TAENIA SOLIUM CYSTICERCOSIS IN THE UNPROCESSED PORK SUPPLY CHAIN IN NAIROBI AND ENVIRONS, KENYA

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The zoonotic parasite, Taenia solium, is a serious public health threat in countries where it is endemic. The larval stage of this parasite is responsible for porcine cysticercosis and neurocysticercosis in humans, which is one of the leading causes of seizures and epilepsy in developing countries. While documented studies have only been conducted in western areas of Kenya, other areas, including Nairobi, have not been investigated to fully understand the epidemiology of the parasite. Seven hundred blood samples were collected from randomly selected pigs presented for slaughter at the largest porcine abattoir supplying unprocessed pork to butcheries within Nairobi city and its surroundings. The samples were tested using an antigen ELISA to determine the prevalence of cysticercosis. Information regarding the pigs’ age, sex and source was obtained from the traders and pork destinations recorded.

The abattoir received pigs from eleven different counties during the study period. Cysticercosis was detected in pigs from 7 of these counties, with adjusted (for diagnostic sensitivity/specificity) sero-prevalence ranging from 2.6% to 29.1%. The overall adjusted sero-prevalence was estimated as 5.9% (95% CI: 3.9-8.3). Post-mortem inspection by incision and palpation conducted by the government meat inspectors did not detect cysticercosis or any other condition that would have warranted condemnation during the study duration. Therefore, all the carcasses suspected to contain infective T. solium cysts based on the Ag-ELISA either entered into the food chains of Nairobi (70%), or Nairobi’s neighboring counties (30%).

The detection of Sero-positive pigs in 7 out of the 11 counties is an indication that cysticercosis may be widespread in Kenya. Risk mapping is recommended to identify high-risk counties and consequently risk based meat inspection instituted by strengthening of routine meat inspection through periodic carcass dissection and serological methods. A comprehensive One Health approach control strategy is recommended.