

Agricultural researchers and social scientists join medical and veterinary doctors to combat an emerging zoonosis in sub-Saharan Africa

The 4th general assembly meeting on cysticercosis, a parasitic disease emerging as a serious threat to livestock production and human health in eastern and southern Africa, was held in Dar es Salaam, Tanzania, in July 2006*. The organiser, the Cysticercosis Working Group in Eastern and Southern Africa (CWGESA), was established to promote communication, collaboration and coordination of integrated research and control activities to combat cysticercosis, a neurological and sometimes fatal disease transmitted between pigs and people by a zoonotic tapeworm (*Taenia solium*).

Both pig keeping and pork consumption have increased significantly in this region over the past decade, especially in rural smallholder communities supplying pork to meet increasing urban demands. The disease is strongly associated with poverty as inadequate sanitation, meat inspection, disease control and pig management have led to an increase in the incidence of cysticercosis. Cysticercosis is becoming a serious public health risk not only in rural areas where pigs are raised but also in urban areas where infected pigs are transported and consumed. Besides affecting people's health and productivity, cysticercosis affects smallholder farming communities economically, by constraining their sales of pigs, and nutritionally, through the condemnation of pig carcasses, resulting in loss of an important source of protein.

This 4th regional meeting of the CWGESA, in Tanzania (previous meetings were held in Tanzania in 2002 and 2003 and in Mozambique in 2004), was attended by more than 25 people from 9 countries: Burundi, Denmark, Kenya, Mozambique, Tanzania, Uganda, Zambia and Zimbabwe as well as the Democratic Republic of Congo, which was taking part for the first time. CWGESA aims to improve human health and well-being through increased awareness of cysticercosis and improved surveillance, prevention and control of this human and pig disease. Meeting these objectives will in turn help the countries of eastern and southern Africa reduce their incidence of

human epilepsy as well as improve their pig production, domestic food supply and export opportunities for pork.

Meeting participants updated the status of human and porcine cysticercosis in the 8 endemic eastern and southern African countries represented at the meeting, including current or planned research and control efforts; reviewed implementation of the Regional Action Plan for Combating Cysticercosis in Eastern and Southern Africa formulated in Arusha in 2002; finalised the governance structure of CWGESA, including adoption of a constitution and a regional surveillance questionnaire as well as election of new officers; and made further plans for securing long-term support for CWGESA. Plans for establishing a CWGESA internet website to be facilitated by Danish Bilharziasis Laboratory (DBL)-Institute for Health Research and Development were announced. Attention was also given to strengthening the infrastructure for combating cysticercosis, including the nomination and designation of regional reference centres for immuno-diagnosis, epidemiology and impact assessment, and detection and management of human neurocysticercosis cases, establishing national and regional surveillance and policy frameworks and formulation of national and regional guidelines for detection and management of cysticercosis/taeniosis cases.

It was announced that the CWGESA has now been officially registered as a non-governmental organisation in Tanzania. A special highlight of the meeting was a mini-workshop on research ethics arranged by DBL. The Institute of African Studies, University of Nairobi, was introduced and recognised as a new contributor to CWGESA in the area of anthropology and sociology. International cysticercosis activities of relevance to eastern and southern Africa were discussed. These include the formation of WHO's new department for control of neglected tropical diseases which includes cysticercosis on its agenda as a disease of concern and a conference on 'Implementing a Global Campaign for Combating Cysticercosis' to be held at the Rockefeller Foundation's Conference Centre in Bellagio, Italy, in September 2006 (4 CWGESA members will be participating). Importantly, participants

at this 4th general assembly meeting represented various disciplines, including veterinary and human public health, mental health, livestock production and the social sciences, making this meeting another step towards strengthening the formation of multidisciplinary teams needed to combat this growing disease threat.

New officers for CWGESA for the next 3 years include Samson Mukaratirwa, Dean of the Faculty of Veterinary Science, University of Zimbabwe, who was elected Chairperson, Faustin Lekule, Head of the Department of Animal Science at Sokoine University of Agriculture as Vice-Chairperson and Helena Ngowi, Lecturer in Veterinary Public Health at Sokoine University of Agriculture as Secretary-Treasurer. The CWGESA secretariat will soon be housed in offices at Sokoine University of Agriculture.

The Tanzania meeting was organised by the CWGESA with support from DBL-Institute for Health Research and Development (DBL), the WHO/FAO Collaborating Centre for Parasitic Zoonoses in Denmark and Sokoine University of Agriculture.

Background information

Taenia solium is a parasite transmitted between humans and pigs. People become infected with the adult tapeworm form of the parasite (taeniosis) by eating infested raw or undercooked pork. Eggs of the tapeworm pass out with the infected person's stool and can be ingested by free-roaming pigs if people defecate outdoors. Pigs develop the immature larval form of the parasite (cysticercosis) with hundreds to thousands of small cysts forming in their muscles, heart and brain, rendering the pork unfit for consumption and posing a serious constraint for marketing pigs and pork. People can also become infected with the cystic larval form of the parasite by ingesting *T. solium* eggs either from direct contact with a human tapeworm carrier or from contaminated food or water (thus one does not need to raise pigs or consume pork to become infected with cysticercosis). In humans the cysts often develop in the brain, resulting in a condition called neurocysticercosis, which can cause severe headaches, epileptic seizures and sometimes death. Neurocysticercosis is consid-

See also:

Acta Tropica, 2003, 87: 1–191.

Journal of the South African Veterinary Association, 2003, 74: 3.

Journal of the South African Veterinary Association, 2005, 76: 2–3.

ered to be a common preventable cause of epilepsy, rendering people incapacitated and unproductive.

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