

2007-01

Mycobacterium bovis in rural Tanzania: Risk factors for infection in human and cattle populations

Cleaveland, Sarah

Elsevier Ltd.

<https://doi.org/10.1016/j.tube.2006.03.001>

Downloaded from Nelson Mandela-AIST's institutional repository

Mycobacterium bovis in rural Tanzania: Risk factors for infection in human and cattle populations

Sarah Cleaveland, Darren J. Shawa, Sayoki G. Mfinanga, Gabriel Shirima, Rudovick R. Kazwala, Ernest Eblatee, Michael Sharp

To download full text click that link

DOI: [10.1016/j.tube.2006.03.001](https://doi.org/10.1016/j.tube.2006.03.001)

Abstract

Although bovine tuberculosis is widespread throughout Africa, very little is known about risk factors for *Mycobacterium bovis* infection in either human or cattle populations. A human case–control study was conducted in northern Tanzania, comparing risk factors and prevalence of cattle intradermal test positives of cases (cervical adenitis cases from which *M. bovis* was isolated) with age- and sex-matched controls (selected at random from potential hospital attendees within the community). A cattle cross-sectional study was also set-up involving 27 villages selected at random in four districts, with 10,549 cattle and 622 herds tested, and questionnaire surveys conducted in 239 households. *M. bovis* was confirmed in seven of 65 (10.8%) human cervical adenitis cases, of which only one came from a household owning infected cattle. *M. bovis* in human patients was associated with families in which a confirmed diagnosis of tuberculosis had previously been made ($p < 0.001$) and with households far (>100 m) from neighbours ($p = 0.003$). In cattle, overall prevalence of intradermal test positives was low at 0.9% (0.70–1.06%), but widespread, with 11.8% (8.44–13.17%) herds containing at least one reactor. Prevalence of intradermal test positives increased significantly with cattle age ($p < 0.001$). Herds with the following risk factors had a significantly greater prevalence of intradermal test positives: >50 cattle in the herd ($p = 0.024$); herds housed inside at night ($p = 0.021$) and herds in contact with wildlife ($p = 0.041$). Furthermore, villages that experienced annual flooding had a higher prevalence of infection ($p = 0.043$).

Keywords

Mycobacterium; Tuberculosis Risk; factors Tanzania; Cattle