

Bovine mastitis caused by *Mycoplasma bovis*

SIR, – We would like to describe an outbreak of bovine mastitis in a dairy herd, caused by *Mycoplasma bovis*. Although *M bovis* commonly causes calf pneumonia in the UK, it is rarely isolated from cows' milk. The clinical presentation was different from *M bovis* mastitis previously described in the UK (Houlihan and others 2007), but similar to outbreaks described in the USA, where *M bovis* is a major mastitis pathogen.

The herd consisted of 165 Holstein cows of high genetic merit. Despite a high milk yield, the herd had a 12-month rolling bulk milk somatic cell count (BMSCC) exceeding 500,000 cells/ml, and a high incidence of periparturient diseases associated with excessive weight loss after calving. Waste milk was fed to calves, all of which were retained for breeding or until slaughter.

In February 2008 five replacement cows were purchased at a dispersal sale. On March 10 one homebred cow developed mastitis and anorexia; initially the udder appeared full, but little milk could be extracted. The next day the 'milk' resembled semolina suspended in water. Supramammary lymph nodes were markedly enlarged (Fig 1). Treatment with various intramammary and parenteral antimicrobials and anti-inflammatory drugs was completely unrewarding, and within one week milk yield ceased. Another eight cases occurred in the following three weeks, including two of the purchased cows. Typically, more than one quarter was affected.



FIG 1: Enlarged supramammary lymph nodes in a cow with mastitis caused by *Mycoplasma bovis*

Culture of the mastitic milk samples at the Veterinary Laboratories Agency (VLA) yielded *Mycoplasma*-type colonies, identified by PCR denaturing gradient gel electrophoresis as *M bovis*. One six-month-old calf had shown signs of otitis media (head tilt) and another had developed severe swelling of the carpus. *M bovis* was isolated from the affected joint. Serology on 21 cattle (including the five purchased cows, clinical *M bovis* mastitis cases and clinically healthy cows) indicated widespread exposure in the herd: all cattle sampled were seropositive for *M bovis* by ELISA. The milk production of the clinically affected cows ceased and these were separated from the rest of the herd.

Over the next two months most affected cows became lame, recumbent or both and were culled. The farmer was advised to disinfect clusters between cows with peracetic acid and to cease feeding unpasteurised waste milk to calves; generic mastitis prevention advice was also given. At the time of writing, no further clinical cases of *M bovis* mastitis have occurred and the BMSCC has fallen to below 250,000 cells/ml.

Research in the USA has indicated that the *M bovis* strains involved in calf respiratory disease and mastitis are identical, and it is thought that *M bovis* requires a currently unknown cofactor to cause mastitis.

We would like to make cattle practitioners aware of this unusual presentation of mastitis and would be interested to hear of similar cases.

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Reference

HOULIHAN, M. G., VEENSTRA, B., CHRISTIAN, M. K., NICHOLAS, R. & AYLING, R. (2007) *Mycoplasma bovis* causing mastitis and arthritis in two dairy herds. *Cattle Practice* 15, 212-214