar respiratory clinical signs. Despite treatment with doxycycline 35mg/Kg P.O. q24h x 21days, the birds recovered completely. **Results:** Necropsy examination revealed opacity of left thoracic air sacs, presence of fibrinopurulent content adhered to the lung. Histologically, in the lungs there was a granulomatous inflammatory reaction with the presence of spherical and amphiphilic elementary corpuscles in the cytoplasm of epithelioid cells and giant cell type macrophages. Neutrophils were degenerated in the lumen of bronchioles. Hyperemia and increased nucleated cells were observed along the pulmonary parenchyma. The liver presented hyperemia of sinusoidal capillaries associated with cytoplasm hemosiderin in Kupffer cells. Hepatocytes exhibited microvacuolar steatosis. **Conclusions:** The diagnosis of granulomatous pneumonia of bacterial etiology (*Chlamydia psittaci)* was made based on the case history, necropsy findings, and histological results.

Key words: Chlamydiacea, birds, zoonosis.

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Chlamydiosis in imported Eastern rosella (Platycercus eximius) from Belgium

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Background: Bacteria belonging to Chlamydiaceae family, *Chlamydia* genus, are obligate intracellular organisms that affect both mammalian and birds. Within birds, the Psittaciform order are the most affected by *Chlamydia psittaci*. Birds are generally asymptomatic and shed the bacteria in their feces and secretions. The most common clinical signs in birds are pneumonia, airsacculitis, hepatitis and splenitis. In humans, *C. psittaci* infections are denominated psittacosis and is usually underdiagnosed as atypical pneumonia, being treated without pathogen identification. The increase in birds' domestication, especially psittacines, associated with the immunosuppression generated by captive stress, traffic and animal transport, raises the concern related to *C. psittaci* infection in pet birds and its zoonotic potential. **Case Report:** Three young eastern rosella were imported from Belgium with no clinical signs of the diseases. After arriving in the aviary, one young male started to present respiratory clinical signs, with acute death one day after. The other birds started to present similar respiratory clinical signs. Despite treatment with doxycycline 35mg/Kg P.O. q24h x 21days, the birds recovered completely. **Results:** Necropsy examination revealed opacity of left thoracic air sacs, presence of fibrinopurulent content adhered to the lung. Histologically, in the lungs there was a granulomatous inflammatory reaction with the presence of spherical and amphiphilic elementary corpuscles in the cytoplasm of epithelioid cells and giant cell type macrophages. Neutrophils were degenerated in the lumen of bronchioles. Hyperemia and increased nucleated cells were observed along the pulmonary parenchyma. The liver presented hyperemia of sinusoidal capillaries associated with cytoplasm hemosiderin in Kupffer cells. Hepatocytes exhibited microvacuolar steatosis. **Conclusions:** The diagnosis of granulomatous pneumonia of bacterial etiology (*Chlamydia psittaci)* was made based on the case history, necropsy findings, and histological results.

Key words: Chlamydiacea, birds and zoonosis.

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Apocrine gland carcinosarcoma in a dog

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Background: Apocrine gland tumors represent 2% of all the cutaneous tumors in small domestic animals. Carcinosarcoma is a malignant neoplasia based on the presence of epithelial and mesenchymal components. Often the sarcomatous element is represented by osteosarcomatous or chondromatous tissue. To the author's knowledge, there are few cases reports of apocrine carcinosarcoma in the literature, including one dog and one cat. **Case Report:** 14-year-old, mixed breed dog with a 3-year history of a slowly progressive mass at the dorsal cervical region, with rapid growth during the last three days. Citology was suggestive of sebaceous adenoma with circunscript cutaneous calcinosis. The nodule was removed and sent to histopathology. **Results:** The nodule sized 4.5 x 4.0 x 5.3 cm with an ulcerated area of 2.2 x 2.0 cm. On cut surface it was whitish, firm, with soft areas and a cystic focus of 0.8 x 1.5 cm. Histopathology revealed a no circumscribed and unecapsulated neoplastic proliferation composed by polygonal cells arranged in tubular structures ocasionally ectactic. These cells showed moderate anisocytosis and anisokaryosis, a no delimited, scarce, eosinophilic cytoplasm, with apical bubbling in multiple cells. The nuclei were round to ovoid, vesicular, with stippled chromatin and 1 to 2 prominent nucleoli. Nine mitosis figures in 10 high power field were identified. Also, the neoplsm presented fusiform to stellated cells showing moderate anisocytosis and anisokaryosis, a no delimited, eosinophilic cytoplasm and an irregular round nuclei with 1 to 3 nucleoli. Multiple multinucleated cells were found. There were multifocal osteoid matrix associated with the fusiform cells. Thirty-six mitosis figures in 10 high power field were observed. **Conclusions:** Based on the histopathological examination, the morphological diagnosis was canine apocrine sudoriparous gland carcinosarcoma, with mesenchymal cells showing differentiation to osteosarcomatous tissue.

Key words: canine, carcinoma, sarcoma, sudoriparous gland.

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Germ cell-sex cord stromal tumors in a hermaphrodite dog

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Background: Intersexuality, such as hermaphroditism, is an uncommon congenital disorder in domestical animals. The true hermaphroditism is a condition where ovary and testicular tissues coexistis in one animal. In human cases of intersexuality attention is devoted to the tendency of neoplasia development. This tendency is not frequently observed in domestic animals once the animals are usually early castrated. **Case Report:** 7-year old Boxer presenting gynecomastia, one testicle in the scrotum and an ultrasonographic finding of adhered retroperineal tumour of unknown development history. The abdominal ultrasound also revealed the presence of a fully developed uterus with a nodule in the ovary topography. During surgery another abdominal mass was found. **Results:** One scrotal testicle, one uterus with two uterine horns, one ovary and two abdominal masses (14 X6.5 X 7.5 cm and 7 X 5 X 5.5 cm) underwent a histopathology. The testicle showed diffuse atrophy. The retroperitoneal masses and the ovary topography nodule had all the same morphological appearance. They presented a neoplastic proliferation composed by cells of two distinct origins organized in tubule like structures. Some of the neoplastic cells were round, large, with a pale eosinophilic cytoplasm, a large vesicular nuclei with one to four evident nucleoli. The other cellular type displayed a more polyhedric silhouette, a dense eosinophilic cytoplasm and a small, round to oval nuclei with one evident nucleoli. **Conclusions:** Considering the tumors micrcoscopic findings, it is not possible to determine their ovary or testicular origin. The morphological diagnosis of the two abdominal masses and the ovary topography nodule was a germ cell - sex cord stromal tumor. Immunohistochemical evaluation will be necessary in order to achieve the accurate embriological origin of the tumors and to classify the intersex disorder.

Key words: intersex, neoplasia, canine.

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Penile vascular hamartoma in a dog: case report

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Background: Vascular hamartomas are benign vasoproliferative injuries that are rare in dogs. This type of injury has been previously reported in dogs in the form of cutaneous injuries in the scrotum and tail region, but there is a single record of injury in the penile region in the YagerBest Histovet database. **Case Report:** A nine-month-old male Shih-tzu dog presented several vesicles in the penile mucosa with bloody content. A clinical treatment was instituted with anti-inflammatory medication, but without success. A cytology test was conducted, revealing an active chronic inflammatory process associated with the presence of coccoid bacteria and desquamatory epithelial cells. Due to the persistence of the injuries, an incisional biopsy was conducted and the material was forwarded to a histopathological assay for better assessment. **Results:** The histopathological assay reveled a large quantity of vascular spaces, which were dilated and filled with bloody elements, delimited by typical endothelial epithelium. In addition, an irregular hyperplasia was observed in the mucosal layer, associated with focuses of squamous metaplasia and intense inflammatory infiltrate in the submucosal layer. No atypia was observed in the cells comprising the aforementioned proliferation. **Conclusions:** Based on the clinical history of the animal, on the macroscopic characteristics of the injury and in the microscopic findings, a diagnosis of vascular hamartoma was established. After the diagnosis, the animal underwent orchiectomy to prevent trauma to the penile region and presented a good health condition at the last follow-up examination.

Key words: vasoproliferative, penis, canine.

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Sudden death due to chemodectomy

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Background: Chemodectomas is a neoplasm that affects the chemoreceptor organs. The most targeted structure is the aortic followed by the carotid. It is safe to point that the brachycephalic breeds are more susceptible, as so the older male dogs. Single and multiple nodules are the most common form of presentation within the pericardial sac near the base of the heart. **Case Report:** A 9-year-old female canine, Teckel, neutered, was refered to the Veterinary Hospital of Universidade de Franca for necropsy exam. The owner reported that the animal presented a chronic stage of dyspnea, sleep apnea and inspiratory stridor. The dog had sudden death without clinical examination. **Results:** In the macroscopic analysis at the necropsy exam 25 ml of blood in the pericardic sac was observed (hemopericardium). After the removal of the pericardic sac a brownish nodular and highly vascularizated neoformation was visualized in the base of heart between the aorta and pulmonary vein, measuring 2 cm of diameter. Lungs were diffused red-colored and liver presented lobular pattern. In microscopic evaluation of nodular lesion a proliferation of neoplasic cells arranged in lobules sustained by a thin fibrosis was visualized. Cells were cuboid with granular cytoplasm, and round paracentral nucleus with granular chromatin and evident nucleoli. Nuclear pleomorphism was moderated. Presence of mononuclear tumoral giants cells with nucleus in bizarre and irregular format, consistent with the diagnoses of chemodectoma. **Conclusion:** The chemodectoma at the base of the heart cause large vessel compression, leading to sudden death due to hemopericardium and chronic hypoxia.

Key words: dog, heart, hemopericardium, neoplasia.

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Uveal tract melanocytoma in a dog: a case report

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Background: The anterior uveal tract is the most common melanocytoma location, that is a neoplasm composed not only by large, round, heavily pigmented cells but also by a small number of spindle cells with a small, central, oval to round nucleus and very rare or absent mitotic figures. According to the size, pigmented lesions with thickness greater than 2.0 mm are strongly suggestive of melanoma. **Case Report:** A 9-year-old Shih Tzu female canine was presented with a 3-month increase in the left eye, unsuccessful with previously prescribed treatments. At the ophthalmologic examination of the left eye buphthalmia, intense pigmentation in bulbar conjunctiva (in all extension visible to the ocular examination) and moderate corneal edema were seen. The cornea was desensitized and intraocular pressure was measured with an applanation tonometer (Tonopen), in the left eye (OE) was 29 mmHg. Ocular ultrasonography revealed cellularity in the anterior chamber and presence of an oval-shaped structure at the medial position of the iris. The additional exams (X-ray of the thorax, electrocardiogram, abdominal ultrasound, hematologic, biochemical and urinalysis) were normal. Transpalpebral enucleation was performed, and the eye was fixed in 10% formalin and routinely processed. **Results:** In the microscopic exam destruction of the eye was observed by accentuated melanocytes proliferation through all the extension of the uveal tract with the involvement of sclera. Also, it was seen fusiform to round cells with wide cytoplasm and highly number of brownish granules. Mitotic figures were absent. Most of the times the nucleus could not be characterized, however in the treated with depigmentation showed round cells typical of melanocytoma. **Conclusions:** The melanocytoma should enter as a differential diagnosis in pigmented tumors larger than 2 mm and located throughout the uveal tract.

Key words: benign, enucleation, eye, neoplasm, veterinary ophthalmology.

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Aortoesophageal fistula induced by foreign body in a dog

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Background: Esophagus obstruction by foreign body in dogs is a frequent occurrence, especially in small breeds. The obstruction worsening occurs by foreign body type, location and length of stay. **Case Report**: A 10-year-old, female, canine Pinscher from the endemic area of *Dirofilaria immitis* was treated and was being monitored because microfilariae and adult worms were detected. It was reported that two days before death she had difficulty breathing, anorexia and staggering gait. The alterations were associated with the symptomatology previously presented. **Results**: At the necropsy, paleness of the mucosa and skin was observed. There was suspicion of the heart vessel rupture. No bleeding was observed in the thoracic cavity. There was pallor of the organs and adhesion between the esophagus and aorta in the region near the left atrium. Upon the opening of the esophagus before adherence, no changes were observed. At the site of adhesion, there was the presence of a sternum fragment of chicken attached to the wall, which pierced the esophagus and the aortic artery. At the site of the perforation the blood drained through the opening, following to the stomach, which was full. Following the opening, there was the presence of blood digested into the rectal ampulla. In the heart, an adult male worm was observed in the right ventricle. **Conclusion**: The presence of foreign body for a long time caused the esophageal wall necrosis. The aortoesophageal fistula occurs rarely, but with high mortality due to digestive hemorrhage, requiring rapid intervention to ensure patient survival. There was no intervention in a timely manner, due to lack of knowledge of the cause, associating the clinical picture with dirofilariasis.

Key words: perforation, hemorrhage, canine.

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Necrotizing enteritis in young green turtle

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Background: The major gastrointestinal changes in sea turtles are due to the anthropogenic waste ingestion. Obstructions, perforations, twisting, paralytic ileus and presence of foreign bodies are observed. **Case Report**: A female young turtle (*Chelonia mydas*), ran aground on 04/06/2018 in Coruripe-AL (S-10.09618 W-36.090045). She was referred for rehabilitation in CETAS / Biota, presenting dehydration, cutaneous papillomas in the cervical region and fins, left positive buoyancy and rounded, healed deformation on the lateral side of the carapace. During the rehabilitation, normal alertness, appetite and intestinal transit were presented, but without change of buoyancy. Hematological, parasitological and radiographic examinations were performed, evidencing severe anemia, thrombocytopenia, hypoproteinemia and possible muscular impairment. In the faeces *Neoctangium travassosi* was identified. The radiograph showed asymmetry of the pulmonary fields. The instituted treatment was fluid therapy, vitamin supplementation, antibiotic therapy, hepatoprotective and iron dextran. After 39 days of rehabilitation, the animal died. **Results**: In the necropsy examination, at the opening of the coelomic cavity, the presence of fibrionopurulent exudate distributed all over the organs and adhered to the capsule of the liver was observed. No macroscopic lesion was observed in the liver opening. After removal of the large intestine, serous lesion was observed. At the opening, necrotizing enteritis was observed in the mucosa in an area of 2.0 x 2.7 cm. Upon cutting, the lesion was found extending to the serous tunic. Necrosis, edema and conjunctival proliferation were observed. At the lesion site the wall was 0.65 cm thick. The causative agent of the lesion was not present. In the microscopic examination, necrosis with presence of inflammatory infiltrate. **Conclusions**: Foreign bodies can cause sea turtle health damage directly and indirectly. Necroscopic and microscopic examinations were fundamental to determine the tissue damage in the digestive system, compatible with the impacts caused by the solid anthropogenic residues ingestion.

Key words: intestine, lesion, testudines.

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Bacterial pseudomycetoma by *Staphylococcus* sp. and *Proteus* sp. in a dog: case report

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Background: Bacterial pseudomycetoma or botryomycosis is a rare cutaneous infection that affects animals and humans. It is caused by bacteria, especially *Staphylococcus spp.*, *Streptococcus* spp., *Proteus* spp., and Pseudomonas spp., that cause in the host a nodular pyogranulomatous reaction called Splendore-Hoeppli phenomenon. **Case Report:** A 5-year-old male Labrador dog presented in its locomotor limbs ulcerative lesions, which were firm, yellowish to brownish, and with a three-month progression. Histopathological examination, isolation, and culture were performed. **Results:** In the histopathology, the epidermis was acanthotic with parakeratotic hyperkeratosis. The dermis had mixed and diffused inflammatory infiltrate with moderated and multifocal Splendore-Hoeppli phenomenon. Fungal and bacterial culture of the sample was performed, being negative for fungus and positive for Staphylococcus sp. and Proteus sp. **Conclusion:** Macroscopic, histopathological and culture findings characterize bacterial pseudomycetoma. The histopathological examination associated with microbial isolation is essential for the differential diagnosis from other cutaneous infections such as actinomycosis and nocardiosis.

Key words: botryomycosis, Splendore-Hoeppli phenomenon, cutaneous infection, pyogranuloma.

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Correlation between CRYAB and VEGF immunoexpression in canine mammary tumors

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Background: Breast tumors are the most frequent neoplasias in bitches, and in up to 90% of cases they correspond to malignant lesions. Although some prediction is possible based on clinical signs, such as mass size, rate of evolution and presence of ulceration, the primary method to classify malignancy is histopathology. Immunohistochemistry has been used as a routine tool to support diagnosis and prognosis. The crystalline alpha-b protein (CRYAB) is a member of the heat-shock protein family, and its relationship with oncogenesis has been studied in humans, linking its expression to the disease evolution and the angiogenic factors protection, such as vascular endothelial growth (VEGF). **Objective:** Evaluation of CRYAB expression in canine mammary tumors and its correlation with VEGF expression. **Methods:** Immunohistochemistry was performed with anti-VEGF and anti-CRYAB antibodies in healthy mammary tissue and mammary tumors of 31 dogs attended at the Veterinary Hospital of the Federal University of Viçosa. Immunoexpression was analyzed according to the number of labeled cells and labeling intensity. **Results:** Breast neoplasms presented higher CRYAB and VEGF expression than healthy tissue. The immunohistochemical analysis revealed that increased VEGF labeling is directly related to increased CRYAB ($p < 0.01$), in addition to correlating this finding with CRYAB marking intensity ($p < 0.011$) and macrophage labeling for VEGF ($p < 0.028$). **Conclusion:** Canine mammary neoplasms have increased expression of CRYAB. In addition, tumor-associated macrophages show intense expression of CRYAB and VEGF. Although the expression of CRYAB and VEGF are related to each other, more studies are needed to elucidate how CRYAB can protect angiogenic factors and how this may interfere with the chemotherapy of tumors that targets their vascularization.

Key words: angiogenesis, alpha-b protein, heat shock proteins.

