SHORT COMMUNICATION

Evidence of goats acting as domestic reservoirs of bovine tuberculosis

S. Napp, A. Allepuz, M. Nofrarías, S. López-Soria, M. Domingo, B. Romero, J. Bezos, B. Pérez de Val

Context
Spain has the second largest goat population in the EU and the presence of tuberculosis (TB) in goats has been considered as a factor that may compromise the eradication of bovine TB in the country; however, there is no published evidence of the spread of TB bacteria from goats to cattle.

Main conclusion
This study investigated a Mycobacterium caprae outbreak in a dairy cattle herd, which revealed a neighbouring goat herd as the most likely source of infection. The findings indicate that the presence of TB in goat herds may result in the infection of neighbouring bovine herds.

Approach and results
In April 2006, a dairy cattle herd located in Catalonia was depopulated due to widespread M. caprae infection with spoligotype profile SB0416. The herd was repopulated but, in 2009, the same spoligotype was identified, and several possible causes of infection (including the recirculation of the previous infection, purchase of infected animals and contact with other infected animals) were ruled out. No bovine herds were located in the proximity of the affected farm; however, a goat herd was located only 100 metres away. A subsequent investigation showed that the infection was widespread among the nearby goat herd (202 reactors out of 254), and the spoligotype was confirmed as M. caprae profile SB0416. The mycobacterial interspersed repetitive unit (MIRU)-VNTR typing of the strains isolated in cattle (both in 2006 and 2009) and in goats (2009) indicated that the isolates had the same MIRU-VNTR pattern.

Interpretation
The results suggest that the goat herd was the most likely source of infection of the cattle herd. The mechanism by which transmission could have occurred remains unclear. Infection of the cattle herd may have been caused by straying goats or drainage of infected material as a result of the cleaning of the goat farm. Dogs and cats were also known at the goat farm, although whether these species can transmit TB remains controversial.

Significance of findings
The presence of TB in goat herds may result in the infection of neighbouring bovine herds. The role of goats in the epidemiology of bovine TB requires further attention.
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S. Napp, A. Allepuz, I. Mercader, M. Nofrarias, S. Lopez-Soria, M. Domingo, B. Romero, J. Bezos and B. Perez de Val

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