

DOMENECH, R. (2009) Suspected transmission of *Mycobacterium bovis* between alpacas. *Veterinary Record* 165, 121-122

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TUBERCULOSIS

Mycobacterium bovis mastitis in an alpaca and its implications

TUBERCULOSIS (TB) is a well-recognised disease of South American camelids in the UK (Barlow and others 1999), with an increasing number of farms being affected in recent years (Defra 2011). Clinical signs are varied and may include malaise, illthrift and respiratory signs. Postmortem lesions are predominantly found in the lungs and associated lymph nodes, but can occasionally be found in other tissues including the liver, pleura, kidney and mesenteric lymph nodes.

We would like to report the identification of TB in the mammary gland of an alpaca, which has implications for potential disease spread and zoonotic risk to owners and animal handlers, including veterinarians.

An eight-year-old female alpaca was euthanased and presented to the Animal Health and Veterinary Laboratories Agency (AHVLA) – Shrewsbury for postmortem examination after a period of illthrift with respiratory signs, which were unresponsive to treatment by the private veterinary surgeon, and a discharging sinus involving the left quarter of the mammary gland. Gross postmortem examination identified multiple caseous lesions consistent with a diagnosis of mycobacterial disease in the lungs, liver, lymph nodes, kidney, omentum and pericardium. The udder contained multiple variable-sized abscesses. The supramammary lymph nodes and accessory superficial lymph nodes were enlarged with multifocal caseous material. *Mycobacterium bovis*, spoligotype 17 (international type SB0263), the predominant local spoligotype, was isolated from the affected lymph nodes.

Histopathology of the lung, lymph node, kidney, liver and mammary gland identified multifocal coagulative necrosis surrounded by large numbers of degenerate leucocytes, small numbers of activated macrophages and fibroblasts. Ziehl-Neelsen staining identified moderate to large numbers of acid-fast bacilli in all tissues. These findings are consistent with disseminated *M bovis* infection including mastitis.

TB in the mammary gland of cattle has been recognised for many years, and before pasteurisation was carried out routinely, it was the source of infection for many human cases (Gowland Hopkins Committee 1934).

In the majority of cases of TB in alpacas, the source of infection is thought to be spillover of infection from other animals such as cattle and wildlife. Suspected alpaca-to-alpaca transmission has been reported (Twomey and others 2009). It is assumed that the offspring of dams with mycobacterial infections will be exposed to *M bovis* as a result of close contact, predominantly through the oronasal route. The considerable number of acid-fast bacilli in the mammary gland in this case strongly suggested that milk from this animal would have contained sufficient numbers of the organism to result in the infection of offspring. This demonstrates the potential for direct exposure to *M bovis* via milk and possible spread to other herds via movement of crias before the development of clinical signs. This alpaca was not lactating on submission; however, its cria born in 2010 had died at a young age and its death was not investigated.

The owners and attending veterinary surgeon involved in this case had regularly flushed the discharging lesion, possibly creating bacterial aerosols. We would urge colleagues to be aware of the potential of TB in udder lesions of alpacas, and to consider the associated risk involved in the treatment of such lesions.

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***Mycobacterium bovis* mastitis in an alpaca and its implications**

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