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Systemic clostridiosis due to *C. perfringens* infection in *Equus asinus*

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Background: Systemic clostridiosis is a condition described in horses accompanied by an acute clinical course with myonecrosis and muscular emphysema. *C. perfringens* and *C. septicum* are the ethiological causes of this disease. **Case Report:** A donkey (*Equus asinus*), breeding stallion, presented ataxia and evident swelling in the bilateral cervico-thoracic region, dysphagia, excitation, and dyspnea. The cervical musculature showed severe emphysema, and the animal died two days after the beginning of the clinical signs. The owner reported that the animal was husked a week earlier, with abnormal bleeding. **Results:** on necroscopic examination, the animal had an extesive area of myonecrosis and hemorrhage accompanied by severe emphysema in cervical musculature that extended through the dorsal and bilateral scapular region. Multifocal hemorrhage was seen in the lungs, thoracic parietal pleura, cortical kidneys, liver and subendocardial. At microcopic examination skeletal striated muscle fibers were emphysematous, with diffuse necrosis, myofibrils fragmentation accompanied by a neutrophilic inflammatory infiltrate, with discrete macrophagic and lymphoplasmocytic infiltrates. The Gram staining showed pleomorphic bacilli, Gram positive, with rare bacilli presenting central to subterminal spores adjacent to emphysema areas. Bacterial culture and biochemical test corroborated the definite diagnosis of *C. perfringens*. **Conclusion:** this is a rare case report of systemic clostridiosis in asinines. It is believed that the wound during the shelling was the gateway to the bacterium and alert to the risk of the occurrence of this disease in asinines.

Key words: clostridium infections, *Clostridium perfringens*, gas gangrene.

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Epitheliocystis disease from Thailand imported *Astronotus ocellatus* and *Symphysodon discus*

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Background: Epitheliocystic disease is caused by Gram-negative, intracellular bacteria belonging to the *Chlamydiaceae* family. The disease affects the skin and gills of freshwater and marine fishes. High stock density and poor water conditions are typical fators that trigger the epitheliocystic disease and can reach 100% of mortality. During intensive farmimg systems, the mortalities can reach 100% and little in known about the epitheliocystic pathogenesis. **Case Report:** Two fish of the species *Astronotus ocellatus* (Albino Oscar, n = 2) and a *Symphysodon discus* (Discus fish, n = 1), from Brazilian imports from Thailand. About 25% of the small animal's lot had already arrived dead from the importer. The living fishes presented panting breath, and many lay on the aquarium ground, they were apathetic with progressive weight loss and the mortality reached 100% in Albino Oscar fish. Trichlorfon therapy was stablished without success. The animals were submitted to anatomopathological, parasitological and microbiological examination. **Results:** The gills direct examination revealed monogenetic parasites, and the intestinal content unveiled *Hexamita* protozooa in the faeces. The microscopic gills exam revealed discreate branchitis followed by epitelial hypertrophy and hyperplasia with intraepitelial basophilic inclusions consistent with the epitheliocystic disease. **Conclusion:** the present report demonstrates the necessity of the histopathological examination of ornamental fish for the animals' correct handling and treatment. Diseases like the epitheliocystic disease may not be diagnosed implying in a sanitary problem in the ornamental fish farms and distributors.

Key words: *Chlamydiaceae* infection, aquaculture, fish diseases.

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Incidence of adenocarcinoma with mucinous pattern in the small intestine of a Siberian husky dog: case report

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Background: Intestinal adenocarcinoma is a neoplasia most commonly reported in elderly male dogs. There are few reports about this type of neoplasia in dogs. Morphologically, adenocarcinomas can be classified as acinar adenocarcinoma, mucinous adenocarcinoma and signet ring adenocarcinoma, reported in different intestine parts, most commonly found in the small intestine. **Case Report:** A male Siberian Husky dog presented history of chronic abdominal pain and emesis. In the exploratory laparotomy, a firm nodule was found measuring 4.0 cm in the jejunum, with adenocarcinoma diagnosis confirmed after histopathological examination. Two months after the procedure, the animal died and it was sent to Veterinary Pathology Services of School of Veterinary Medicine at Araçatuba (FMVA/Unesp). **Results:** A transmural mass with 15 cm of length in the jejunum and ileum projecting to the intestinal lumen was observed. In the mesentery, spleen and serosa of urinary bladder, white nodules with different sizes were identified. The histopathological examination was characterized by individual cells proliferation in acinar pattern infiltrating the submucosa, muscle and serosa layers; presence of mucinous deposits and signet ring cells. The mesentery, spleen, urinary bladder, mesenteric lymph nodes and adipose tissue adjacent to the pancreas presented cellularity similar to the intestinal neoplasia, confirming multifocal metastases. **Conclusions:** The diagnosis conclusion was mucinous adenocarcinoma because of this neoplasia location and its morphological characteristics observed in the HE stain. Immunohistochemistry for cytokeratin can be considered as an auxiliary method in poorly differentiated tumors or cirrhotic tumor. Metastases are common in cases of late diagnosis and after surgical excision.

Key words: neoplasia, gastrointestinal, jejune, ileum.

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Canine Herpesvirus Type I in Fila brasileiro puppies

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Background: Canine Herpesvirus type I (CHV-I) is the etiologic agent of an infectious and a multisystemic disease responsible for the newborn puppies death between one and four weeks of age. Factors such as low body temperature and ineffective passive immunization provide a viable environment for creating high lethality lesions. In adult animals, such as pregnant females, the virus can become latent, causing a form without clinical signs of the disease, endangering the puppies' lives during pregnancy and after labour. **Case Report:** The corpse of a male Fila Brasileiro dog, 15 days old, was sent to the Veterinary Pathology Sector, School of Veterinary Medicine of Araçatuba (FMVA/Unesp). According to clinical history, the animal had anorexia and abdominal sensitivity. **Results:** At necropsy, the lung was congested and edematous. In the thymus and intestine, there were petechiae. The liver had pale multifocal areas and congestion. The serosa and the kidneys cut surface showed areas of multifocal petechia intercalated by whitish areas. In the microscopy, the hepatic portal space had moderate mononuclear inflammatory infiltrate and multifocal necrosis of hepatocytes. In the kidneys, there was diffuse and marked tubular necrosis associated with congestion, hemorrhage and mononuclear inflammatory infiltrate. The lung presented alveolar necrosis, edema and congestion. **Conclusions:** The findings of macroscopic and microscopic lesions, associated with the clinical course and the age of the animal at the time of death suggest neonatal canine herpesvirus type 1 infection. Lethality of acute and hyperacute forms in newborns emphasizes the importance of establishing vaccination protocols in Brazil and criterious clinical evaluation of pregnant females during pregnancy.

Key words: prenatal infection, newborn dogs, hemorrhage, necrosis, pathology.

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Canine polypoid cystitis: a case report

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Background: Polypoid cystitis is an uncommon disease of the urinary bladder which is characterized by hyperplastic epithelial proliferation and development of a polypoid mass or masses on the bladder inner surface. This condition is due to recurrent and chronical inflammation or infection in the inferior urinary system or urolithiasis, predisposing to secondary inflammatory hyperplasia. **Case Report**: A 5-year-old male Shih-Tzu dog was seen in the Veterinary Hospital of the University of Franca (UNIFRAN/SP) with history of chronic hematuria (2 years duration) and 8-month duration urolithiasis. Hematology tests parameters were normal for the species. Urinalysis had evidenced proteinuria, hematuria, bacteriuria, increased urinary density, moderate desquamated epithelial cells and occult blood (+++). Due to the presence of bacteriuria, urine culture and antimicrobial sensitivity tests were requested, when *Acinetobacter sp.* was isolated and unveiled sensitivity only to Tetraciclin. Abdominal ultrasonography disclosed, on the bladder's inner surface, a wall irregularity and hyperechoic structures leading to acoustic shadowing. **Results:** The patient was subjected to partial cystectomy surgery to obtain samples to histopathological biopsy, which denoted urothelial hyperplasia with focal areas of mucosa invagination, associated to polypoid structures. Cells presented basophilic vacuolated cytoplasm, round central nuclei, reticular chromatin and indistinct nucleoli. Also, one mitotic figure was visualized in ten fields of view area and a discreet lymphoplasmocytic inflammatory infiltrate in submucosa associated accentuated edema, neovascularization and congestion. Focal areas of epithelial ulceration were identified. All findings made possible the confirmation of polypoid cystitis. **Conclusions**: The association between the patient's history and histopathological findings is indispensable to reach the polypoid cystitis' definite diagnosis and it has to be inserted on the differential diagnosis of urinary system diseases on this specie.

Key words: polyp, hyperplastic epithelial proliferation, urinary system.

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Anatomopathological changes of a feline intoxicated by paracetamol

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Background: Paracetamol (acetaminophen) is an analgesic and antipyretic widely used in human medicine and can cause intoxication in cats, dogs and rats. In cats, it is highly toxic because they present deficiency in the biotransformation of this drug, leading to the formation of methemoglobinemia and liver toxicity. **Case Report**: A 3-year-old male, non-defined breed feline weighing 3.6 kg was treated at the Veterinary Hospital of UFMT / Sinop, died and was referred to the Veterinary Pathology Laboratory for necropsy. According to the tutor, the animal presented claudication, pain and edema in the left thoracic limb for two days. To ease the pain, the tutor administered half a tablet of paracetamol (500mg), equivalent to approximately 70mg per kilogram. After this, he reported that the animal became calmer, however, stopped feeding and there was increase in the temperature of the injured area and increase in the edema that reached the animal's face, which was hospitalized, did not respond to therapy and died. **Results**: Necropsy showed icteric mucosa, moderate subcutaneous edema in the trunk and anterior limbs, marked diffuse icterus in the subcutaneous tissue. The liver was friable, with yellowish coloration and evident lobular pattern, mesenteric lymph nodes were enlarged, icterus kidneys. The lungs were swollen and reddish. The trachea presented green-yellow mucus. There were small amount of ascitic liquid, hydrothorax and hydropericaridium. Histologically in the liver, hepatocytes presented marked diffuse dissociation and moderate individual necrosis. The kidneys presented moderate amount of intratubular and intraglomerular amorphous eosinophilic material, in the gray matter of the cerebral cortex there was perineuronal and moderate perivascular edema, also observed in the purkinje layer in the cerebellum. The lung presented congestion and accentuated diffuse edema. **Conclusion**: The diagnosis of paracetamol intoxication was established based on anatomopathological changes and the administration history of the drug by the owner.

Key words: acetaminophen, cat, icterus.

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Fibrosarcoma over the olecrane of a 33-years-old mare

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Background: Fibrosarcomas are relatively rare neoplasms in horses. The most common site reported for fibrosarcoma is the head and involves the subepithelial tissue. Fibrosarcomas are poorly demarcated, usually multinodular with gray-to-white presentation. This type of tumor is infiltrative, often ulcerated and metastasis is uncommon. **Case Report:** A 33-year-old equine (*Equus caballus*) mare had an ulcerated, grayish-whitish tumor with irregular borders in the olecranon region of the right thoracic limb. After the animal death, it underwent a necroscopic and histopathological examination. **Results:** Necropsy examination revelead multifocal ulcers measuring approximately 3 mm in diameter in the plicature of the stomach, presence of fibrin in the hepatic capsule and diaphragm, multifocal yellowish-white nodular formations in the lung. Tumor examination in the olecranon region of the thoracic limb measured approximately 15 cm x 20 cm x 15 cm, multinodular, grayish-whitish coloration, ulcerated, poorly delimited, infiltrative in muscles and tendons. Chronic interstitial pneumonia was observed at the miscroscopic exam; the tumor microscopic examination in the limb showed a fusiform neoplasm that crosses randomly with bundles of pleomorphic fusiform cells with an apypical nucleus and frequently binucleolated. Atypical mitotic figures were present with rare giant cells. **Conclusions:** fibrosarcomas are challenging to differentiate from fibrous dysplasia, reactive granulation tissue, or a fibroblastic stromal reaction, although the histopathological features can discard such conditions. Also immunohistochemistry could be performed for vimentin, desmin, actin, factor VIII and S100 protein.

Key words: neoplasms, pathology, equine.

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Uterine torsion in a cat - case report

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Background: Uterine torsion is defined as a rotation of one or both uterine horns and sometimes the uterus on its own longitudinal axis. This condition is uncommon in cats and has unknown etiopathogenesis, but factors such as the uterus broad ligament laxity, flacid uterine walls, and excessive physical activity may predispose to this condition. Studies show that multiparous females, as well as those at the end of gestation, are more affected by uterine torsion and their fetuses hardly survive. **Case Report**: A three-year-old mixed breed female cat in dystocia for two days was treated at the HVU-UFPI emergency, died and then was submitted to necropsy. **Results**: Clinical examination revealed pale mucosa, rectal temperature of 36.8°C, popliteal and submandibular enlarged lymph nodes, 9% dehydration and fetal death. The blood analysis showed macrocytic normochromic anemia, thrombocytopenia, neutrophilia, lymphopenia. The necroscopic examination was characterized by moderate paleness of ocular and oral mucosa, aside from mild bilateral mucous nasal discharge. The abdominal region was moderately distended by the gravid uterus that contained two fetuses in each horn, with full bone development and fur (last third of gestation). The right horn presented a 360° twist around its own axis in the transition to the body of the uterus along with intense transmural congestion, uterine wall edema and the endometrium and the placenta necrosis. The four fetal annexes and the fetuses had autolytic alterations that were more intense in those of the right horn. A large number of trematodes with morphology compatible with *Platynosomum* sp., was observed in intrahepatic bile ducts. In addition, the right kidney was hypoplastic. **Conclusions**: Based on the anatomopathological findings, it can be stated that this cat presented dystocia as a consequence of complete torsion of the right uterine horn.

Key words: fetuses, uterus, horns.

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Congenital duplicated gallbladder in a cat: case report

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Background: Duplicated gallbladder is a congenital abnormality rarely reported in cats. This anatomical alteration is an incidental finding of necropsy, which predisposes to hepatic and biliary lesions, inflammatory and obstructive condition in cats. **Case Report**: A 2-year-old male mixed breed feline was treated at Veterinary Hospital of Universidade Federal do Piauí, with urethral obstruction presenting distended abdomen and intense painful sensibility. The animal showed moderate thrombocytopenia (200x10³ platelets/µm), a discreet increase of RDW (22.9%), a mild leukocytosis (21,100 leukocytes/µm) with left shift (18,990 segmented/µm) and moderate lymphopenia (844 lymphocytes/µm). The patient did not show improvement during the hospitalization period, died and was submitted to necropsy at the Animal Pathology Sector. **Results**: Macroscopically, the cat presented moderate bilateral pulmonary hyperemia, moderate acute diffuse fibrinous peritonitis, acute focally extensive fibrinonecrotic cystitis, mild splenomegaly, and discrete hepatomegaly with lobular pattern evidence. There were also two distinct biliary vesicles, united by the serosa, from the body to the colon, with two cystic ducts and two independent hepatic ducts, terminating in two duodenal papillae. Both biliary vesicles contained bile in quantity and appearance within normality and, when pressed, allowed the contents to flow through the common bile duct to the duodenum. Histopathology unveiled the liver with moderate multifocal bile ducts hyperplasia and intense diffuse hyperemia. **Conclusions:** Based on the anatomopathological findings, it can be concluded that this feline had a duplicate gallbladder.

Key words: congenital abnormality, anatomopathological, necropsy finding.

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Retrospective study of animal rabies in the mesoregion of Bauru-SP

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Background: Rabies encephalitis affects mammals, and it is caused by the *Lyssavirus* genus viruses. The virus is transmitted by saliva through bites and scratches of infected mammals. In Brazil, animal rabies is endemic, and 34044 cases were reported from 1995 to 2005. **Objective:** The objective of this study was to determine the frequency of positive animals tested for rabies in the mesoregion of Bauru-SP. **Methods:** A retrospective study was carried out using data of one Veterinary Hospital from 2012 to 2018. Samples of different domestic animal species were tested by direct immunofluorescence test and mouse inoculation (biological test). **Results:** Fifty-eight animals tested positive for rabies among 2473 animals. Equine was the most frequent species (n = 28/ 48%), followed by cattle (n = 22/ 37%), sheep (n = 7/ 12%) and feline (n = 1/ 2%). The animals' age ranged from 8 months to 12 years (average of 4.0 years) and females were the majority (n = 35/ 60%). The positivity was 2% (58) of 2473 cases. From the 58 positive cases, 16 (27%) were negative in the direct immunofluorescence test and 58 (100%) were positive in the biological test. Over the years an increase was observed in the number of positive rabies cases in herbivorous, that ranged from 03 to 27 cases in 2016 and in 2017 respectively. **Conclusions:** In the period of this study it was observed that the herbivorous and females were the majority species and sex infected respectively. Furthermore, in the last three years of the research, an increase in the positive number of cases was observed.

Key words: encephalitis, infectious diseases, domestic animals.

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Canine eosinophilic gastroenteritis: case report

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Background: Recent studies have highlighted a considerable number of gastrointestinal diseases with an eosinophilic origin that is unrelated to parasitic infestations. The pathophysiology behind the eosinophilic infiltrate remains unknown. The main clinical signs are vomiting and diarrhea, similar to other gastrointestinal diseases. **Objective:** Report a case of idiopathic eosinophilic gastroenteritis in a dog. **Methods:** A three-year-old male mongrel dog presented apathy, hyporexia, and emesis over 20 days. An ultrasound, a duodenum biopsy and necropsy were performed. **Results:** The ultrasound revealed thickening of the pylorus and the intestinal walls. The intestinal biopsy showed three areas with increased volume of the intestinal walls, measuring 2.5, 2.0 and 1.5 cm in diameter. The entire segment presented an off-white coloration. An evaluation of the cut surfaces of such formations revealed the intestinal wall thickening, with reduction or potential occlusion of the intestinal lumen. Microscopically, the duodenal segment revealed an intense inflammatory infiltrate, predominantly eosinophilic, in the mucous and submucous layers, with thickening of the latter. Based on the clinical and laboratory findings the diagnosis of eosinophilic enteritis was established. The Grocott stain resulted negative. In the same way, parasitic causes were discarded during the necropsy through co-parasitological tests using the Faust and Willis methods. Bacterial causes were dismissed through aerobic growth. **Conclusions:** According to all anatomopathological, clinical and laboratory findings, a established diagnosis of idiopathic eosinophilic gastroenteritis was established.

