The emergence of *Taenia solium* cysticercosis in Eastern and Southern Africa as a serious agricultural problem and public health risk


Source

School of Veterinary Medicine, University of Zambia, PO Box 32379 Lusaka, Zambia.  
iphiri@vet.unza.zm

Abstract

Pig production has increased significantly in the Eastern and Southern Africa (ESA) region during the past decade, especially in rural, resource-poor, smallholder communities. Concurrent with the increase in smallholder pig keeping and pork consumption, there have been increasing reports of porcine cysticercosis in the ESA region. This article reviews the findings concerning the presence and impact of porcine cysticercosis in seven of the ESA countries. Most of the reported findings are based on surveys utilising lingual palpation and post-mortem examination, however, some also used serological assays. In Tanzania, community-based studies on porcine cysticercosis indicate a prevalence of 17.4% in the northern highlands district of Mbulu and a prevalence range of 5.1-16.9% in the southern highlands. In Kenya recent surveys in the southwestern part of the country where smallholder pig keeping is popular indicate that 10-14% of pigs are positive for cysticercosis by lingual examination. Uganda has the most pigs in Eastern Africa, most of which are kept under smallholder conditions. Preliminary surveys in 1998 and 1999 at slaughterhouses in Kampala indicated a prevalence of porcine cysticercosis between 0.12 and 1.2%, however, a rural survey in northern Uganda in 1999 indicated 34-45% of pigs slaughtered in selected villages were infected. Additionally, a new survey of 297 pigs slaughtered in Kampala in 2002 indicated that pigs from the central region of the country were negative for cysticercosis while 33.7% of the pigs coming from the rural Lira district in the north were positive. Interestingly 8 piglet foetuses removed from an infected slaughtered sow coming from Lira district were all found to harbour cysts of *T. solium* providing evidence of congenital transmission of porcine cysticercosis. In Mozambique, abattoir records indicate that porcine cysticercosis is present in all provinces of the country. A serological survey on pigs in rural Tete Province found 15% of pigs positive. In Zimbabwe, a retrospective study in official abattoirs around the country from 1994 to 2001 reported a mean prevalence of 0.34% which is in contrast to a post-mortem survey in 1999, which showed that the prevalence of porcine cysticercosis in rural west Zimbabwe where smallholder pig keeping is popular was 28.6%. In Zambia, abattoir records reported porcine cysticercosis in six of the nine provinces. Routine meat inspection of 1316 pigs at a slaughter slab in Lusaka showed that 20.6% of the pigs had cysticercosis whereas serological testing of 874 pigs at the same abattoir indicated that 56.6% were found to have circulating antigens of *T. solium*. Field surveys based on lingual palpation in Southern and Eastern Provinces of Zambia revealed prevalences of 8.2-28.4 and 5.2%, respectively. South
Africa has the largest number of pigs in Southern Africa and cysticercosis has been recognised as a problem in the country for many decades. There is strong evidence supporting the high prevalence of neurocysticercosis infecting humans from resource-poor areas of the country where pigs are being raised under smallholder conditions. In spite of this community-based surveys on porcine cysticercosis have never been conducted in South Africa and the last slaughterhouse survey was conducted nearly 40 years ago. The prevalences of porcine cysticercosis found in these ESA countries rank among the highest in the world and the disease is emerging as an important constraint for the nutritional and economic well being of resource-poor smallholder farming communities. The current findings suggest the widespread presence of human tapeworm carriers and thus a high risk of human cysticercosis in both rural areas and urban centres in the ESA region. More research is required in the region to assess the extent and public health and economic impact of T. solium infection in order to determine whether and what prevention and control efforts are needed.

PMID: 12781374
[PubMed - indexed for MEDLINE]