

Leptospirosis in Tanzanian pigs

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A microbiological and serological study of leptospirosis among pigs in the Morogoro municipality, Tanzania

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Abstract

Serological and microbiological studies on leptospirosis in pigs from Morogoro municipality, Tanzania were carried out between October 2007 and May 2008. Serum samples ($n = 385$) from apparently healthy pigs were tested by microscopic agglutination test for antibodies against live cultures of six known *Leptospira interrogans* serovars: Pomona, Icterohaemorrhagiae, Ballum, Tarassovi, Grippityphosa and Hardjo. Significant positive titres were detected in 4.42% (17/385) of all the tested serum samples. Aseptically collected samples, urine ($n = 236$) and kidney tissues ($n = 214$), were cultured in enriched Fletcher's and Ellinghausen McCullough-Johnson and Harris media and assessed, at weekly intervals for 24 weeks, for growth by dark-field microscopy. Two leptospiral organisms were isolated from the urine samples. There was a statistical association between seropositivity and location that the subjects reside in ($P < 0.05$), whereas it was not significantly associated with sex nor age ($P > 0.05$). The evidence of pig exposure to different serovars and the isolation of the leptospiral organisms confirm that the infection is present in pigs although with an overall low prevalence. Apart from its economic importance on to the pig industry, this disease is a potential zoonotic public health risk in Tanzania, especially because of the lack of studies on leptospirosis among persons who handle pigs and pork products.

Keywords

Leptospirosis - Microbiological culture - Pigs - Risk factors - Seroprevalence - Tanzania - Zoonosis

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