Key words: eosinophil, gastrointestinal, dog.

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Respiratory epithelial adenomatoid malformation in a dog

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Background: Pulmonary congenital anomalies are rare in all the animal species, but have been reported in humans, cattle and sheep. A congenital cystic adenomatoid malformation (CCAM) is a rare benign lung lesion that appears as a cyst or lump in the chest that may vary in size and content. Although a Canadian study suggests that CCAM occurs on average every 1: 30,000 in humans, prevalence studies in animals have not been conducted. **Case Report:** A 5-year-old male stray dog was presented to the Veterinary Hospital with severe dyspnea, coughing, apathy, anorexia and hematemesis. A radiological examination showed an ar- and fluid-filled cystic lucency (bubble) in the right hemithorax, displacing the heart contralaterally. The dog had already been hospitalized with apathy and cyanosis half year before. **Results:** Necropsy examination revealed a round, pinkish cystic structure (9 cm in diameter) on the right cranial lung lobe topography in the right hemitorax. This structure was cavitary, without content, with a rough inner surface. Histologically, the cyst wall consisted of a layer of cuboidal to columnar epithelial cells interspersed among a severe lymphoplasmacytic inflammatory infiltration supported by fibers of smooth muscle. Adjacent lung lobes had a diffuse and moderate congestion and edema and mild, multifocal suppurative bronchopneumonia. **Conclusion:** Based on the gross and microscopic findings the diagnosis of congenital cystic adenomatoid malformation (CCAM), a rare lung anomaly in domestic animals was made.

Key words: CCAM, lung, diagnosis, congenital anomaly.

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Polymelia associated with pulmonary choristoma in a heifer

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Background: Congenital malformations are functional and structural defects that occur during the embryonic and foetal formation of an individual. These defects may be hereditary or may be associated with environmental and nutritional factors, infectious agents, or an association of these factors. The heterotopic polymelia is characterized by the limbs duplication in different anatomical regions of the body. Notomielia, when the supernumerary legs are attached to the dorsum, is the most common form of heterotopic polymelia. Pulmonary choristoma is a rare malformation that affects animals and occurs during embryogenesis, characterized by the presence of normal lung tissue in an abnormal anatomical region. This work describes a case of polymelia (notomelia) associated with pulmonary choristoma in a heifer. **Case Report:** A 3-month-old heifer, with polymelia and a pedunculated mass (9.3 x 9.5 x 22.8cm) arising from the dorsal (interscapular) region was sent to the Veterinary Hospital at the UFPR, Curitiba, PR. Pedunculated mass was attached to the skin and to the adjacent dermis among the supernumerary limbs. Radiographic examination revealed that the supernumerary limbs had a bone structure where the metacarpophalangeal, intercarpal, radiocarpal and carpo-metarcapic joints presented a probable arthrodesis process; in addition, the limbs were connected to an extra vertebrae, located on the thoracic spine. Supernumerary limbs, as well as the pendular structure located among them, were surgically removed for cosmetic reasons, since none of the anomalies affected the animal's normal development. **Results:** The mass associated with the supernumerary limbs was covered by skin and had an aspect of lung tissue on the cut surface (white-pink and slightly firm). Histologically, the mass examination revealed lobules with atelectatic pulmonary tissue; bronchi, bronchioles and alveoli were observed inside the lobules. **Conclusions:** The diagnosis of polymelia associated with pulmonary choristoma was based on the clinical and histological findings.

Key words: congenital anomaly, supernumerary members, bovine, histopathology, diagnosis.

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Trichoblastoma subtype medusoid – case report

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Background: Trichoblastoma is a benign cutaneous neoplasm derived from the primitive hair follicle that affects the first six years of age, being uncommon in young animals. Poodles and Cockers Spaniels prove to be the most affected breeds. This neoplasm presents as isolated, firm and alopecia nodules, mainly in regions of neck, head and ear base. **Case Report**: Canine, female, with no racial pattern, 3 years of age presented a cutaneous nodule, slow growing and progressive on the right face, irregular in appearance, firm, measuring approximately 1.5cm in diameter. Performed fine needle aspiration whose presumptive diagnosis was basal cell tumor. The animal was referred for exeresis of the tumor and subsequent referral of the sample for histopathological evaluation. **Results**: Microscopically, a neoplasia exhibited agglomerates of basal cells, cytoplasm and basophilic nuclei, arranged in long branched and sinuous strands with the thickness of some cells, associated with mitotic figures and different cell groups. Unencapsulated, well differentiated and multilobulated process. **Conclusions:** Based on clinical, macroscopic and histopathological findings, the diagnosis of trichoblastoma of the medusoid pattern was confirmed, affecting the face of a 3-year-old canine.

Key words: neoplasia, basal cells, skin, canine.

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Trichoepithelioma in chinese hamster

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Background: Trichoepithelioma is a benign hair follicle neoplasm. It is common in dogs, uncommon in cats and rare in other species including hamsters. In laboratory hamsters trichoepitheliomas have been described in association with hamster polyomavirus infection. **Case Report:** A 16-month-old Chinese, male hamster (*Cricetulus griseus*), was seen the Laboratory of Education and Research in Wild Animals of the Federal University of Uberlândia presenting an approximately 1.0-cm, plaque-shaped, brown color, non-adhered, non-ulcerated, multinodular and firm consistency nodule located laterally in the left leg. After clinical evaluation the animal was submitted to surgical excision of the entire mass. A tumor sample was fixed in 10% neutral buffered formalin, embedded in paraffin, sectioned, and stained with hematoxylin and eosin (HE). **Results:** Microscopically, islands from round to oval-shaped epithelial cells with sparse cytoplasm, oval nucleus often involving elongated eosinophilic structures (hair) were observed. The cells had moderate anisocytosis and anisocariosis and moderate pleomorphism. **Conclusion:** Based on gross and histologic findings the trichoepithelioma diagnosis was made. This is an uncommon case of skin tumor in Chinese hamster.

Key words: *Cricetulus griseus*, neoplasia, wild animal.

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Use of citrated plasma in the hemostatic and viscoelastic evaluation of equine with laminitis – case report

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Background: Despite the advances in the understanding of equine laminitis, the complexity of the pathogenesis makes treatment difficult and costly, requiring euthanasia. Research indicates that lesions in the intestinal mucosa can stimulate the platelet aggregation factor (PAF) secretion, inducing the activation and aggregation of platelets and neutrophils. These aggregates may settle on the hooves wall and lead to microthrombi, altering the blood flow in the microvasculature and causing hypoperfusion (1). **Objective**: Use of citrated plasma in the hemostatic and viscoelastic evaluation of equine with laminitis. **Methods**: A 10-year-old mixed-breed male equine with laminitis was referred for treatment in the Veterinary Hospital of FCAV/Unesp, Jaboticabal, SP, Brazil. Prior to any treatment, 8 mL of blood were collected in two tubes containing sodium citrate at 3.2%. After centrifugation, the plasma was used to determine the fibrinogen concentration, PT and APTT, and for the viscoelastic clot formation test (TEG) and obtaining the variables R, K, angle α and MA (Fig.1). The next day the owner requested euthanasia and did not authorize necropsy. **Results**: The patient presented high values of PT (22.9 sec), APTT (67.2 sec) and R (17.8 min), indicating reduction in the circulating amount of coagulation factors. The low value of K (3.8 min) meant that the fibrinogen concentration (217 mg/dL) was sufficient for the clot stabilization. The high value of angle α (53.6°) indicated a thrombotic risk. The high value of MA (71.2 mm) suggests that, when formed, the clot was stable and resistant (1). **Conclusions**: The tests allow to infer that the patient had compatible hemostatic changes with high consumption of circulating coagulation factors and risk of thrombus development in the microvasculature.

Key words: PT, APPT, fibrinogen, microthrombosis, thromboelastography.

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Cutaneous hemangiosarcoma in a Cockatiel

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Background: cockatiels are susceptible to mesenchymal neoplasms; among the main ones, there is the cutaneous hemangiosarcoma that mainly affects elderly animals. This neoplasm can be found in the beak, wings, legs, feet and cloaca, caused by several predisposing factors such as genetics, exposure to oncoviruses, and sun and radiation exposure. **Case Report:** a 9-year-old female cockatiel with a nodule in the left side of its belly was submitted to an incisional biopsy and the material was sent to the Veterinary Pathology Sector of FMVA. **Results:** macroscopically, the sample measured 1.0 cm x 1.0 cm, circular, hemorrhagic and firm. At the cut, there was irregular white surface. In the microscopic examination, the epidermis presented parakeratotic hyperkeratosis, the medium and deep dermis presented multiple vascular channels lined with neoplastic endothelial cells, with hyperchromatic and pleomorphic nucleus, and multiple and evident nucleolus. There was moderate to severe mononuclear inflammatory infiltrate and hemorrhage. **Conclusion:** there are few reports about cutaneous hemangiosarcoma in cockatiels. The popularization of this species as pets favors the increase in its longevity, and as consequence provide a higher incidence of neoplastic changes. Clinical examination associated with histopathology are essential tools to characterize these neoplasms.

Key words: neoplasm, endothelium, psittacines.

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Multicentric lymphoma and uterine carcinoma in rabbit (*Ocytolagus cuniculus domesticus*)

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Background: due to the popularization of rabbits as pets, it is observed increased neoplasm reports in this species. **Case Report:** a 6-year-old female rabbit with history of anorexia, apathy and dyschezia was submitted to the Veterinary Hospital of FMVA. The X-ray suggested obstruction areas in the intestine and stomach. An exploratory laparotomy was performed, showing neoformations in the omentum, uterus, liver, spleen, gallbladder, small and large intestines. The patient died in the intraoperatory. **Results:** the animal was sent to the Veterinary Pathology Services of FMVA for necropsy. At necropsy, there was presence of nodular neoformations in the liver, gallbladder, omentum, duodenal mucosa, spleen, mesenteric lymph nodes, cecum, left kidney and in both uterine horns. The nodules measured approximately from 1 mm to 3 cm, with firm whitish aspect. In the liver cytology, gallbladder, omentum, duodenal mucosa, spleen, mesenteric lymph nodes, cecum, left kidney, medium pleomorphic lymphocytes were observed, with multiple and prominent nucleoli, condensed chromatin and rare mitotic figures. The histopathology of these organs showed infiltrate composed by neoplastic and pleomorphic lymphocytes, with variable cytoplasm, evident nucleolus and a discrete quantity of mitotic figures. Histopathologicaly anaplasic epithelial cells at endometrium were arranged in cords. **Conclusion:** the increase of neoplasms casuistry in rabbits is related to the increase of life expectancy in this species. In the literature, there is not a report of simultaneous occurrence of multicentric lymphoma and uterine carcinoma in domestic rabbits.

Key words: neoplasms, advanced age, lagomorphs.

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Herpesvirus pneumonia in a cat

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Background: Feline herpesvirus 1 (FeHV-1) is an alphaherpesvirus that infects members of the family Felidae, mainly the domestic cats. This virus, often in association with others virus, as calicivirus, is responsible to cause upper respiratory tract disease in which rhinitis and conjunctivitis are the main clinical features, but pneumonia is uncommon. Clinical presentation is the most common in kittens but occur in adult cats and depend as well as severity on the viral strain, the age and immune status of the individual animal. Occasionally, FeHV-1 induced fibrinonecrotic bronchopneumonia can occur. **Case Report:** Two 15 day-old Persian cats from a litter of four cats presented clinical illness, and one of them died. This cat was submitted to *post mortem* exam. **Results:** At necropsy multifocal ulcers and erosions were observed in the oral mucosa, in addition to bilateral corneal opacity with discrete yellowish exudate. The lung did not collabed at cavity opening. Histologically, degeneration and marked multifocal necrosis of the bronchial, bronchiole and alveolar epithelium associated with moderate fibrin deposition and cellular debris were observed in the lungs. In these areas, multifocal marked infiltrate of neutrophils, lymphocytes, plasma cells and moderate of foamy macrophages, also observed around bronchioles and alveolar septa. Type II pneumocytes were proliferated. Necrosis of lymphoid organs such as mandibular lymph nodes, spleen and bone marrow was also observed. Grossly and histology alterations were compatible for viral herpesvirus infection and the disease was confirmed by immunohistochemical (IHQ) for FHV-1 at the lung, which presented cytoplasmic immunostaining in pneumocytes types I, II and macrophages. **Conclusion:** Based on grossly, microscopic and immunohistochemical findings, it was concluded that herpes was the causative agent of the disease. As well as upper respiratory tract, FHV-1 should be considered an important agent of lung diseases, and immunohistochemistry should be performed to confirm the diagnosis.

Key words: lung diseases, kitten, histopathology.

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Muscular hemangiosarcoma in a horse

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Background: Hemangiosarcoma is a highly malignant neoplasm of vascular endothelium. In horses, this tumor is uncommon and is characterized by early and aggressive metastases. **Case Report:** Equine, male, Sela Holandesa breed, 20 years old, demonstrated flexing difficulty of the right pelvic limb, and at palpation gluteal musculature was stiff. Due to the poor prognosis, the horse was submitted to euthanasia followed by necropsy. Organ fragments were collected, fixed in 10% formaldehyde, routinely processed for histology and stained with hematoxylin and eosin (HE). **Results:** At necropsy, in the right pelvic limb, semimembranosus, semitendinosus and biceps femoris muscles showed the formation of multiple blood-filled cavitations. Fracture of the border of the lower ischiatic incision was observed in the left pelvic limb. The medullary region of the adrenal glands showed multiple blackened nodulations ranging from 0.3 to 1.0 cm in diameter. In the pulmonary parenchyma, multifocal blackened nodules measuring 0.2 to 2.5 centimeters in diameter were observed. Microscopically, the right pelvic limb revealed non-delimited and non-encapsulated neoplastic proliferation, composed of endothelial cells forming irregular vascular structures filled by a large number of red blood cells, and sustained by moderate fibrovascular stroma. The cells were spindle-shaped, with moderate eosinophilic cytoplasm, oval nucleus, finely dotted chromatin, and single, evident nucleolus. Accentuated anisocytosis and anisokaryosis were observed, and anaverage of two mitosis figures were visualized per 400x field. In the lung and the adrenals medullary region, neoplastic proliferation similar to the one described in the right pelvic limb could be observed. **Conclusions:** The diagnosis of muscular hemangiosarcoma with metastases was based on the clinical signs, macroscopic and microscopic findings.

Key words: neoplasm, vascular endothelium, equine.

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Serum biochemistry profile of intact and splenectomized bovines and bufalloes experimentally infected by *Anaplasma marginale*

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Background: *Anaplasma marginale* is the etiological agent of Anaplasmosis, that causes progressive hemolytic anemia, one of the main clinical signs observed in the disease. The spleen is the main responsible for the erythrocytes intracellular destruction infected by the agent. **Objective:** The objective of this study was to evaluate and compare the biochemical aspects of intact and splenectomized bovines (*Bos taurus*) and buffaloes (*Bubalus bubalis*) experimentally infected by *Anaplasma marginale* strain AmRio2. **Methods:** Four Murrah buffaloes and four crossbred cattle with a mean age of eight months were used, two animals of each species being randomly selected for splenectomy. Blood samples from all the animals were collected 30 days before the surgical technique to obtain control values and on days 10, 30, 60 and 90 after surgery. Urea, creatinine, direct and total bilirubin, aspartate aminotransferase (AST), alanine aminotransferase (ALT) and gamma glutamyltransferase (GGT), as well as total proteins (PT) were analyzed through an automated biochemical analyzer. **Results:** The urea concentration was shown to be slightly elevated in intact and splenectomized cattle, while buffaloes showed a decrease in this parameter. The creatinine values of all the animals did not change significantly when compared to the control values. The concentration of total and direct bilirubin presented a moderate elevation in splenectomized bovine and buffaloes. In the assessment of liver function, bovine and splenectomized buffaloes had increased serum AST, ALT and GGT levels. Intact animals showed a slight increase in ALT and GGT concentrations. Such changes may be related to possible hepatic lesions. All the animals had hypoproteinemia before and after performing the surgical technique. **Conclusions:** The obtained results allowed the evaluation of the spleen removal influence under the serum biochemical constituents of animals infected by *Anaplasma marginale*.

Key words: splenic surgery, *Bos taurus*, *Bubalus bubalis*, clinical pathology.

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Colonic epithelial nodular hyperplasia associated with strongyloidiasis in a cat in Teresina, Piauí

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Background: Parasitic colitis in cats is caused by agents that invade the intestinal mucosa during development or are hematophagous, being *Ancylostoma* sp. and *Strongyloides* sp. the most common nematodes, whose parasitism is characterized by diarrhea, tenesmus and rectal prolapse. **Case Report**: A two-year-old male castrated mixed breed feline was treated at HVU-UFPI bearing tenesmus, rectal prolapse, anemia, and neutrophilia. A laparoscopic evaluation was performed and revealed transmural nodules in the cecum and colon, with a diameter varying from 2 to 4 mm, multifocal to coalescing distribution, firm consistency and containing blood after incision. Fragments of the large intestine were collected, fixed in 10% buffered formalin solution and processed by standard paraffin section protocol and stained with hematoxylin and eosin. **Results**: Microscopically, nodules consisted of circular areas composed of projections from the intestinal mucosa to the submucosa, formed by tubular structures coated by a layer of monomorphic bulky enterocytes and rare goblet cells. Rhabditiform and filariform larvae at different development stages, eggs, and adults with morphology compatible to the nematode family Strongyloididae were observed in the lumen of the hyperplastic epithelium, as well as between the tubules and at the nodule border. The eggs were between 15 and 20 μm in diameter and enveloped by a thin cuticle. Larvae were thin and long, and females had a diameter ranging from 60 to 80 μm. In some adult specimens, it was possible to distinguish structures such as ovary, intestine, including red blood cells, and external muscular layer. Moderate multifocal hemorrhage and mononuclear inflammatory infiltrate, predominantly lymphocytic, diffusely distributed and discrete were observed in the lamina propria and submucosa. **Conclusions**: According to the histopathological findings, the diagnosis of colonic nodular epithelial hyperplasia with intralesional Strongyloides was established.

