



Livestock Notifiable Disease Factsheets Contagious Epididymitis

If you suspect signs of any notifiable disease, you must immediately notify a Defra Divisional Veterinary Manager.

Definition

Brucella ovis is responsible for the disease known as Contagious Epididymitis in rams. The disease has never been recorded in the United Kingdom, but has been reported from Australia, New Zealand, the United States of America, South Africa and parts of Europe. Prevalence is thought to be high in the Southern European states. Infected flocks may suffer considerable economic loss because of poor fertility. There are no records of human infection, and the disease is not classed as a zoonosis.

Animals affected

Under natural conditions, *Brucella ovis* affects only sheep. Goats may be infected experimentally, but most laboratory species are resistant.

Clinical signs

Infection in rams may produce an acute systemic response with fever and depression. The organism may subsequently localise in the epididymis. Inflammatory cells then appear in the semen from 2 - 8 weeks after infection, and the semen quality deteriorates. When infection becomes established in the epididymis *B. ovis* may be cultured from semen samples from about 3 weeks post-infection: by about 5 weeks most of the rams are positive on semen culture. Excretion of organisms in the semen then probably continues indefinitely. Palpable lesions in the epididymis may develop from about 9 weeks post-infection.

Serological Testing

A serological response may be detected by four weeks post-infection by a complement fixation test. However, not all rams are seropositive. Some rams may be seropositive but no longer infected (the organism not having localised in the epididymis) and not all infected rams have palpable lesions. Furthermore, other organisms (eg *Actinobacillus seminis* and *Corynebacterium pseudotuberculosis*) may cause similar lesions.

B. Ovis appears to be less pathogenic than *B. melitensis* in ewes. Some ewes may abort, but low birth weight and reduced viability are more usual. After abortion, the organism is present in the placenta, uterine discharges and milk, but persistence of infection appears to be uncommon. Most ewes become immune and uninfected, and lambs born to infected ewes do not generally become infected

Although oral dosing under experimental conditions can infect ewes, transmission between ewes at pasture seems not to occur. Transmission to ewes from infected rams at mating does occur, but not very readily. The main role of the ewe is probably a passive one in transmitting infection between rams by successive matings.

Under experimental conditions, rams may be infected by inoculation by a variety of routes. In infected flocks, if ram lambs are run together with older rams, young virgin rams are commonly found to be infected. The normal route of transmission between rams is not fully understood.

In infected flocks the first clinical manifestation is likely to be an increase in the number of barren ewes. Where groups of rams run with the ewes for mating, this infertility may not become apparent until several rams are affected. In smaller pedigree flocks, individual infertile rams are more likely to be detected.

The standard serological test is a CFT. The international standard anti *Brucella ovis* serum for this test is produced by the CVL. A small number of infected animals may be seronegative or only weakly positive.

Bacteriological examination of semen samples from suspected rams is very useful but requires an uncontaminated sample. When samples for bacterial culture are to be collected by electrostimulation, it is essential to extrude the penis to avoid contamination of the sample. The technique is more exacting than for the collection of samples for the assessment of semen quality. Field staff should not attempt to collect such samples from suspected cases unless instructed by headquarters.

Great Britain Legislation

Contagious epididymitis is included in the Specified Diseases (Notification and Slaughter) Order 1992 and the Specified Diseases (Notification) Order 1996, making suspicion of this disease compulsorily notifiable.

EU Legislation

EU Council directive 91/68 requires rams which are traded between member states if the EU to be blood tested for *B. Ovis* before export, and to originate from flocks in which no cases of contagious epididymitis have been diagnosed in the previous twelve months.

The Directive does not allow for member states which consider their territory to be free from *B. Ovis* to seek additional safeguards concerning *B. Ovis* for the importation of sheep. Freedom from Contagious epididymitis is also a condition set out in:

- Council Directive 92/65/EEC laying down animal health requirements governing trade in and imports into the Community of animals, semen, ova and embryos not subject to animal health requirements laid down in specific Community rules referred to in Annex A (I) to Directive 90/425/EEC.
- Commission Decision 94/164/EC amending Council Directive 91/68/EEC as regards the formulation of the health certificates.

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