



Letter to the Editor

## Spinal Cord Extradural Abscess Caused by *Arcanobacterium pyogenes* in a Lamb in the Northeast Region of Brazil

Reanne M.M. Silva<sup>1</sup>, Filipe R.B. Carvalho<sup>2</sup>, Robson Bahia Cerqueira<sup>2</sup>, Juliana T.S.A. Macêdo<sup>1</sup>, Pedro M.O. Pedroso<sup>1</sup>

<sup>1</sup>Laboratório de Patologia Veterinária, Universidade Federal do Recôncavo da Bahia (UFRB), Cruz das Almas – BA, <sup>2</sup>Laboratório de Doenças Infecciosas, UFRB, Cruz das Almas, BA

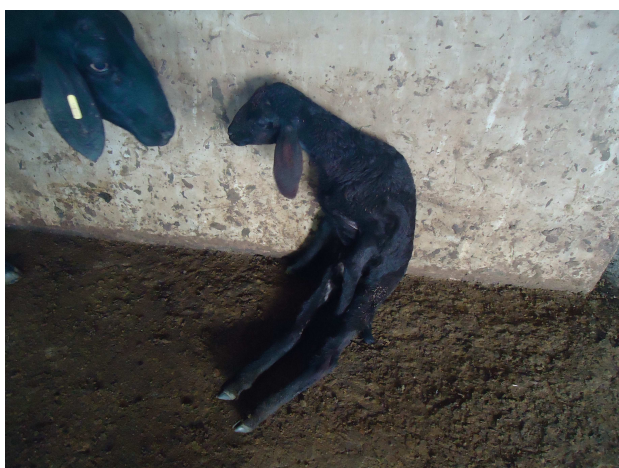
\* Corresponding Author: Pedro M.O. Pedroso, Rua Rui Barbosa 710, Campus Universitário, UFRB, Cruz das Almas – BA, 44380-000, Brazil. E-mail: [pedroso@ufrb.edu.br](mailto:pedroso@ufrb.edu.br)

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Dear Editor,

Abscesses of the central nervous system occur mainly in young animals, usually below one year of age. In the spinal cord, where they are seldom observed (1), they can be located either within the nervous tissue or in the meninges or osseous structures, compressing the spinal cord (3, 5, 6).

A one-month-old male lamb of the mixed breed Santa Inês was presented with neurological signs characterized by motor incoordination, posterior paralysis and a dog-sitting position (Fig. 1).



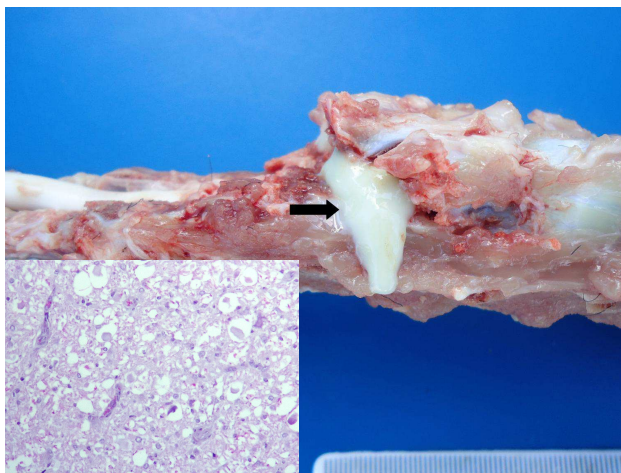
**Figure 1** – Sheep in dog-sitting position.

When in movement the lamb frequently fell. According to the attending veterinarian, the lamb had been castrated with an emasculator in the first days of life and

the navel showed difficulty of healing. Due to the poor clinical condition the lamb was euthanized. At necropsy an epidural abscess was observed (Fig. 2), measuring 4x3x3 cm, between the lumbar vertebrae 1 and 2 (L1-L2) compressing the left side of the spinal cord. Fragments of several organs were collected and fixed in 10% buffered formalin, processed routinely for histology and stained with hematoxylin and eosin. Additionally, abscess material was collected for bacteriological examination. In cross section of the lumbar spinal cord (Fig. 2, inset), in the white matter, marked Wallerian degeneration was observed, characterized by the presence of axonal spheroids, phagocytosis of myelin debris by macrophages in digestion chambers and moderate astrogliosis in the lateral and ventral funiculi. Gray matter neurons had moderate chromatolysis, characterized by swelling and central pale cytoplasm and dispersal of the Nissl substance and moderate astrocytosis and swelling endothelial cells. *Arcanobacterium pyogenes* was cultured on blood agar after incubation at 37°C for 24 hours.

*Arcanobacterium pyogenes* has not been previously reported as an agent linked to abscesses in ovine and caprine species in the Northeast Region of Brazil (2, 4). In this region *Corynebacterium pseudotuberculosis* is the main etiological agent of abscesses in the CNS of sheep and goats, where caseous lymphadenitis is very common, especially in lambs. Abscesses may be a consequence of castration wounds or umbilical infection (2, 4) as observed in this case. Ataxia of the pelvic limbs, without lesions on the thoracic limbs, indicates thoracic-lumbar lesion. In the case of severe lesions in the lumbar region the animal can adopt a dog-sitting position and move himself around using the thoracic limbs only. Lambs with a cervical spinal

cord lesion are unable to maintain sternal recumbency and have paresis of all four limbs (2). *A. pyogenes* is an important opportunistic pathogen, responsible for suppurative infections in a variety of domestic animals. The formation of abscesses in the central nervous system caused by *A. pyogenes* in sheep in the Northeast Region of Brazil should be considered.



**Figure 2** – Burst extradural abscess (arrow) between lumbar vertebrae 1 and 2. Inset: Wallerian degeneration and axonal spheroids within the white matter.

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