Key words: feline, colitis, parasites, nematodes.

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Nerve sheath tumor with cerebral metastasis in a dog: case report

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Backgroud: Nerve sheath, Schwann cells (schwannomas) and perineural cells have neoplasia, benign and malignant variants, which are extremely rare. The occurrence of metastasis is poorly reported. **Case Report:** A 15-year-old Sharpei canine, was admitted at the HVU-UFPI, with seizures, which started five days ago. The animal was dehydrated and had difficulty locomotion. The patient died and was submitted to necropsy at the Animal Pathology Sector **Results**: Macroscopically, the dog had, in the subcutaneous tissue adjacent to the frontal bone, a mass of 8.0 x 6.0 x 4.0 cm, poorly delimited, firm consistency, and whitish cut surface. Both lungs were non-collapsed, discreetly enlarged, whitish color, with multiple nodules of diffuse distribution, firm consistency, and rangiant to cut. Two nodules, approximately 0.5 cm, yellowish-white and firm were observed in the left ventricular myocardium. The liver and both kidneys had nodules similar to those of the lungs, with a multifocal distribution and a diameter ranging from one to two centimeters. The brain, in the left occipital lobe, had a nodule of 1.0 cm, non-delimited, beige and firm. Microscopically, subcutaneous, pulmonary, myocardial, hepatic, renal and cerebral neoformations were constituted by neoplastic proliferation of spindle cells arranged either in bundles, sometimes in nests, sometimes in spirals, and in infiltrative growth. Neoplastic cells had moderate pleomorphism, with predominantly small, fusiform and hipercromatic nuclei, but sometimes rounded hipocromatic nuclei, with low mitotic index, the cytoplasmic limit is imprecise and weakly eosinophilic, with moderate eosinophilic extracellular matrix. Multifocal areas of immature cartilaginous tissue neoformation and osteoid matrix were observed in addition to necrosis areas. **Conclusions**: The diagnosis of nerve sheath tumor with metastasis including in the brain was established based of histopathological findings

Key words: malignant neoplasm, oncology, metastasis.

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Ocular and periocular melanocytic neoplasms in pets

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Background: Melanocytic neoplasms are derived from melanocytes or melanoblasts, classified as benign (melanocytomas) or malignant (melanomas) in accordance with cellular differentiation, growth, mitotic index, and metastatic capacity. Ocular tissues and annexes may be affected. Due to the delicate location, even benign cases may compromise the vision. **Objective:** To identify and analyze the occurrence of melanocytic neoplasms in samples of eyes and annexes in different animal species sent to the Veterinary Pathology Sector of the Universidade Federal de Lavras, Lavras, Minas Gerais, in 2016-2019. **Methods:** The samples were sent from the Veterinary Hospital of UFLA and from veterinary clinics. The biopsies specimens were fixed in 10% buffered formalin and routinely processed and stained for histopathology. **Results:** During the period, 14 cases of melanocytic neoplasms were diagnosed, 12 of eyelids and two were intraocular. Of these, 13 were melanoma and only one was classified as melanocytoma. The major occurrence was observed in the dogs (11), without sex predisposition. The average age for dogs was 8.5 years (3-14 years); two cases were seen in cats, one 1-year-old cat and the other 18; and one case in a rabbit, with no information about age. The histological findings varied in each case, most cases showed solid clusters of heavily pigmented cells. The neoplastic cells morphology ranged from spindle to epithelioid type. There were two cases of amelanotic melanoma, with no pigmented cytoplasm and poorly differentiated cells. The frequency of mitotic figures in the malignant cases were more than three by microscopic field of higher magnification. **Conclusions:** The diagnosis of the ocular and periocular melanocytic tumors was based on mitotic index, cellular differentiation, growth and adjacent tissues invasion. Melanomas were seen as neoplasms of significant occurrence in dogs of the studied area.

Key words: canine melanoma, melanocytoma, ophtalmology.

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Evaluation between immunohistochemistry and giemsa staining for the diagnosis of *Mycoplasma bovis*-associated in dairy cattle

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Background: *Mycoplasma bovis* is an important cause of pneumonia and several disease syndromes in cattle. This microorganism is highly pleomorphic and does not have a cell wall, and as such, is different from other bacteria. The most important histopathologic findings associated with pulmonary mycoplasmosis in cattle are necrosuppurative or suppurative bronchopneumonia, obliterative bronchiolitis, and peribronchial lymphocytic cuffings. **Objective:** The objective of this study was to evaluate the use of immunohistochemistry (IHC) and Giemsa staining for the diagnosis of bovine respiratory disease induced by *M. bovis*. **Methods:** Fragments of formalin-fixed and paraffin-embedded (FFPE) pulmonary sections from adult Holstein cows (*n* =13), that died due to pulmonary distress were routinely processed and evaluated with the Hematoxylin and Eosin to classify the patterns of pneumonia and other related alterations. Additionally, the Giemsa, and Gram staining techniques were used to identify intralesional bacteria. The intralesional presence of *M. bovis* was confirmed within the category of pulmonary disease by IHC using a hyperimmune serum designed (1:30) to identify antigens of this pathogen from FFPE sections. **Results:** All cows (13/13) had pulmonary mycoplasmosis characterized as either necrosuppurative or suppurative bronchopneumonia, peribronchial lymphocytic cuffings associated with intralesional bacterial colonies that demonstrated positive immunoreactivity for antigens of *M. bovis*. Additionally, all cows (13/13), colonies of coccoid bacteria, identified as *M. bovis* by IHC, associated with necrosuppurative and suppurative bronchopneumonia were positive by the Giemsa stain; Gram-positive or -negative bacteria were not detected by the modified Brown-Brenn stain. **Conclusions:** The results from this study suggest that the Giemsa staining is an efficient, simple, and inexpensive diagnostic technique that can be routinely used to identify *M. bovis* in cattle with pulmonary mycoplasmosis.

Key words: diagnostic immunohistochemistry, respiratory pathogens, bovine pulmonary mycoplasmosis.

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Zileuton impaired the haematological response of Nile tilapias during acute inflammatory reaction

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Background: The hematological study is a tool used in the diagnosis and prognosis of fish morbid conditions [1,2]. Zileuton is the only drug approved to inhibit 5-lipoxygenase (5-LOX), acting on inflammatory diseases by suppressing leukotriene (LTs) biosynthesis[3].**Objective:** To evaluate the LTs inhibitor, by the treatment with 2.25 and 4.50 mg of zileuton/ kg of body weight, administered through oral route in the diet, on the leukocyte and thrombocyte responses of Nile Tilapia (*Oreochromis niloticus*), during the acute inflammatory response by aerocystitis induced by *Aeromonas hydrophila* bacterins. **Methods:** Seventy-two young tilapia were used in 18 aquariums (n = 4), with 100 liters of water each, supplied with running water devoid of chlorine, randomly distributed in three treatments: T0 (control), T1 (Treatment with 2.25 mg zileuton) and T2 (Treatment with 4.50 mg zileuton). Eight animals were evaluated per treatment in three periods, i.e.: six, 24 and 48 hours after inoculation. **Results**: The tilapias treated with 2.25 mg zileuton showed an increase in the number of circulating erythrocytes, a decrease in MCV and in hemoglobin concentrations when compared to the control animals. No significant variations in MCH and MCHC values were observed. **Conclusions:** Treatment with 2.25 mg zileuton resulted in microcytosis and hypochromia with increased numbers of circulating erythrocytes.

Key words: *Oreochromis niloticus*, lipoxygenase, leukotrienes, inflammation.

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Anti-inflammatory effect of Zileuton on the leukocyte and trombocyte response of tilapias during acute aerocystitis

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Background: Leukocytes and thrombocytes effectively participate in inflammatory reactions, assisting in the fish defense mechanisms. Leukotriene antagonists represent an important therapeutic advance in the inflammatory diseases treatment. In this context, the most notable is zileuton, which is approved for selective activity by inhibiting 5-lipoxygenase (5-LOX), decreasing the leukotrienes production (LTs). **Objective:** To evaluate the LTs inhibitor, by the treatment with 2.25 and 4.50 mg of zileuton/ kg of body weight, administered through oral route in the diet, on the leukocyte and thrombocyte responses of Nile Tilapia (*Oreochromis niloticus*), during the acute inflammatory response by aerocystitis induced by *Aeromonas hydrophila* bacterins. **Methods:** Seventy-two young tilapia were used in 18 aquariums (n = 4), with 100 liters of water each, supplied with running water devoid of chlorine, randomly distributed in three treatments: T0 (control), T1 (Treatment with 2.25 mg zileuton) and T2 (Treatment with 4.50 mg zileuton). Eight animals were evaluated per treatment in three periods, i.e.: six, 24 and 48 hours post-inoculation (HPI). **Results:** The results revealed a decrease in the circulating number of neutrophils and monocytes, associated with the increase of lymphocytes and thrombocytes in zileuton treated tilapia for both therapeutic protocols. **Conclusions**: The anti-inflammatory effect of zileuton resulted in neutropenia and monocytopenia, associated with lymphocytosis and thrombocytosis during acute inflammatory reaction in tilapia.

Key words: leukotrienes, cichlids, *Aeromonas hydrophila*, acute inflammation.

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Mandibular osteoma in a cat - case report

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Background: Osteoma is a benign osteogenic lesion characterized by the compact or trabecular bone proliferation. Most cases in humans and animals involve craniofacial bones, particularly the sinus and paranasal sinuses and oesteomas are uncommon in all domestic species, but among domestic animals, equines exhibit a higher prevalence. In cats, it is an uncommon tumor, being diagnosed at an advanced stage. **Case Report:** A 12-year-old mixed breed female cat, was referred to the Veterinary Hospital presenting a slow-growing increased volume in the left mandible. In the radiological examination, the patient had a well-delimited radiopaque neoformation on the lateral side of the left mandible measuring approximately 4.0 centimeters (cm) in diameter. Due to the clinical and radiographic findings, the patient was submitted to unilateral mandibulectomy and tissue specimens were submitted to histopathological analysis. **Results:** The gross evaluation of the tissue specimen unveiled a mass measuring 3.5 cm in diameter, whitish, smooth, hard and dense, with a compact bone appearance. Histopathological analysis revealed a proliferation of dense and eosinophilic lamellar bone tissue organized by compact trabeculae and well differentiated osteocytes interspersed with small vascular spaces. The histopathological analysis suggested an osteoma. **Conclusions:** Based on the clinical and histopathological findings the definitive diagnosis was mandibular osteoma. There are some cases of osteoma that affect cats. The osteoma is a benign neoplasia commonly associated with traumas; however, in the present case the patient had no clinical history of trauma.

Key words: neoplasm, mandibulectomy, feline.

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Pituitary abscess in bovine - case report

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Background: Pituitary abscess syndrome also known as basilar empyema is a neurological disease characterized by the abscesses formation in the vascular complex on the basosphenoid bone, which may affect the pituitary gland or adjacent structures. This pathology affects ruminants more commonly than in other species. Pituitary abscesses can occur from hematogenous dissemination of suppurative processes that may originate in different parts of the body, especially in the head region, such as sinusitis, rhinitis, dental disease, or by direct extension of purulent lesions located in the head. Neurological signs are related to injuries to the brainstem and also to cranial nerves changes such as runny nose, fever, incoordination motor, walking in circles, tongue lateralization, difficulty chewing and sialorrhea are the most commonly observed. Neurological signs are related to injuries to the brainstem and also to cranial nerves changes such as runny nose, fever, incoordination motor, tongue lateralization, difficulty chewing and sialorrhea are the most commonly observed. **Case Report:** A 2-year-old mixed breed, male, bovine with a history of progressive neurological signs presenting spastic paralysis of the hind limbs, tongue lateralization, intense sialorrhea, progressing to lateral decubitus. Due to unfavorable clinical prognosis, euthanasia and necropsy were performed. **Results:** In the macroscopic analysis, in the cranial floor, in the sella turcica and *rete mirabile*, in the brain region region of the pituitary and in the brainstem in the 4th ventricle, bridge and bulb presence of yellowish and friable material. In microscopy, the pituitary gland, rete mirabile and brainstem, presented polymorphonuclear inflammatory infiltrate associated with necrosis areas. Based on the macroscopic and microscopic findings the diagnosis was of pituitary abscess causing severe neurological alterations that are often irreversible. **Conclusions:** Based on the macroscopic and microscopic findings the diagnosis was of pituitary abscess causing severe neurological impairments.

Key words: basilar empyema, brain, suppurative, cattle.

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Iridociliary papillary adenocarcinoma in a dog: a case report

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Background: Iridociliary epithelial tumors are epithelial cells neoplasms of the iris or ciliary body. They are rare in dogs, although are the second most common intraocular tumor. Sometimes these tumors can be seen through the pupil or even cross the anterior chamber, becoming visible during the direct observation. Grossly, they present a white to dark brown masses, irregular surface, occasionally developing hemorrhage or glaucoma. Microscopically, scleral infiltration and morphological changes can classify the neoplasm as carcinoma. **Case report:** A case of a 7-year-old maltese bitch who had a red intraocular neoformation of the left eye (OS) perceptible through the pupillary space. The ophthalmologic examination revealed as main alterations: ocular pressure = 8 mmHg in the OS and 15 mmHg in the right eye. The presumptive diagnosis was of ciliary body neoplasia that was treated for 1 month as topical corticosteroid every 12 hours. The neoformation increased in the period of 4 months, opting for enucleation. **Results:** Grossly, there was an irregular white mass in the anterior chamber, measuring approximately 1.0x0.4 cm, shifting dorsally the lens. Histologically, the presence of epithelial neoplastic cells arranged in papillary to solid formations, highly pleomorphic and sometimes pigmented. Also, neoplastic cells were invading the scleral stroma, diagnosed as iridociliary papillary adenocarcinoma. **Conclusion:** The histopathology was an elucidative way to confirm the diagnosis, approaching the malignant morphological features and classifying the neoplasm associated with the positive PAS-stain, demonstrating the origin from the nonpigmented epithelium. The aim of this study was highlighting the importance to investigate the etiology and differentiate masses in the anterior chamber between primary or metastatic neoplasms. The present report emphasizes the need for early diagnosis, considering that ocular tumors can have devastating effects on the dogs' sight and life.

Key words: neoplasia, eye, anterior chamber.

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Fibrocartilaginous embolism with ischemic myelopathy in a pony

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Background: Ischemic myelopathy by fibrocartilaginous emboli occurs when embolus similar to nucleus pulposus of the intervertebral disk causes the spinal cord infarct. This condition was described in cattle, dogs, cats, swine, tigers, humans and horses. Regardless of the affected species, the clinical signs are acute or hyperacute, with ataxia and paresis/paralysis of limbs. The aim of this study is reporting a case of fibrocartilaginous emboli with myelopathy in a pony. **Case Report:** A one-year-old female pony was admitted to the Veterinary Hospital at UFMG with a history of acute hindlimb paralysis. At clinical examination, the animal was in lateral recumbency, with spastic hindlimbs paralysis and intermittent pedaling episodes. The cranial nerves had no clinical changes. Treatment with fluid therapy, dimethyl sulfoxide dexamethasone, gentamicin and penicillin was instituted. The animal had no improvement and due to the poor prognosis, euthanasia was performed and it was referred to the Pathology service for a *post mortem* examination. **Results:** Macroscopically, spinal cord, between the seventh and 12ª thoracic vertebrae, had increased volume, and a focally extensive area intensely yellowish and markedly softened with loss of differentiation between gray and white matter. On the cut surface,a marked amount of translucent and mildly viscous liquid was noted and there was an amorphous red-dark area of 1.0 x 1.0 x 0.8 cm. Microscopically, a myxoid nodular area with vacuolated center that compressed the adjacent parenchyma was found. There was also marked diffuse neuronal loss, with marked multifocal chromatolysis. On the white matter there were mild multifocal vacuolation and multifocal axonal degeneration with some gitter cells. At the periphery, there were also areas of mild multifocal coagulation necrosis. **Conclusions:** Gross and microscopic changes indicate ischemic myelopathy resulting from fibrocartilaginous embolism in a pony. This condition should be considered a differential diagnosis in horses with neurological signs.

Key words: central nervous system, equine, histopathology, infarct, spinal cord.

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Rectal carcinoma: a case report in a dog

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Background: A rectal adenocarcinoma is the presence of epithelial cells infiltrating through the basement membrane. Around three-quarters of canine rectal neoplasms are benign at first presentation. Immunohistochemistry test for COX-2 is relevant in therapeutic targeting (COX-2 inhibitor), which is involved with tumor angiogenesis increasing, criteria of malignancy and worse prognosis. **Case Report:** A 10 years old female Labrador dog, uncastrated was attended at the Veterinary Hospital of Universidade de Franca,SP, with history of daily episodes of constant chronic diarrhea and a hemorrhagic nodule in the rectal region with two months evolution. No relevant findings were detected in diagnostic imaging tests, in contrast, computed tomography confirmed a nodule in the caudal region of rectal ampulla, which resulted in almost total intestinal lumen occlusion. The patient was subjected to a nodule excision surgery and fragment samples were obtained to histopathological biopsy. **Results:** Through histopathological examination, a hyperchromatic columnar epithelial cells neoplastic proliferation associated to basement membrane invasion were observed. Epithelial cells were noticed with basophilic cytoplasm, rounded and basal location nuclei and coarse chromatin, moderate anisocytosis, anisokaryosis and cell pleomorphism. Nuclei were evident. Also, 14 mitotic figures in 10 fields of view area (400x), accentuated congestion, edema and multifocal hemorrhagic areas. Furthermore, neoplastic emboli in submucosa lymphatic vessels were observed, confirming carcinoma diagnosis. Immunohistochemistry test resulted in a score 3+. **Conclusions:** Immunohistochemistry was of great importance for indication of treatment, because the use of COX-2 inhibitors has shown the ability to interfere in tumorgenesis and apoptosis. Also, there might be a therapeutical option, chemopreventive, and an additional protection for the gastrointestinal system. To date, the patient is two months free from tumor recurrence.

Key words: immunohistochemistry, malign, epithelial neoplasia, veterinary oncology.

