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Publication

A survey of bovine cysticercosis/human taeniosis in Northern Turkana District, Kenya

Bovine cysticercosis is a zoonosis that is mainly of socioeconomic and public health importance. A survey of this disease was carried out in Northern Turkana District, Kenya to estimate the prevalence through both serology and meat inspection, to determine the prevalence of the adult tapeworm in the human definitive host, and to determine risk factors for cattle seropositivity. This information is of public health importance and will be of use in assessing economic losses due to downgrading, refrigeration or condemnation of infested carcasses.The study area was stratified into the three livestock grazing regions of Oropoi to the south, Lokichoggio–Mogilla centrally and Kibish in the north for the purposes of the serological and questionnaire (n = 53 herd owners) data. Five adakaars (grazing units) were selected and 34, 63, 49, 75 and 571 cattle serum samples obtained from these. The slaughter slabs of Lokichoggio and Kakuma were visited and 188 serum samples were obtained from slaughter cattle and compared to results of meat inspection. Human stool samples were collected in each of the three grazing areas and 66, 97 and 78 samples were obtained.The seroprevalence of cysticercosis in cattle was estimated at 16.7% (95% CI 13–20.9%) using a secretory–excretory antigen detection ELISA. There was poor agreement between meat inspection and serology (k = 0.025; p = 0.2797). The prevalence of taeniosis was estimated as 2.5% (95% CI 0.8–5.6%) by microscopy.A backwards elimination logistic regression analysis indicated that the grazing unit (Adakaar), the deworming history of household members and the distance (<2 km) of grazing fields from the homestead were significant explanatory variables for cattle being found to be positive on serology. An intra-cluster correlation coefficient (ICC) of 0.07 (0.02–0.12); p > 0.0001 was calculated for bovine cysticercosis in this area.