Braz J Vet Pathol, 2014, 7(3), 144 - 145

BJVP
Brazilian Journal of Veterinary Pathology
ISSN 1983-0246

Letter to the Editor

Cachexia in Broilers at Slaughterhouse. Association of Femoral Head Degeneration and Caseous Nephritis

Vivian Palmeira-Borges[1*], Antonio C. Alessi[2], Oswaldo D. Rossi Jr[2]

[1]Ministério da Agricultura Pecuária e Abastecimento - MAPA. Superintendência Federal de Agricultura em Mato Grosso do Sul. Serviço de Fiscalização de Insumos Pecuários, SEFIP. Campo Grande/MS – Brazil.
[2]Unesp – São Paulo State University, Campus de Jaboticabal, SP - Brazil
***Corresponding author**: Vivian Palmeira-Borges. MAPA - SEFIP. Rua Dom Aquino, 2696. Centro. Campo Grande, MS – Brazil.
E-mail: vivian.borges@agricultura.gov.br

Dear editor,

Cachexia is one of the most important reasons for total carcass condemnation in poultry slaughterhouses in Brazil (6), and other countries (3,7), which implicates in enormous financial losses. To better understand this syndrome, gross and microscopic features of 400 cachectic carcasses were studied in a slaughterhouse under Federal Inspection in the State of Mato Grosso do Sul, Brazil. Each gross and microscopic lesion was registered in an appropriate form and classified according to literature (5). Here, the femoral head degeneration (FHD) is focused.

Liver, air sacs and skin were the most commonly affected organs, with the following frequencies: 35.8%, 26.3% and 25.5% of the examined broilers, respectively.

Out of the 400 examined carcasses, bones exhibited lesions in 51 animals (12.75%). In 40 of those cases (78.43%) had deformities; seven cases (13.72%) were due to FHD, and four (7.84%) were consolidated old fractures.

The FHD, also called femoral head necrosis and bacterial chondronecrosis with osteomyelitis, depending on the stage, is a very common disease of poultry, with a particularly high frequency in turkeys. The development of the disease begins with 21 days and the most evident lesions occur within 35 to 42 days of growth (1). However, it is rarely diagnosed in slaughterhouses because the joints are not carefully examined. FHD is often subclinical, when lesions are not apparent. Conversely, progressive lesions can culminate with necrosis, which can be considered a final stage of the disease development (1,2). FHD correlates with secondary infection caused by *Staphylococcus aureus* (4), but other authors believe that the lesion is primarily aseptic (2,4).

In this study FHD cases had detachment of the femoral epiphysis from the diaphysis, or the cartilage of the epiphysis remained attached to acetabulum, corresponding to an ankylosis. In some cases the joint was red. The presence of exudate or adherence characterized epiphysitis, probably associated with bacterial infections. FHD was not always bilateral. The observation of this lesion and the involvement of contiguous kidney, that in some cases also had caseous exudate, suggest a correlation between FHD and nephritis.

Despite of the reason, carcasses with cachexia are not used for human consumption, but some broilers may have FHD and nephritis in the absence of cachexia. In those cases, a condemnation of the affected parts may be indicated. After these observations and considering the fact that secondary infection is predominantly caused by *S. aureus* (4,5) – an important microorganism to Public Health – this study suggests that non cachectic carcasses that exhibit nephritis should not only be submitted to common techniques of deboning, but also closely examined for detection of osseous or muscular lesions, preventing that affected femur and femoral neighboring muscles may be destined to human consumption.

References

1. ALMEIDA PAZ ICL., MENDES AA., MARTINS MRFB., FERNANDES BCS., ALMEIDA ICL., MILBRADT, EL, BALOG, A., KOMIYAMA CM. Follow-up of the development of femoral degeneration lesions in broilers. **Int. J. Morphol.**, 2009, 27, 571-575.
2. DURAIRAJ V., OKIMOTO R., RASAPUTRA K., CLARK FD., RATH C. Histopathology and Serum Clinical Chemistry Evaluation of Broilers with

 All rights reserved 2007.

Femoral Head Separation Disorder. **Avian Dis.**, 2009, 4, 27-28.

3. LUÍS MIGUEL PEREIRA CORREIA **Avaliação de indicadores de bem estar em inspecção higio-sanitária de frangos abatidos para consumo**. Dissertação de Mestrado. Universidade de Trás-os-Montes e Alto Douro. Vila Real, 2010.
4. McNAMEE PT., SMYTH JA. Bacterial chondronecrosis with osteomyelitis ("femoral head necrosis") of broiler chickens: a review. **Avian Pathol.**, 2000, 29, 477-495.
5. MENDONÇA-Jr. CX. Fisiopatologia do sistema locomotor. In: BERCHIERI-Jr. A., SILVA EN., DI FÁBIO J., SESTI L., ZUANAZE MAF (Org). **Doenças das Aves**. 2 ed. Campinas: FACTA., 2009, p. 175-187.
6. PASCHOAL EC., OTUTUMI LK., SILVEIRA AP. Principais causas de condenações no abate de frangos de corte de um abatedouro localizado na região noroeste do Paraná, Brasil. **Arq. Ciênc. Vet. Zool. UNIPAR**, 2012, 15, 93-97.
7. VIEIRA-PINTO M., MATEUS T., FONTES MC., MARTINS C. O papel da inspeção sanitária *post mortem* em Matadouro na detecção de lesões e processos patológicos em aves. Quatro casos de lesões compatíveis com a doença de Marek em carcaças de aves rejeitadas. **Rev. Port. Ciênc. Vet.**, 2003, 547, 145-148.