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Diffused necrohemorrhagic enteritis – a case report in a dog

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Background: Hyperacute hemorrhagic enteritis is common in dogs and, despite the unknown etiology, it may be associated to *Clostridium perfringens* infection, coagulopathies and rodenticide intoxication. **Case Report:** A 5-year-old, female crossbreed canine, was necropsied at the Veterinary Hospital of Universidade de Franca (UNIFRAN/SP) with a history of hyper acute death associated with vaginal and anal hemorrhage, without overt clinical signs. **Results:** At the necropsy examination, 70ml was observed of a blackened coloration sero-sanguinolent free liquid in the abdominal cavity (VG of 5%)., Peritoneum and intestinal serosa had a profusely blackened coloration and the mesenteric vessels were well-evidenced. Duodenum and jejunum initial portion had an extensive reddish-to-blackened and thickened mucosa with whitish lines and a fetid reddish liquid content associated to epithelium detachment. Jejunum had a yellowish mucinous content. Colon and rectum mucosa were thickened and reddish colored. Furthermore, there was liquid, frothy and yellowish-white gastric content. In histopathology, the small intestine evidenced diffuse necrosis of the villi and moderate inflammatory cell infiltrate which lymphocytes were predominant, rare neutrophils and diffuse eosinophils in the mucosa. There was in the mucosa and submucosa a mild hemorrhage and an accentuated one in the serous was seen, besides a slight goblet cells hyperplasia, congestion. A discreet crypt necrosis was observed in the large intestine, as well as a mononuclear inflammatory infiltrate in the mucosa, polymorphonuclear cells in the submucosa, and congestion. **Conclusions:** It was concluded that clostridiosis was a differential in these cases. Hoewer this bacterium is difficult to diagnose because it has no specific test for its identification. Therefore, with the association of clinical history, anatomopathological and histopathological findings, *Clostridium perfringens* type A was suspected, ruling out other causes.

Key words: clostridiosis, gut, intoxication, necrosis.

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Cytological and histopathological alteration of a juvenile axial rib osteosarcoma – case report

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Background: Canine osteosarcoma is a malignant neoplasm that represents 80-90% of bone tumors in animals, axial skeletal involvement is rare. It usually affects middle aged and older large-breed dogs, but also young animals. The aim of this work is reporting the cytological and histopathological alterations of a juvenile axial rib osteosarcoma. **Case Report:** A neutered male, 1.3 years old Rottweiler presenting a subcutaneous growth at the lateral left side of the rib cage, without cutaneous involvement, which was firm, adhered, nonulcerated, measuring 9.2 x 10.1 x 5.3 cm in diameter, with 1 month of evolution. Fine needle aspiration (FNA) was used as selective exam (needle 30 x 0.7mm). The collected material was spread on three slides and stained with diff quick. The animal underwent a surgical block resection in the thoracic wall, the 3rd, 4th, 5th and 7th ribs were removed, and a sample was sent to histopathological exam. **Results:** The cytologic exam suggested soft tissue sarcoma, the specimen contained neoplastic mesenchymal cells with evident nuclei, coarse chromatin, conspicuous and multiple nuclei, abundant and delimited cytoplasm, slightly basophilic, marked presence of atypical mitoses and mononuclear inflammatory infiltrate and eosinophilic matrix in the slide background. The diagnosis, osteoblastic osteosarcoma at the ribs, was confirmed by the histopathological exam, that was characterized by moderate nuclear pleomorphism, loose chromatin, a lot of mitosis, basophilic cytoplasm, focus of pleomorphic chondroid cell proliferation and areas of mature tissue. After 15 days, the patient had hyporexia, tachycardia, dyspnea, metastatic focus in the thorax, so the owner opted for euthanasia. **Conclusion:** Osteosarcoma has a high metastatic potential, with a strong metastatic predilection for the lung (90%), especially when in juvenile animals.

Key words: malignant neoplasm, mesenchymal, young dogs.

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Cutaneous osteochondroma in feline ear – case report

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Background: Feline Osteochondroma is a benign neoplasm that affects primary adult cats bones. The extra skeletal osteochondroma is rare, and it doesn't appear in a certain location; it can be found in soft tissues like bone structures that do not infiltrated an adjacent cortical bone. **Case Report:** A 12-year-old female short hair breed cat was admitted to a veterinary clinic; the owner reported presenting a subcutaneous growth, in the left ear base. In the physic exam a nodule measuring 2.0 x 1,1 x 1.0cm in diameter was observed, with hard consistency, regular appearance and whitish coloring at the base of the ear inside the ear canal. A cytologic exam was requested, results were inconclusive. After 4 days, an abscess appeared at the site, then samples from the tumor were sent to culture and antibiogram and treated with antibiotic and anti-inflammatory. During the follow-up physical exam the abscess had notably healed, however the nodule remained palpable, an incisional biopsy was performed and the diagnosis was obtained from cutaneous osteochondroma. A cranial x-ray was performed, as well as a tomography, no bone involvement was found. Since it did not have major faults, total ablation of ear canal was performed and sent to histopathological exam to confirm the original diagnosis. **Results:** The histopathological examinations showed total dermis involvement with multinodular to coalescing areas of cartilaginous proliferation and trabecular bone tissue. The cells displayed a stellar elongation with presence of cartilaginous matrix in different maturation stages. Osteoid matrix with well differentiated bone trabeculae was also observed. **Conclusions:** Osteochondroma is a benign bone neoplasia, considered rare when they are located on the skin. The histopathological exam is the main diagnosis method, used as the selective exam during routine examination. Although the prognosis is reserved and it may have recurrences, surgical removal brings comfort and increases the survival rate.

Key words: benign neoplasm, skin, cartilage.

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Evaluation of hepatic cytotoxicity after treatment with ivermectin in Nilo tilapias (*Oerochromis niloticus*)

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Background: Nile tilapia (*Oreochromis niloticus*) has been used as experimental models for studies related to clinical drug safety, allowing the search for techniques and measures for a comparative physiological parameter. Ivermectin was little studied in this model, therefore the study was carried out with this wide spectrum antiparasitic that acts inhibiting parasites GABA receptors[1,2]. **Objective:**This study evaluated the clinical safety of oral treatment with 125mcg and 625mcg of ivermectin/kg of b.w. in Nile tilapia (Oreochromis niloticus), through the determination of ALT, AST and alkaline phosphatase enzymatic activity in three times, 5, 7 and 9 days of treatment. **Methods:** Fifty-six young tilapia were used in seven aquariums, each with a capacity of 200 L of water, supplied with running water devoid of chlorine. The treatments were: T1 (Treatment 125mcg Ivermectin) and T2 (Treatment 625mcg Ivermectin), being evaluated eight animals per treatment in three periods, i.e. 5, 7 and 9 days post-treatment (DPT). A seventh group was sampled to obtain the reference values for the study. **Results:** The results revealed an increase in the serum enzymatic activity of ALT and AST in ivermectin treated fish compared to control animals. Serum alkaline phosphatase levels decreased in both treatments. **Conclusions:** The tilapia treatment with avermectin increased the enzymatic activity of AST and ALT, suggesting the hypothesis of hepatic cytotoxicity.

Key words: antiparasitic, avermectin, teleost fish, hepatotoxicity, clinical safety.

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Histopathological changes in rats treated with low doses of doxorubicin

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Background: Doxorubicin (Dox) is a powerful agent used to treat several types of solid malignant neoplasms. Previous studies showed that high doses of Dox caused histopathological changes, although the doses used were high and for very short periods. **Objective:** This study aimed to investigate the histopathological effects of Dox used in a therapeutic scheme similar to that used in human and animal chemotherapeutic protocols. **Methods:** Adult male Wistar rats were injected with Dox (2.5 mg/kg, once a week for 28 days, intraperitoneal route - IP) or 0.9% saline solution (same volume, IP). One week after the last Dox application, rats were euthanized and tissues were sampled from the kidneys, liver, spleen, adrenals, lungs, heart and brain for light microscopy investigation by hematoxylin-eosin (HE). **Results:** Dox-treated animals presented in the liver diffuse, hydropic degeneration in the cytoplasm of hepatocytes, located mostly in the centrilobular zone, associated with rarefied areas of the hepatic parenchyma. Multifocal vacuolization in the zona fasciculata of the adrenal cortex was also observed in the Dox group, as well as glomerular atrophy and diffuse tubular vacuolization in the kidneys. Moreover, in the spleen, cellular rarefaction in the white and red pulp compartments was also observed. No histopathological changes were seen in the brain, heart and lungs. **Conclusions:** These findings showed that short-term treatment with low doses of Dox induced morphological changes in the liver, kidney, spleen and adrenal of rats, indicating that cellular toxicity could be seen even with short-term chemotherapeutic protocols using Dox.

Key words: doxorubicin, chemotherapy, toxicity, histopathology.

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How to diagnose necrotizing fascite in a dog?

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Background: Necrotizing Fasciitis (NF) is a rare, sometimes lethal, soft tissue infection in dogs[1]. Early clinical suspicion and diagnosis are critical to the success of treatment combined surgery and broad spectrum antimicrobial therapy[2]. The triggering factors and pathogenesis are not entirely clear and understood. The most common differential diagnoses are araneism, scorpionism, abscess, myositis, phlegmon, cellulitis, erysipelas, cutaneous vasculitis, fulminant purpura and clostridial myonecrosis. The aim was reporting how to perform diagnose of NF in a dog and highlighted the possible threat to the clinician and surgeon. **Case Report:** Dog, female, seven years and seven months, St Bernard, with a history of cutaneous wound started in the cervical region for approximately 15 days and started broad spectrum systemic antibiotic therapy. After 48hs of the beginning of treatment, the thoracic limbs presented hardened edema, hyperemia and the skin lesion extended compromising the ventral thoracic and abdominal region, with alopecia, cutaneous necrosis and serosanguinous drainage. Hyporexia, emesis, pasty stool, melena, apathy, prostration, dyspnea and ataxia were reported. After clinical evaluation, the presumptive diagnosis was necrotizing fasciitis and indicated surgical treatment with extensive debridement and systemic antibiotic therapy. Due to extension, severity, and cost, euthanasia was performed and sent to necropsy. **Results:** At gross exam, an extensive, non-ulcerated necrohemorrhagic lesion on subcutaneous and fascia planes of the cervical and thoracic regions and bilateral thoracoabdominal lateral region was diagnosed compromising 2/3 of the body surface. Microscopically, necrotizing fasciitis is characterized by marked edema and necrosis of cutaneous, subcutaneous, fascia and muscle tissues. In the microbiological examination of skin samples, no pathogenic bacteria were isolated. **Conclusions:** The lesions severity and extension made the clinical-pathological diagnosis difficult and hardworking. The early and fast recognition of clinical and pathological changes in NF is essential for proper diagnosis and treatment.

Key words: canine, soft tissue infection, pathology.

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Zafirlukast modulates the serum levels of alpha-2 macroglobulin, transferrin and haptoglobin during foreign body inflammation in Nile tilapias

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Background: The inflammatory reaction in teleost fish, as well as in mammals, plays an important role in the defense of the organism, resulting in the recruitment and accumulation of leukocytes in the injured site. **Objective:** To evaluate the antagonism of cys-leukotrienes receptors during foreign body inflammatory response by treatment with 500 µg zafirlukast / kg live weight, administered orally in the diet, after glass coverslips implantation in the subcutaneous tissue of tilapia (*Oreochromis niloticus*). **Methods:** 63 tilapias were reared in 9 aquariums (n = 7), with a capacity of 100 L each, to compound the following treatments: T0 (Control, without treatment), T1 (Prolonged treatment with Zafirlukast) and T2 (Treatment with Zafirlukast beginning after inflammatory stimuli). Seven animals were evaluated per treatment in three periods, i.e.: 2, 4 and 8 days post-implantation (DPI). **Results:** There was an increase in circulating levels of transferrin and haptoglobin 4 DPI, being statistically significant in animals submitted to zafirlukast treatment. Transferrin, haptoglobin and alpha-2 macroglobulin are involved in the transport and capture of metal ions such as iron, copper and zinc. These ions are used by microorganisms during infectious processes. During foreign body type inflammation, tilapias showed peaks of alpha-2 macroglobulin 2 DPI, while transferrin and haptoglobin with 4 DPI. **Conclusions:** Antagonism of cys-leukotrienes receptors by zafirlukast modulated serum levels of metalloproteins involved in defense responses against infectious agents.

Key words: *Oreochromis niloticus*, chronic inflammation, leukotrienes, teleost fish fishes.

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Acute phase proteins during foreign body reaction in *Oreochromis niloticus* treated with zafirlukast

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Background: Acute phase proteins participate in defense responses, being modulated during inflammatory reactions[1]. Numerous studies have studied the pathophysiology of chronic inflammatory process in tilapias. **Objective**: To evaluate the antagonism of cysteine leukotrienes (Cys-LTRs) receptors during foreign body type inflammatory response by treatment with 500 µg of zafirlukast/kg of b.w., orally administered in the diet, after glass coverslips implantation in the tilapia's subcutaneous tissue (*Oreochromis niloticus*). **Methods:** 63 tilapias were reared in 9 aquariums (n = 7), with a capacity of 100 L each, supplied with running water devoid of chlorine, to compound the following treatments: T0 (Control, without zafirlukast treatment), T1 (Prolonged treatment with Zafirlukast starting one week before the inflammatory stimulus) and T2 (Treatment with Zafirlukast beginning after the inflammatory stimuli). Seven animals were evaluated per treatment in three periods, i.e.: 2, 4 and 8 days post-implantation (DPI). **Results:** Serum values of ceruloplasmin (4 DPI), albumin (4 and 8 DPI) and apolipoprotein A1 (8 DPI) were observed in control animals compared to animals treated with both protocols with zafirlukast during the tilapia's foreign body type response, demonstrating the anti-inflammatory activity of this leukotriene blocker in the later phase of the inflammatory reaction. **Conclusions:** The zafirlukast anti-inflammatory activity in tilapias resulted in decreased serum albumin, ceruloplasmin during foreign body reaction.

Key words: tilapias, chronic inflammation, leukotrienes.

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Fetal and neonatal urolithiasis – a case in two Dalmatians

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Background: Urolithiasis is a disease of great importance in the veterinary medical practice that affects 0.25% to 2.0% of the canine population. The urolith formation is related to genetic, nutritional, environmental and anatomical factors. Dalmatians are predisposed to the urate stones formation due to a genetic mutation. The present report aims to describe a case of fetal and neonatal urolithiasis in two Dalmatians. **Case report:** First a necropsy examination of a stillborn dalmatian dog from a commercial breeder was performed. Thirty days after, a newborn male from the same breeddied and was sent to necropsy. **Results:** Grossly, the stillborn and the neonate presented great quantity of yellowish striations in the medullary region of the kidneys and granular yellow material adhered to the renal pelvis. The urine present in the bladder was opaque and filled with sediments forming a small friable mass, and there were moderate amounts of petechiae on the mucosa. Petechiae were also observed on the palate and lungs of the stillborn. In the neonate lungs there were moderate quantity of multifocal depressed reddish areas. Histopathology of both animals' kidneys showed large amount of spherical and eosinophilic uroliths with concentric laminations in the lumen of renal tubules in medullary region, characterized by intense diffuse urolithiasis. Also, the neonate's lungs had moderate multifocal lymphoplasmacytic embolic pneumonia with intralesional bacterial colonies. The urine was sent to uroculture, but there was no bacterial colony development. **Conclusion:** Fetal and neonatal urolithiasis is a rare finding, and in this case may be related to an autosomal recessive mutation of the SLC2A9 gene that occurs in dalmatians. Studies are needed to better understand the etiopathogeny of fetal and neonatal urolithiasis in dogs. In the case of the neonate, pulmonary involvement contributed to death.

Key words: nephropathology, urate, genetics, cynophilia.

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Adenocarcinoma in a dog's small intestine

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Background: Gastrointestinal adenocarcinoma is uncommon and its prevalence is variables depending on the species, being that in dogs are predominant in the stomach, and uncommon in small intestine and colon. There is a higher prevalence in male, and as for age, elderly dogs are more affected. Metastases occur mainly in mesenteric lymph nodes, adjacent organs, and lymphatic vessels. **Objective:** Due to the scarcity of information in the literature and the rarity of intestinal adenocarcinoma, this report aims to describe the anatomopathological aspects of intestinal adenocarcinoma in a five-year-old female canine. **Case Report:** Five-year-old female dog was seen with history of vomiting and weight loss. The blood exam presented eosinophilia, lymphopenia, and hypoproteinemia. Nine days after the first visit, the animal presented neutrophilia end lymphopenia. At the front clinical evaluation, the animal was subjected to laparotomy. Nodular formation in the small intestine segment was observed and collected for macroscopic and histopathological analysis in sections stained by Periodic Acid of Schiff, Masson Trichrome, Mucicarmine and Hematoxylin and Eosin techniques. **Results:** In macroscopic analysis, it was constated neoformation with diameter measuring four centimeters, white color and soft consistency. Microscopically, epithelial cells were observed sometimes distributed in cystic formations or small islands, mucin production both intracellular and extracellular associated with marked desmoplasia. **Conclusions:** The macro and microscopic characteristics associated to histochemical techniques allowed the diagnosis of intestinal adenocarcinoma. In addition, due to the non-specificity clinical manifestations, neoplastic lesions should be included in the differential diagnosis of obstructive lesions in the small intestine.

Key words: intestine, tumors, gastrointestinal tract, small animals.

