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Detection of circulating antigens for *Taenia* spp. in pigs slaughtered for consumption in Nairobi and surroundings, Kenya

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ABSTRACT

Background & methods: *Taenia solium* a zoonotic tapeworm, responsible for neurocysticercosis in humans is a major public health threat, being a leading cause of acquired epilepsy in endemic regions. Eastern and southern African nations have experienced a recent rapid growth in pig production, including small-scale, free-range systems, with an accompanying increased risk of *T. solium* transmission. Seven hundred blood samples were collected from randomly selected pigs presented for slaughter at one of the largest porcine abattoir supplying unprocessed pork to Nairobi city and its surroundings. The samples were tested using an antigen ELISA to determine the prevalence of infection with *Taenia* spp.

Results: The prevalence, adjusted for diagnostic test characteristics, was estimated to be 4.4% (95% CI: 1.9–7.1) with no significant statistical difference by pig sex or age. Infection with *Taenia* spp. was detected in pigs from all regions of the country supplying pigs to this slaughterhouse. Official post-mortem inspection did not detect cysticercosis in the duration of the study. Therefore, all the carcasses entered the food chains of Nairobi (70%), or neighboring counties (30%).

Conclusions: Circulating antigens of *Taenia* spp. were detected in pigs slaughtered in one of the largest porcine slaughterhouses in Kenya, which receives pigs from several regions in the country. This is an indication that pigs entering the value chain are raised under poor husbandry conditions and that pork consumers in Nairobi and its surroundings may be exposed to the important zoonotic parasite. Whilst further research utilizing full carcass dissection is required to confirm *T. solium* positive cases, interventions to improve food-safety throughout the pork value chains in Kenya should be seriously considered.

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