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Serological protein modulation during acute aerocytitis by bacterin and live bacteria of *Streptococcus agalactiae* in Nile tilapias

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Background: *Streptococcus agalactiae* represents an important pathogen for intensive Brazilian tilapia farming and is responsible for significant economic losses. Studies seek to understand and evaluate pathophysiological changes in the evolution of these diseases, in which serum protein biochemistry provides important subsidies for fish health management. **Objective:** This study aims to evaluate the serum proteins biochemical profile in Nile tilapia, *Oreochromis niloticus*, during aerocystitis induced by bacterin or live inoculum of *Streptococcus agalactiae*. **Methods**: Fifty - six young tilapia were used, packed in 7 aquariums, with a capacity of 100 L of water each, supplied with running water devoid of chlorine. Eight animals were evaluated per treatment in three periods, i.e.: 6, 24 and 48 hours after the administration of live inoculum or bacterin of *S. agalactiae* in the swim bladder, being T0 = control, T1 = inoculation of bacterin and T2 = live inocula. **Results:** The serum biochemical protein study revealed an increase in total protein and albumin values at 48 hours after the inflammatory stimulus in both groups stimulated with bacterin and *S. agalactiae* when compared to the control animals. However, no significant variations were observed in the globulins concentrations among the different treatments. **Conclusions:** Stimuli by bacterin or live *S. agalactiae* did not result in significant changes between both in relation to the tilapias' serum biochemical profile during the aerocystitis evolution.

Key words: total proteins, albumin, globulins, teleost fish, streptococci.

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Cutaneous non-epitheliotropic lymphoma in a cat: case report

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Background: Skin primary lymphoma is rare in all the species, but some cases have been described in dogs and cats in the literature. In cats, the cutaneous manifestation represents 0.2% to 3% of all the lymphomas cases. The average age is 10 years with no breed or gender predilection. Clinical features can be exfoliative erythroderma, patches, plaques, erosions, and ulcers on the skin and or mucocutaneous junctions. The prognosis is poor and palliative treatment is required. The goal of this study was to describe a case of primary cutaneous lymphoma in a cat. **Case Report:** An 8-year-old cat, mixed breed, 5.250 kg weight, and spayed, was brought to a veterinary clinic due to multifocal and nodular skin lesions developing by 6-months since then. The nodules were not adhered to deep tissues. One of them, on ventral thoracic region, was erythematous and hairless. **Results:** Fine needle aspirates revealed high population of atypical lymphoid cells characterized by scant to moderate amount of basophilic cytoplasm, round and eccentrically nucleus, displaying intense anisocytosis and anisokaryosis, few mitosis and abundant lymphoglandular bodies on the background. Histologically, the tumors were replacing the subcutaneous tissue which were composed of high monomorphic population of large lymphocytes arranged in mantle or solid pattern. The cells had scant to moderate amount of eosinophilic cytoplasm, rounded cleaved nuclei, with prominent small central nucleoli. The cells had intense anisocytosis and anisokaryosis. There were about 8 to 9 mitosis per high power field (400x). Epitheliotropism was not seen and the neoplasia was restricted to the subcutaneous tissue. Consequently, the diagnosis of non-epitheliotropic lymphoma of large cells was made. **Conclusions:** Diagnosis of primary cutaneous non-epitheliotropic lymphoma may be carried out based on the cytological and histological findings, since metastases from other tissues were ruled out.

Key words: dermatophatology, feline, oncology, skin.

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Conjunctival papilloma in a dog: a case report

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Conjunctival papilloma is a tumor of the stratified squamous epithelium that may have an exophytic, mixed, or rare inverted type of growth pattern. Canine conjunctival papillomas are seldom described and little is known on their morphology, pathology and behavior. It has been reported that this conjunctival tumor may have a viral or a non-viral etiology. It is described herein a case of conjunctival papilloma in a dog with non-viral characteristics. A 10-year-old male dog, shih-tzu, with history of keratoconjuntivitis sicca was referred to ophthalmic examination due to a small rounded, slow-growing, pedunculated mass, white to pink in color, with cauliflower-like appearance, present on the bulbar conjunctiva at 11 o´clock in the right eye. No evidence of other tumors affecting either eye or eye lid were present. No papillomatous involvement of the skin or oral mucosa was present. The lesion was surgically excised and sent for histopathology. Histopathology revealed a poorly delimited, non-encapsulated mass with exophytic growth of epithelial proliferation, densely cellular, forming numerous fronds with sharp edges, supported by a fine fibrovascular core. Cells were juxtaposed and polyhedral, with precise limits and moderate and eosinophilic cytoplasm. The nuclei were round to oval with chromatin aggregation and evident nucleoli. Lamina propria with mild diffuse hyperemia, margination of neutrophils, diffuse moderate edema and vessels fibrinoid degeneration. Conjunctival Papilloma described herein seems to be related to a non-viral etiology due to morphological and histopathological characteristics. Papillomas are commonly described in veterinary medicine, however, conjunctival involvement is less frequently reported.

Key words: ophtalmology, conjunctiva, tumor, canine.

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Gastrointestinal sclerosing eosinophilic fibroplasia associated with fungus

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Background: Feline Gastrointestinal Eosinophilic Sclerosis Fibroplasia (FGESF) is a rare disease, whose etiology is still controversial. The disease is characterized as an intramural mass in the gastrointestinal tract, sometimes accompanied by mesenteric lymphadenomegaly. Histologically, FGESF is described as the formation of dense collagen trabeculae interspersed with fibroblasts and inflammatory cells, mainly eosinophils and mast cells, and necrotic foci. In some cases intralesional bacteria have been observed, but in a recent case the lesion was associated with fungi. This scarcity of information on the association of FGESF with fungal infections demonstrates the necessity for comparative case studies to better understand the disease etiology and pathogenesis. The present study aims to describe the pathological aspects of a case of FGESF associated with fungus. **Report:** A three-year-old male Maine Coon cat was treated at the Veterinary Hospital for a laparoscopic examination of the abdomen, but the animal died during the procedure. The animal was referred to the pathology department for necroscopic and histopathological examination. **Results:** In the necropsy, it was observed that the abdomen was distended and the presence of ascites. A polypoid mass measuring 4x5 cm of diameter of fibroelastic consistency, ulcerated, was observed in the initial portion of the duodenum. Histopathological examination of the mass revealed the presence of connective tissue taking a large part of the tissue fragment, in the superficial layers of the mass there were structures similar to hyphae. These structures were stained PAS and Grocott, and negative in immunohistochemistry for pythosis. **Conclusions:** The diagnosis of FGESF associated with fungi in this case was based on macro and microscopic findings. The results corroborate the idea that the disease may also be associated with fungal infection and that the illness should be considered in the differential diagnosis in cats with signs of obstructive gastrointestinal disease.

Key words: obstruction, laparoscopy, feline.

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Squamous cell carcinoma in Tapir (*Tapirus terrestris*)

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Background: The tapir (*Tapirus terrestris*) is a large ungulate animal belonging to the Perissodactyla order, such as horses and rhinos. Tapirs are the largest land mammals in South America and are listed among the vulnerable species of extinction. Studies, such as this one, are important for the knowledge of diseases that affect wild species, being crucial for their conservation, in view of the scarcity of cases described in the literature. Skin squamous cell carcinoma (SCC) is a malignant neoplasm of keratinocytes associated mainly with chronic exposure to ultraviolet radiation. Consequently, the neoplasm occurs more frequently in animals from tropical countries, such as Brazil, in sites of glabrous skin and little pigmentation. There are reports in some species of wild animals, and one case occurring in oral cavity in animals of the same genus. The aim was to report a case of tapir SCC. **Case Report:** A female tapir, approximately 15 years old, presented four lesions on its back, with multifocal necroulcerative appearance, with elevated reddish colored edges varying in size. For biopsy, fragments of nodules were collected in 10% buffered formaldehyde, routinely processed for histology, and stained with H&E. **Results:** In microscopy, the masses were classificated as squamous cell carcinoma, consisting of epithelial cells, with solid arrangement, forming trabeculae or islands that projected themselves into deep dermis, sometimes containing keratin pearls inside. The neoplastic cells presented moderate cellular pleomorphism, abundant ampophilic cytoplasm with well-defined limits, rounded nuclei with marked anisocaryosis and prominent nucleoli, sometimes multiple. The mitotic index ranged from about 1 to 2 mitoses per field of greatest increase. **Conclusion:** The study results demonstrated that squamous cell carcinoma should be considered among the possibilities in cases of ulcerated masses that are difficult to heal in tapirs.

Key words: neoplasia, wild animal, keratinocytes.

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Inflammatory cells in the exudate during acute aerocytitis by bacterin and live bacteria of *Streptococcus agalactiae* in Nile tilapias

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Background: inflammatory reactions resulting from infectious processes result in the cells accumulation in the exudate present at the inflamed site[1]. streptococcosis is an important disease in tilapia farms, and little is known about the tilapia defense response evolution to infection by *Streptococcus agalactiae*[2]. **Objective:** this research aimed to evaluate changes in inflammatory exudate in nile tilapia (O*reochromis niloticus*) during acute aerocystitis by bacterins and live inoculums of *Streptococcus agalactiae*. **Methods:** fifty-six young fish were used, packed in 7 aquariums, with a capacity of 100 l of water each, ditributed in three treatments: t0 = control, t1 = inoculation of bacterin and t2 = live inoculum. eight animals were evaluated per treatment in three periods: 6, 24 and 48 hours post-inoculation (hpi) of live inoculum or bacterin of *S. agalactiae* in the swim bladder. **Results:** fish inoculated with bacterin showed an increase in the number of granulocytes, macrophages and thrombocytes 24 hpi. while tilapia inoculated with live S. *agalactiae* showed a significant increase of granulocytes, macrophages and thrombocytes 48 hpi. **Conclusions:** the comparative study of cell kinetics in the exudate revealed later responses to animals challenged with *s. agalactiae* alive when compared to fish stimulated by the bacterin. therefore, fish were able to overcome the stimulation exerted by the dead inoculum, whereas the living bacterium continued the infectious process, favoring the cellular accumulation in the late phase.

Key words: granulocytes, macrophages, thrombocytes, lymphocytes, fish, streptococci.

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Canine distemper virus: unexpected diagnosis in footpad lesion in a dog

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Background: Canine distemper virus (CDV) is a member of genus *Morbillivirus* of the family Paramyxoviridae[1] and clinical signs vary depending on the virus strain virulence, environmental conditions, host age and immune status[1,3]. Distemper in dogs may cause vesicopustular dermatitis and/or footpad hyperkeratosis [1,2,3]. Changes in the footpad epithelium, nasal mucosa and haired skin and viral antigen demonstration by inclusion bodies, immunohistochemistry or molecular biology have been indicated to be antemortem diagnosis in CDV cases[1,2,3]. The aim was reporting the footpad epithelium changes of a street dog with central nervous symptoms and the main etiology hypothesis in a routine diagnostic laboratory. **Case Report:** An adult domestic mongrel street dog was admitted presenting seizure episodes, pain and tumor enlargement in the third digit, with functional limb impotence. A surgical excision of the third digit was performed and subjected to histopathological evaluation. **Results:** The third digit measured 5.4 x 3.6 x 2.1 cm. It showed an 1cm in diameter ulcer on footpad with a brownish to blackish surface and firm consistency. Microscopically, the sample was diagnosed as orthokeratotic and parakeratotic hyperplastic ulcerated interface dermatitis, with intraepidermal syncytial cells and intracytoplasmic and intranuclear eosinophilic viral inclusion bodies in keratinocytes consisting with distemper viral inclusions associated with larvae of *Dermatobia hominis.* **Conclusions:** The footpad epidermis changes with eosinophilic inclusion bodies in keratinocytes from a dog with neurological symptoms were strongly suggestive of CDV infection. Microscopic analysis of footpad epithelium and viral antigen demonstration were proposed as diagnosis of CDV and it represented a practical example of skin histopathology application in a diagnostic routine.

Key words: inclusion bodies, skin, pathology, dermatitis, *Morbillivirus*.

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Effect of L-arginine supplementation on the Wistar rats' hematological parameters exposed to 5-fluorouracil chemotherapy drug

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Background: The 5-fluorouracil (5-FU) is a chemotherapy drug widely used in treatment of various carcinomas. After converted to 5-fluoro-2'-deoxyuridylate, it inhibits the DNA synthesis and consequently the neoplastic cell division. However, this drug has side effects on the cellular proliferation in the gastrointestinal tract, resulting decrease of cell turnover and immunological response, predisposing to development of enteritis and colitis. L-arginine is an amino acid that has the function to stimulate the immune system and anitumoral defense mechanisms. **Objective:** The aim of this present study was to evaluate the effect of different doses of L-arginine supplementation on hematological parameter of rats exposed to 5-fluorouracil (5-FU). **Methods:** 32 female rats Wistar were divided into four experimental groups (eight rats / group): normal control group (intraperitoneal saline); G5-FU (200 mg/Kg 5-FU, intraperitoneal); GArg50 (200 mg/Kg 5-FU intraperitoneal+ 50 mg/kg L-arginine in water *ad libitum*) and GArg100 (200 mg/Kg 5-FU+ 100 mg/kg L-arginine in water *ad libitum*). After 72 hours of treatment, the blood sample was collected and submitted to hematological evaluation. **Results:** the rats did not show significant differences in the blood count evaluation. The rats of G5-FU had a significant leukopenia, affecting mainly lymphocytes, monocytes and eosinophils. The GArg100 group showed increase of the with blood cells count and did not show significant differences with the control group. **Conclusion:** Supplementation with 100 mg/Kg of L-arginine improved the leukogram parameters evaluation and presented a potential protective effect on the immunosuppression caused by 5-FU.

Key words: arginine, neoplasms, pharmacological treatment, immunological cytotoxicity.

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Toxic effects of fumonisin B1 on swine's intestinal morphology

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Background: Fumonisin B_1 (FB_1) is the most frequently occurring mycotoxin contaminant in agricultural commodities worldwide, and represents a risk for human and animal health. **Objective:** The aim of the present study was to evaluate the FB1 toxic effects on the morphology, villi height and goblet cell density on the swine intestine through *ex vivo* model. **Methods:** Five 24-day-old pigs were euthanized and the jejunal explants were collected (54 explants/animal) using a punch of 8 mm in diameter and subjected to three treatments (six explants/treatment): control (culture medium), FB1 7µM and FB1 70 µM and incubated at 37°C under orbital shaking in three times (30 minutes, two and four hours). The explants were fixed in 10% neutral buffered formalin and processed for the histological examination. An intestinal histological score was used to compare the morphological changes and lesions among the treatments (lesional criteria: flattening of enterocytes, villi atrophy and fusion, interstitial edema, lymphatic vessel dilation, loss of apical enterocytes, cell vacuolation and necrotic debris). The villi height and goblet cells were measured and counted, respectively, 10 villi randomly per explant. The means were analyzed using the free software Acton 2.3 (Campinas, SP, Brazil) followed by a Tukey's test. All the animals experimental procedures were performed in accordance with the institutional animal care and use committee (CEUA/UEL/Brazil-process n° 4173.2014.05). **Results:** The intestinal explants exposed to FB1 70 µM presented a significant increase in the morphological changes compared to the FB1 7 µM and control treatments after four hours of incubation. The times of 30 minutes and two hours showed no significant differences among the treatments. **Conclusion:** The data suggest dose-time-dependent manner toxic effects of FB1 on the swine's intestine.

Key words: FB1, lesional score, villi height, goblet cells, pig.

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Sudden death due to mediastinal hamartoma rupture in a dog

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Background: Hamartoma is a general term that refers to a focally disordered overgrowth of mature tissue that is indigenous to the involved organ. Although the cellular elements are mature and identical to those found in the rest of the organ, they do not reproduce the typical architecture of the surrounding tissue. Because vascular tissue is ubiquitous, vascular hamartomas may occur in any site of the body. In dogs, the appearance of mediastinal hamartoma is scarce. **Case Report:** A 10-month-old female dog, mixed-breed, was apathetic, presented emetic episodes, dyspnea, claudication and died suddenly. **Results:** Gross examination revealed a soft, reddish and heterogeneous mass measuring 25 cm x 12.83 cm x 12.5 cm occupying the entire left hemithorax, wich had comunication with the pericardium and great vessels. There was no evidence of trauma, but there was a presence of approximately 1.5 liters of blood in the thoracic cavity. The mass histopathological features were composed of many vessels with normal morphology, interlaced with skeletal musculature and adipose tissue, which presented extensive hemorrhagic focus and coagulative necrosis. Also, there were areas of pulmonary emphysema, congestion and hemorrhage, and multifocal hemorrhage in the pappilary muscle, pancreas, and kidneys. **Conclusion:** The macro and microscopic findings were determinant for the diagnosis of neoformation as hamartoma, because it did not present compatible morphology with vascular neoplasia. The hamartoma rupture caused a severe blood loss and provoked a hemodynamic imbalance, leading to hypovolemic shock and death.

Key words: hemothorax, neoformation, hypovolemia, shock.

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Mechanical asphyxiation in a dog due to a possible hanging in a pet shop facility

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Background: Accidents in pet shop facilities are frequent and may occur even if they are supervisioned by a technincian or a veterinarian. Animals may be stressed by the procedures, environment and other animals, or, if they are let by their own, they may suffer an accident, that can lead them to death. **Case report:** A six-year-old male Shih-Tzu, weighing 6.970 kg was used to pet shop procedures. According to the owner's report, after bathing, the dog was let alone over the grooming table, with a short leash connected in a metal bar, with a collar around its neck. When the pet shop staff returned to the room, the animal was found dead. The owner decided to prosecute the pet shop for negligence, and decided to find the cause of death. The pathologist did not have access to any information nor photography of the crime scene. **Results**: Before the necropsy, the animal was subjected to the radiographic examination of the cervical region, to evaluate any possible fractures, and there was no bony lesion. At necropsy, there was an extense reddish lesion on the neck ventral aspect. After shaving, two ligature lesions were found, and when the skin was deflected, vascular rupture was found in subcutis, and haemorrhage in superficial and deep musculature. There were petechiae and ecchimosis in the oral mucosa, conjunctiva, and mentonian subcutis. Lung presented marked congestion and multifocal haemorrhage, with emphysema in the cranial lobes. There was haemorrhage in the brain and cervical spinal cord. All lesions were photographed with the animal's identification, in order to maintain the chain of custody. **Conclusions**: Necropsy findings may lead to the assumption that the animal died due to asphyxiation, compatible with hanging, although it should be examined together with other crime scene findings.

Key words: asphyxia, *Canis familiaris*, forensic pathology, ligature.

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Feline sporotrichosis: first two cases reported in Oeste Paulista region

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Background: Sporotrichosis is an emerging zoonotic disease caused by the dimorphic hyphomycete fungus *Sporothrix schenkii* that grows naturally in the soil or in the vegetation. This disease is usually transmitted by infected free-living male cats through traumatic injuries such as biting or scratching and by organic materials contaminated with the fungus. The skin lesions are characterized by ulceration with discharge and firm skin bumps commonly observed on the pennae, nose and head. Sporotrichosis has a distinctive cytological features and a sample can be obtained through the nodules aspiration, ulcerated skin impression, skin scraping and smear of a specimen swab. The aim of the resent report was described the first two cases of Sporotrichosis diagnosed in cats of Oeste Paulista Region. **Case Report:** Intact male felines**,** mixed breed, four and 15-years-old were presented at Veterinary Hospital/Universidade do Oeste Paulista, Presidente Prudente, SP, Brazil with ulcerative skin lesions in the head and firm nodules in the mouth and ocular regions. The fine needle aspiration biopsy was performed to differential diagnosis. **Results:** The cytological examination showed numerous oval to elongate structures with basophilic central nucleus, isolated and scattered localized extracelullarly or inside macrophages. The cytological diagnosis was infection by *Sporothrix schenkii* (Sporotrichosis). The owners were oriented about the prolonged treatment and the disease zoonotic character. **Conclusions:** This is the first reported of infection by *Sporothrix schenkii* in cats diagnosed in the Oeste Paulista region. The fine needle aspiration biopsy exam was essential to definite Sporotrichosis diagnosis.

Key words: *Sporothrix spp.*, skin lesions, cat.

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Spinal cord compression by feline injection-site sarcoma

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Background: Feline injection-site sarcoma is a mesenchymal neoplasm that affects cats at anatomical regions used to injections. In cases of metastasis to the nervous system or spinal cord compression, animals can show neurological signs. **Case report:** An eighteen-year-old male mixed breed cat with malign mesenchymal tumor relapse at interscapular region was attended at Veterinary Hospital of UniSALESIANO, Araçatuba, SP. The patient showed signs of dehydration, pain at the affected area, proprioception deficit and pelvic limbs spinal reflexes reduced. Radiographic images showed radiopacity decrease in spinous process and vertebral body of T1, T2 e T3, indicating osteolysis. Due to the spinal cord compression with manifestation of neurological signs, intense pain and the impossibility of any therapeutic possibilities, euthanasia was performed. **Results:** At the gross exam subcutaneous neoformations of firm consistency at the interscapular and left lateral thoracic region were notice. The cut surface was homogeneous and whitish, containing nylon suture thread. The microscopic exam showed infiltrative pleomorphic mesenchymal neoplasia characterized by cells with pleomorphism and hypercromathic nuclei, and high mitotic activity (six mitotic cells in ten high-power fields). Sections of vertebral bone revealed tissue commitment defined by osteolysis and neoplastic cells infiltration. Also there was spinal cord compression by the neoformation. None of these situations was reported in the consulted literature. There is only one report of metastasis to the nervous system and none about infiltration to the spinal cord. According to this, metastasis seems to be more frequent than infiltration to the nervous system. There was no infiltration or metastasis to the nervous system in this case, only spinal cord compression. **Conclusions:** Feline injection-site sarcoma has the potential to destroy and infiltrate the adjacent structures, as the vertebral bone, being able to induce neurological signs without the invasion by its neoplastic cells to the nervous system.

Key words: neoplasms, cats, osteolysis.

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Papillary renal cell carcinoma in a dog

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Background: Renal cell carcinoma is an uncommon tumor in domestic animals. The incidence in dogs is 1.5 in 100.000, occurring more frequently in adults and old ones. There is no breed predilection but a predisposition for the male gender. **Case report:** A ten-year-old male Boxer was diagnosed with a neoformation at the left kidney trough ultrasonography exam. After nephrectomy surgical procedure, the specimen was fixed in formalin 10% and submitted to routine histopathological processing. **Results:** The macroscopic examination evidenced irregular-shaped left kidney, with nodular surface, firm consistency, approximate dimensions of 15 x 10 x 7 cm and yellowish-red coloration. When cut, atrophic renal parenchyma, presence of yellowish neoformation with irregular surface of schirrous aspect associated to cystic formations and ureter dilatation were observed. The Hematoxilin-Eosin stained cytology revealed naked nuclei cells, granular chromatin, moderated nuclear pleomorphism and mitotic activity of six mitotic cells in ten high-power fields. Histopathological analysis showed epithelial neoplasia arranged in multiple papillary formations displaying anisokaryosis, evident nucleolus and accentuated mitotic activity of sixty mitotic cells in ten high-power fields. Neoplastic cells were identified in the lymphatic vessels lumen. Both macro and microscopic findings are in accordance with the literature consulted, mainly about the size, surface and internal aspect and histological features. **Conclusions:** The high mitotic activity, presence of neoplastic cells in the lymphatics and other *criteria* of *malignancy* are negative prognostic factors found in the microscopic analysis, contributing to a poor prognosis to this case.

Key words: neoplasms, kidney, animals, domestic, male.

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Spread anaplastic melanoma in a horse and its outcome: relevance of clinical and histopathological correlation

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Background: Melanocytic tumors are frequent neoplastic lesions in horses, with recognized histopathological features and clinical presentation. Nevus and dermal melanoma, dermal melanomatosis and anaplastic malignant melanoma are the 4 patterns of melanotic disease in horses. Equine melanoma (EM) is a common neoplasm in mature grey or white coated horses, located mainly in the perineum, tail base and external genitalia. However, only macroscopic lesions are not sufficient to determine the biological behavior and prognostic. The aim was to highlight the relevance of the clinical-pathological correlation, since macroscopically it is not possible to distinguish a melanocytoma or dermal melanoma from an anaplastic melanoma. **Case Report:** A 18-year-old male, mixed breed grey coated horse, returned to the Equine Hospital one month after excision of a nodule around the tail base, presenting poor body condition, weakness and a progressive weight loss since surgery, due to the tumor recurrence on the skin and visceral organs, the horse was humanely euthanized. **Results**: The primary dermal tumor under the tail base measured 7.0 x 5.0 cm, with a multilobulated black surface and firm consistency. Other nodules were observed in the right eyelid, dermal of ventral cervical region, side of de head, musculature of right thoracic limb, diaphragm, temporal muscle, tongue, thyroid, trachea, epiplon, mesentery, renal capsule and perirenal adipous tissue, liver, lung and in the pericardial sac, peripheral lymph nodes, epicardium, myocardium and endocardium. Microscopically, the tumor was infiltrative, amelanotic anaplastic melanoma with disseminated metastasis. **Conclusion**: Gross and microscopic features were diagnosed as equine anaplastic melanoma with spread metastasis, being microscopically differentiated from a melanocytoma or dermal melanoma.

Key words: veterinary oncology, melanocytic tumors, equine pathology.

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Adenoma of hypophysis acidophilic cells in association to mammary tumor in *Rattus norvegicus*

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Background: The pituitary gland adenomas are: chromophobic, acidophilic, basophilic or mixed based on the tumorary affinities of tumor cells. Multiple hormonal factors control and regulate the lactotroph (acidophilic cells) and cause prolactin to act on the mammary gland. In geriatric rats, there is an association between pituitary prolactin secreting tumors and mammary fibroadenoma. Morphological and histopathological aspects of adenoma of acidophilic cells of the pituitary are reported in concomitance with fibroadenoma mammary in a patient of the species *Rattus norvegicus*. **Case Report:** *Rattus norvegicus* (rat), 4 years old, had neurological signs. A 2-cm nodule, firm and rounded, was noted in the ventral cervical region, which increased in size. The clinical picture evolved to permanent sternal decubitus. The patient was submitted to necropsy in SAP of UFRRJ. **Results**: A 3.5x3cm, rounded, subcutaneous firm with a multilobated and rosy appearance tumor, flowing yellowish fluid and a slight increase of the pituitary gland, was observed in the cervical, ventral and sternal regions, Histologically, in the pituitary there was proliferation of acidophilic epithelial cells arranged in trabeculae and follicles supported by scarce fibrous stroma with blood vessels (pituitary adenoma). In the cervical mass, there was proliferation of epithelial cells organized in tubules of a single layer of cells interspersed with a moderate amount of fibrous tissue (fibroadenoma mammary). Both neoplasms presented discrete pleomorphism, anisocytosis and anisocariasis. **Conclusion**: Based on macroscopic and microscopic findings, fibroadenoma mammary possibly developed by prolactin hormone stimulation produced by acidophilic chromophilic cell tumor of the pituitary (acidophilic cell adenoma), likely prolactinoma.

Key words: pituitary, endocrine, rat.

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Equine influenza virus causing pneumonia in a foal in the state of Rio de Janeiro

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Background: Internationally, equine influenza is the most commonly diagnosed horse respiratory viral disease. Etiology of this disease is an Orthomyxoviridae, Influenzavirus (EIV), H7N7 or H3N8, subtypes. Foals are more susceptible than adults to fatal disease. Secondary bacterial bronchopneumonia is the main complication of EIV infection. Diagnosis can be made by EIV isolation from the lung tissue of foals with pneumonia, detection of EIV RNA in the tissues or by immunostaining of EIV on lung tissue with typical lesions. Clinical and pathological signs of an EIV infection in a foal were reported. **Case Report:** A foal, 1-month-old Manga-larga Marchador breed, with diarrhea and fever was hospitalized in a private clinic and recovered afterwards. Two months later, the foal presented inappetence and diarrhea and was admitted to HVGA/UFRRJ. At admission, the foal was submitted to fluid therapy, oxygen therapy, antibiotic therapy, bronchodilators, anti-inflammatories and mucolytics. The horse died and was submitted to necropsy performed by SAP/UFRRJ team.At necropsy, mucopurulent exudate were found in the nostrils and pale mucous membranes. Trachea and lungs contained foamy fluid (edema). Lungs had red multifocal to coalescent consolidated areas, mainly in the ventral region. Bronchi showed catarrhal exudate. The lungs histological features had proliferation of bronchi and bronchioles cells (epithelial hyperplasia) as well as bronchi and bronchioles pyknotic nuclei (epithelial necrosis). There were inflammatory infiltrate composed by neutrophils, plasma cells, lymphocytes in the bronchi, bronchioles and alveoli lumen with moderate multifocal intra-alveolar edema (bronchopneumonia). Morphology of proliferative pneumonia with necrotizing bronchiolitis and secondary bronchopneumonia are characteristics compatible with influenza virus lesion in horses. Immunohistochemistry with a primary anti-influenzavirus A antibody allowed to confirm this virus in bronchi and bronchioles epithelial cells.**Conclusion:** EIV infection occurred in a foal in the State of Rio de Janeiro with typical lesions and confirmed by immunohistochemistry.

Key words: equine, necropsy, histopathology, immunohistochemistry, respiratory diseases.

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Cerebral amyloid angiopathy in capuchin monkey (*Sapajus* sp.)

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Background: Non-human primates, such as *Sapajus* sp., are considered models for various human diseases, including cerebral amyloid angiopathy (CAA). This disease is characterized by the amyloid deposition mainly in the blood vessels wall, particularly in the cerebral cortex and leptomeninges. In humans, the lesion is seen in elderly people, especially those affected by Alzheimer's disease, causing lobar hemorrhage and cerebral microinfarction in this group. The present study aims to describe a case of ACC in a primate of the genus *Sapajus* sp. **Case Report:** A primate *Sapajus* sp. male of approximately twenty-five years old, used in behavior experiments presented a neurological picture characterized by flaccid paresis and hyperthermia (43ºC). The intensity of the clinical signs reduced temporarily when the animal received treatment with B vitamins and physiotherapy. However, this clinical improvement was followed by worsening of the clinical signs and the animal's death after a clinical evolution of 23 days. The animal was submitted to necropsy and samples of several organs were collected in 10% formaldehyde for routine histopathological processing and staining by hematoxylin and eosin. Selected cuts of the central nervous system (CNS) were stained by Congo red. **Results:** In macroscopy, decubitus beds and muscular atrophy of the pelvic limbs were observed. The main histopathological finding was observed in the CNS, where there was a moderate amount of amorphous eosinophilic material on the arterioles wall. Additionally, there was discrete white matter vacuolization in the cerebral cortex, thalamus, and cerebellum. In this last area, macrophages with hemosiderin were observed around parenchymal vessels and leptomeninges. **Conclusions:** The study demonstrates that CAA should be included in the differential diagnosis of neurological diseases of *Sapajus* sp. seniors. The species demonstrates to be a potential model for studies of CAA and possibly Alzheimer's disease.

Key words: primates, deposition, vacuolization, white matter, arteriole.

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Hydrocephalus in jaguarundi (*Puma yagouaroundi*)

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Background: The jaguarundi or otter-cat (*Puma yagouaroundi*) is a small neotropical feline that inhabits all the Brazilian biomes, although it is considered a vulnerable species. Case studies are important for diseases knowledge affecting wild species and are crucial for their conservation. The hydrocephalus is a disorder characterized by the cerebrospinal fluid accumulation, the most common cause being congenital obstruction of the mesencephalic aqueduct. There are few reports of this disturbance in wild felids, particularly in the Brazilian fauna. This report aims to describe the pathological findings of a case of hydrocephalus in otter-cat. **Case Report:** A young female wild feline of the species *Puma yagouaroundi*, was brought to necropsy after the clinical evolution of about a year and a half of clinical neurological signs, as walking in circles, lateral head deviation, strabismus and difficulty seeing. **Results:** At necropsy, there was marked dilatation of the lateral ventricles and third ventricle, which may be associated with mesencephalic aqueduct partial stenosis. The feline's clinical signs and macroscopic findings in this study were similar to those described in the congenital form of the disease in domestic cats. In domestic cats malformation is sporadic, since heredity is not identified. It is possible that the same occurs in the jaguarundi. **Conclusions:** The study shows that hydrocephalus should also be considered in young felids of this species with neurological signs related to the brain.

Key words: otter-cat, cerebrospinal fluid, ventricles, dilatation, pressure.

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Ehlers-danlos syndrome in a pug

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Background: The alterations observed in animals that bear the Ehlers-Danlos Syndrome or cutaneous asthenia are characterized by skin fragility, hyperextension, low adherence to subcutaneous tissue, abnormal elasticity, joint and ligament looseness, and scarring difficulties. This syndrome has a recessive hereditary genetic characteristic, it affects many species and is characterized by a disfunction in the collagen fibers origin located in the subcutaneous tissue. **Case Report:** A five-year-old female pug was seen at the UNOESC Veterinary Hospital, Xanxerê, SC, which

had an excess of eye discharge, congested sclera and entropion A skin excess was observed in the animal´s whole body. The owner reported that since the dog was a pup, the patient presented posterior limbs claudication, patellar subluxation and ease of tearing skin, although the animal had good skin healing of a surgical incision due to an ovarian hysterectomy. **Results:** Skin extensibility index evaluation revealed a value of 20% and it consists of a reliable method to diagnose the disease. The histopathological exam was carried out by Hematoxylin & Eosin and Masson´s trichrome staining, evidencing reduction in the number of collagen fibers, apparent dysplastic collagen, arranged in small fragmented bundles, disorganized and with degeneration focuses. The exam results were compatible with Ehlers-Danlos Sydrome or cutaneous asthenia. **Conclusions:** The structure and composition alterations of collagen fibers on patients with cutaneous asthenia trigger different pathologies due to the organ fragility, causing several clinical signs, which can make the disease difficult to be diagnosed. The histopathological examination and the correct measurement of the skin extensibility index are essential tools in the veterinary's office, providing additional data to a conclusive diagnosis.

Key words: cutaneous asthenia, Masson´s trichrome, skin weakness, collagen fibers.

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Xanthomatous granuloma in a parrot (*Amazona amazonica*)

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Xanthomatous granuloma or xanthoma is a nodular soft tissue lesion that affects birds and mammals. It is caused by a disorder in lipid metabolism following trauma, with deposition of cholesterol in the site, which triggers a typically granulomatous inflammatory response. In this sense, this work aims to report a case of perianal xanthomatous granuloma in a parrot. It was seen in a private clinic in the city of Belém-Pará, an *Amazona amazonica* parrot, 35-year-old, male, weighing 800 grams, presenting perianal cutaneous nodule, with a 6-month evolution and anorexia and difficulty locomotion. The animal was submitted to surgical procedure for tumor excision, which was removed with surgical margin and was adhered to the muscular layers of the subcutaneous tissue. The nodule sample was sent to the Animal Pathology Laboratory of the Federal Rural University of Amazonia for the histopathological examination. Macroscopically, nodulation presented irregular surface, whitish color, elastic consistency, measuring 0.7 x 0.5 cm in diameter. At the cut, there was a white coloration with circumscribed and irregular yellow areas. Histopathological examination demonstrated inflammatory infiltrate with a predominance of macrophages, many of these, foamy, as well as fibrosis reaction and areas rich in cholesterol crevices. Multifocal areas containing cell debris bordered by numerous giant foreign body cells were also observed. Based on the clinical and pathological findings, a case of xanthomatous granuloma was diagnosed in an *Amazona amazonica* parrot.

Key words: bird, wild animal, Amazonia.

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Melanotic schwanoma in a dog

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Background: Schwannomas are tumors of the peripheral nervous system composed of neoplastic Schwann cells. In dogs, there are two other forms of Schwannomas: the plexiform and the melanocytic Schwannoma, the latter being rare, being non-encapsulated and strongly pigmented. Due to these last characteristics the tumor must be differentiated from melanoma. The diagnosis of this type of neoplasm is based on typical morphological characteristics and is reinforced by immunohistochemical aspects. In the present study pathological aspects of a case of melanocytic Schwannoma in a dog are described. **Case Report:** The canine of this study was a female, 13-year-old Sharpei, with historic of mass removal about 6 years ago, that received the diagnosis of fibropapilloma. At the time of the present study collections, several skin nodules were observed randomly distributed along the body. These nodules presented clinical evolution from 3 months to 7 years. Four fragments of the nodules were collected in 10% buffered formalin, processed routinely for histopathological examination and stained in hematoxylin and eosin. **Results:** Two nodules located in the animal's dorsal region presented macroscopically areas of ulceration, soft consistency and whitish color. In histopathology, it was possible to observe a neoplasm consisting of spindle cells with interlaced bundle arrangement, with areas presenting palisade arrangement. The cells showed a moderate amount of slightly basophilic cytoplasm, occasionally with a large quantity of blackened brown pigment. The nuclei were round or oval, with mild anisocaryosis and poorly visible nucleoli. The histopathological aspects were considered compatible with those of melanocytic Schwannoma. Ulceration and infiltration areas in the deep dermis and muscle layer were also visualized. **Conclusions**: The diagnosis of the present case was based on histopathological findings compatible with melanocytic Schwannoma. Although uncommon, this neoplasm should be considered in the differential diagnosis of canine skin tumors.

Key words: Schwann cells, neoplasm, nervous system, canine.

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Papilary adenocarcinoma with ciliated cells in a canine

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Background: Primary pulmonary neoplasms present low frequency in dogs, generally occurring in older animals, above 10-years-old. The most recent classification includes adenocarcinomas, squamous cell carcinomas, small cell carcinomas, combined carcinomas, carcinoids and blastomas. In dogs the adenocarcinomas, adeno-squamous carcinomas and carcinomas of squamous cells are the least common ones. The pulmonary adenocarcinomas with ciliated cells are considered rare types, with few reports in the human and veterinary medicine. Eyelashes are often observed only in electron microscopy. Due to the data scarcity on this type of neoplasm in dogs, the objective of the study was to describe the pathological aspects of a case of pulmonary papillary adenocarcinoma in a canine with visible ciliated cells in the optical microscopy. **Case Report**: The dog in the present study was male, without a defined race and was 13 years old. The animal died due to multicentric lymphoma, and had clinical signs characterized by apathy and anorexia, accompanied by jaundice. At necropsy, besides the findings indicative of lymphoma (mainly hepatomegaly and splenomegaly), there was a firm and whitish nodule in the diaphragmatic lobe of the right lung. Several organ fragments were collected, fixed in 10% buffered formalin and routinely processed for histopathology. Results: In histopathology, a neoplasm of columnar epithelial cells on pavements was observed, arranged in tubules with intraluminal papillary projections, with infiltration in the adjacent parenchyma, being separated by scarce fibrous stroma. Columnar neoplastic cells often presented apical structures resembling lashes. The nuclei of the cells were oval, with moderate anisocaryosis and evident nucleoli. These histopathological aspects were considered compatible with those of papillary lung adenocarcinoma. Several tissues were infiltrated by anaplastic lymphoid cells consistent with multicentric lymphoma. Conclusions: The unusual presence of ciliated cells in the lung adenocarcinoma of this dog indicates a possible broncogenic origin of the neoplasia.

Key words: pulmonary neoplasia, dog, epithelium.

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Adenocarcinoma papillary tubule ovarian with neoplasic implantation in peritoneum in a bitch

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Background: Adenocarcinoma is a malignant tumor derived from secretory epithelial gland cells. It can affect one or both ovaries and are composed of multiple cysts containing fluids or mucus. It tends to be locally invasive, possessing broad metastatic potential. Ovarian neoplasms represent approximately 1.2% of all the neoplasms occurring in bitches. **Case Report:** The objective of this study was to report a case of ovarian adenocarcinoma with peritoneal metastasis in a 12- year-old female dog with no defined breed. **Results:** Fragments of the uterus and ovary biopsy with a granular vegetative structure and fragments of peritoneum were all received in the Laboratory of Animal Pathology of the Federal Rural University of the Amazon (LABOPAT / UFRA), all already fixed in formaldehyde. In the macroscopic fragments description a vegetative structure in the right ovary measured 3.5 x 2.2 cm, and was friable and, on cutting, a firm central area with whitish coloration. The peritoneum fragment measured 0.7 x 0.5 cm, of firm consistency, white color with irregular surface. Microscopically the uterus showed normality. The ovary presented few representative elements of the organ, with some atretic follicles being observed, and most of this organ corresponded to a neoformation with multiple cysts and papilliform projections coated by atypical and differentiated epithelium, with welldetectable aninucleosis and nucleoli. Growth areas presenting a solid appearance due to the great cellular density and some cellular elements arranged. **Conclusions:** These characteristics are consistent with ovarian papillary tubule adenocarcinoma differentiating from other ovarian neoplasms such as granulosa cell tumors, cystadenocarcinoma, undifferentiated carcinoma, dysgerminoma and teratoma. Neoplastic implantation with ovarian tumor characteristics was confirmed in the peritoneum. Tumors of ovarian epithelial cells might be observed in elderly bitches manifested in the form of metastasis in several organs.

Key words: neoplasia, ovary, adenocarcinoma, metastasis.

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Rhabdomyosarcoma in a dog: case report

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Background: Rhabdomyosarcomas (RMS) are malignant skeletal muscle tumors. They are relatively rare neoplasms of domestic animals, most commonly diagnosed in dogs . Common histologic subclasses include embryonal RMS, alveolar RMS, and botryoid RMS. Less common subclasses include pleomorphic RMS. The most aggressive of these neoplasms arise in juvenile dogs younger than 2 years and include alveolar RMS and embryonal RMS. Variants of embryonal RMS include the rhabdomyoblastic, myotubular, and spindyloid variants. There is no evidence that classification into the rhabdomyoblastic or myotubular variants has any influence on prognosis or clinical course in human or canine medicine. **Case Report:** An incisional biopsy was received of 1 1 year and 5 months old, castrated male, Golden Retriever, dog, weighing 30.3 kg. Clinical report of an increase in volume in the left muzzle, with 3 weeks of evolution, 3 cm size. **Results:** Nodule fragments were collected and sent for histopathological examination. The cells were atypical and exhibited marked pleomorphism, arranged in closely packed groups from round to polygonal cells, sometimes with elongated and plump shape, with thin and sparse fibrous septa. Moderate to abundant eosinophilic cytoplasm, few containing slight striations. Nuclear shape varying from round to oval, with irregular chromatin and evident nucleolus. Marked anisocytosis and anisokaryosis and bizarre mitotic figures. About 72 mitoses in 10 fields, at 400× magnification. Mild to marked areas of necrosis were observed. Immunohistochemistry was positive for desmin, myoglobin, MyoD and myogenin. The differential for melanoma was performed by negative labeling for melan A. **Conclusions:** Based on the histologic findings associated with the positive immunohistochemistry labeling for skeletal muscle markers the diagnosis of rhabdomyosarcoma was carried out. According signalment and microscopic findings the most appropriate classification was embryonal RMS, rhabdomyoblastic variant.

Key words: canine, embryonal, immunohistochemistry, musculoskeletal, oncology.

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Feline leprosy lepromatous form: case report

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Background: Feline leprosy is an infectious dermatopathy caused by *Mycobacterium* spp. The animal develops cutaneous and subcutaneous granulomas, which may be present in any part of the body but usually occurs on the limbs and head; regional lymphadenopathy is common. No breed or sex predilections have been established in cats. Two principal forms of feline leprosy syndrome have been recognized, lepromatous (organism-rich) and tuberculoid (sparse to moderate organisms). The lepromatous form has the *M. visibilis* as its agent and affected cats are older, mainly when the immune response is not satisfactory. *M. lepraemurium* causes the tuberculoid form, and attacks young animals. **Case Report:** Samples were received for cytological and histopathological examination of a, female, crossbreed, nine-year-old feline, weighing 1,6 kg. The clinical reports indicated a nasal plane volume increase, more evident on the left side, with friable, bloody, reddish aspect, with approximately 3 x 2 cm, and with fistula on the nasal plane dorsal surface. The animal was treated with azithromycin 5 mg/kg for 60 days. **Results:** The cytolopathological examination indicated moderate cellularity composed mainly of macrophages and polymorphonuclear (neutrophils and eosinophils). In particular, large numbers of filamentous rods fill the cytoplasm of macrophages and are seen densely in extracellular spaces, highlighted against the proteinaceous background. The cytopathologic examination indicated the diagnosis of pyogranulomatous inflammatory process associated to numerous intra and extracellular filamented structures compatible with mycobacteriosis. Histopathological examination diagnosed granulomatous inflammation. Moreover, Ziehl Neelsen special staining was performed, from the cytology and histopathology samples, and indicated large numbers of acid-fast bacilli, compatible with *Mycobaterium* spp. **Conclusions**: According to the microscopic findings the diagnosis was the feline leprosy lepromatous form (organism-rich). Cytopathological examination associated with Ziehl Neelsen demonstrated effective and rapid diagnostic methods.

Key words: mycobacteriosis, *Mycobaterium*, *M. lepraemurium*, *M. visibilis*, organism-rich.

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Post traumatic neutrophilic meningitis in a dog: case report

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Background: Different microorganisms, such as bacteria, virus, fungi or protozoa, can cause canine meningitis. Bacterial meningitis in dogs is rare, and may be related to the extension and dissemination from primary bacterial infection, usually by Staphylococcus spp. in other areas of the body, such as ears, eyes, sinuses and heart. **Case Report:** A 4-month canine (*Canis lupus familiaris*), mongrel had epileptic seizures, ataxia and intense mucopurulent ocular secretion for 3 days, and was euthanized by the owner's decision, as there was no improvement. During anamnesis, it was reported that the animal had no history of vaccination against distemper, had a recent contact with a bat and suffered a bite from another dog. **Results**: Necropsy revealed bite-like perforations in the mandible's ventral region and supraorbital region of the frontal bone. The animal also presented reddish lung with ribs impressions. The brain was sent to indirect immunofluorescence test, with negative result for rabies. In histopathology, the central nervous system had an intense neutrophilic infiltrate in the meninges and areas of neuronal necrosis; neutrophilic infiltrate was also observed in the spleen, liver and lung. Meningitis can occur due to infections limited to the head cranial portion and penetrating cranial traumatisms, and in rare cases, being able to evolve into bacterial meningoencephalitis. The distemper was discarded because it had a different microscopic characteristic from what was visualized. **Conclusions:** Considering the microscopic findings and relating to the suffered trauma, the diagnosis of bacterial meningitis caused by trauma was made. Although no bacterial colonies were observed, the intense neutrophilic infiltrate characterizes bacterial infection. In addition, the animal would have probably entered in sepsis as it had intense neutrophilic infiltration in several organs.

Key words: canine, infection, inflammation, meningeal, neutrophil.

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Mastocytes detection in canine mammary neoplasias

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Background: The incidence of mammary neoplasias in female dog is high in Brazil, with more than 50% of the cases considered malignant. Dogs have become an experimental model for human mammary neoplasias, since the carcinogenesis in both species is similar regarding the hormonal stimulation and genetic mutations. In human mammary neoplasias, the presence of mastocytes is associated with worse prognoses. **Objective:** To compare the mastocytes number in benign and malignant canine mammary neoplasias, evaluating their location within neoplasias and if there is a difference among the mastocytes number per large magnification field in the neoplastic cells area. **Methods:** Nine samples of benign and malignant canine mammary neoplasias were selected, cut from 3 to 4 micrometers, placed in slides and colored by Hematoxylin and eosin for the classification in benign and malignant neoplasias. The same slides were stained by Toluidine Blue for mastocytes quantification, then the mastocytes from 10 fields surrounding the neoplasia were counted and their mean was made by field. The statistical analysis was performed by the parametric T test in the Graphpad Prism program version 6. **Results:** In the benign canine neoplasms, there was an average of 5.38 mastocytes per field and in the malignant ones an average of 4.77 mastocytes per field with a value of $p = 0.762$. Both mastocytes counts were made among and around the neoplastic cells. **Conclusions:** There was no statistical difference among the number of mastocytes in benign and malignant mammary neoplasms, as observed by other authors. Probably, the role of mastocytes is the activation of other cells and/or as inflammatory mediators that interfere with tumor malignancy.

Key words: dog, inflammation, mast cells, toluidine-blue.

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Non-accidental hanging in roaming dog: case report

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Background: The cause of death evaluation is important for the forensic veterinary medicine because it can be legally deliberated, which implicates in penalties, as animal cruelty is now considered a crime in Brazil. Hanging asphyxia may be a non-accidental injury and it occurs when there is pressure on the neck by a constricting band tightened by the weight of the body. The aim of this work is to describe a case of a dog dead by strangulation. **Case Report:** A lactating female stray dog was seen constantly entering into a commercial building. The security guard tied a piece of fabric around its neck to remove it from the area while ignoring several warnings that the dog was being hung. **Results:** The necropsy revealed skin cyanosis of the thorax and abdomen, especially in the nipples, buccal and gingival mucosa. The internal examination revealed hematomas of variable diameters, around 0.5 to 2.0 cm, at the right ventral cervical muscular fascia; discrete lumen constriction of the mid trachea, with small blood clots in the mucosa, linear petechiae, and hemorrhage among the cartilage rings. Left pulmonary lobes were mottled and its caudal portion was purplish and engorged with blood. **Conclusions:** Based on the history and the gross findings, the diagnosis of strangulation as the cause of death was discovered. It is important to report non-accidental injuries for its social relevance as it is considered a crime. It is also an increasing popular demand since animal sentience has been scientifically recognized.

Key words: asphyxia, non-accidental injury, animal cruelty, strangulation.

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Gross pathology findings of two exhumed dogs

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Background: Necropsy in exhumed animals is rare. In humans, it can be due to an administrate reason or due to a judicial reason, which can elucidate or explain the cause of death after the burial, although the findings to determine the cause of death may be limited as a result of the advanced decomposition. In an experimental study with exhumed experimental animals, it was even possible to detect exogenous intoxication in tissues in advanced decomposition stages. This work aims to show gross pathology findings of two exhumed dogs. **Case Report:** Animal 1 - adult female dog was buried for about two months. Animal 2 – young male dog was buried for about 4 days. There was no additional history information provided. **Results:** The animal 1 necropsy revealed a hematoma in the left parietal bone and a fracture in the occipital bone region, with five bone fragments. The animal 2 necropsy revealed a circumscribed penetrating injury, with regular borders in the ventral thoracic region, measuring 1.5x1.0 cm and 11.5 cm deep, invading the thoracic cavity and reaching large internal vessels causing extensive hemorrhage. **Conclusions:** Although necropsy in exhumed animals is a limited exam, in these two cases the macroscopic findings could lead to the most likely cause of death, showing the importance of necropsy performed on exhumed animals and also stressing the importance of forensic veterinary medicine.

Key words: exhumation, forensic pathology, veterinary forensics, forensic veterinary medicine, necropsy.

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Periocular lymphoma in psittacine

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Introduction: Psittacidae can be affected by several diseases, and neoplasms account for 6.2% of those. Lymphoma is a malignant neoplasm of lymphoid tissue origin, being characterized by the abnormal and progressive growth masses formation. It may be of two different types: multisystemic, which affects multiple organs, or occurring in a single organ, such as the skin. Lymphoma in birds has unknown etiology; however, some studies suggest viral origin. **Case Report:** A 20-year-old true parrot (*Amazona aestiva*) with history of pruritus, volume increase in the left periocular region, and secretion which had started a month ago was taken to the Veterinary Hospital of Universidade Federal do Paraná – Setor Palotina. After the clinical evaluation a slightly reddish mass around the ocular bulb was unveiled, and thus, fine-needle aspiration was performed. **Results:** At cytological examination the sample was composed of large round cells with high nucleus-cytoplasm-ratio. The cytoplasm was slightly bluish with a few small vacuoles. The cells revealed a single nucleus with variable chromatin and one to multiple evident nucleoli. Some granulocytes were scattered among the neoplastic cells. There were rare small lymphocytes composed of scant, bluish cytoplasm and small nucleus with condensed chromatin. **Conclusion:** The cytological findings are compatible with lymphoma. The presence of lymphoid cells aggregates in the retrobulbar region renders this site susceptible to the lymphoma development, with possible occurrence of exophthalmos and periocular enlargement. To sum up, this report confirms cytology as a relevant diagnostic tool as well as corroborates the neoplasm herein described as a differential diagnose in cases of periocular enlargement.

Key words: parrot, round cell neoplasia.

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Pleuritis in a feline caused by infectious peritonitis virus

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Background: Feline infectious peritonitis virus (FIPV) is an obligate intracellular RNA virus, which replicates mainly in cats' macrophages, is epitheliotropic and infects various organs, including the lungs, inducing the production of inflammatory mediators. FIPV causes Feline Infectious Peritonitis (FIP), a systemic felids disease. Lesions in the respiratory system in cats with FIP are frequent, mostly in the lungs and pleura, which are associated with pleural effusions. These effusions can lead to pneumonia, and cause respiratory insufficiency and death. **Case Report:** The present case report describes a case of pleuritis in a 1-year-old, female, castrated cat that died naturally. Necropsy, histopathology and immunohistochemistry (IHC) were used for FIPV for the etiological diagnosis. **Results:** In the lungs, grossly, there was diffuse thickening of both visceral and parietal pleura, associated with multifocal fibrin. Histopathology showed severe and diffuse pyogranulomatous pleuritis, composed by macrophages, lymphocytes and plasma cells, sometimes associated with neutrophils, fibrin and necrosis. In addition, multifocal and moderate pyogranulomatous hepatitis were observed in the liver. IHC from the lungs showed multifocal positivity for FIPV in the cytoplasm of the macrophages and in the adjacent inflammation areas (pleuritis) and necrosis. FIPV can reach the lungs by the blood by a Trojan horse mechanism, causing pleuritis and pyogranulomatous pneumonia, leading to respiratory failure and death. Both respiratory and hepato-biliary are organs frequently described as affected by FIP. The differential diagnosis of diseases of respiratory system in cats should include tuberculosis (*Mycobacterium tuberculosis* agent), toxoplasmosis (*Toxoplasma gondii*), and pyothorax , caused mainly by bacteria like *Escherichia coli*, *Pasteurella* spp., *Streptococcus* spp., and *Staphylococus* spp. **Conclusions:** Pleuritis caused by FIPV was diagnosed in a cat by using gold standard *post-mortem* anatomic pathology and IHC. Thus, FIP should be included in the respiratory diseases diagnosis in cats.

Key words: anatomic pathology, pleura, immunohistochemistry, feline infectious peritonitis virus.