

TRICHINELLOSIS: STILL A CONCERN FOR EUROPE

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Trichinellosis is a zoonotic disease caused by the ingestion of raw meat containing larvae of the nematode *Trichinella*. Four species of *Trichinella* are found in Europe: *Trichinella spiralis* (cosmopolitan), *T. britovi* (in wildlife from mountainous areas), *T. nativa* (in wildlife from colder and northern regions) and *T. pseudospiralis* (a cosmopolitan nonencapsulating species). Human trichinellosis causes high fever, facial oedema, myositis and eosinophilia. It can be a serious disease, particularly in elderly patients in whom neurological or cardiovascular complications can lead to death.

In this issue of Eurosurveillance, Webster et al list the pros and cons of EU approved methods for current and future use for the detection of *Trichinella* larvae in meats intended for human consumption. The authors point out that several methods recommended so far may be unreliable and that others could be improved by technical modifications. These methods are used to provide "*Trichinella*-free" certification for meat exports, and are also very useful for testing meat for the EU markets, particularly in the case of horses, organic pigs and wild boars slaughtered or hunted locally.

Trichinellosis is still present in Europe. In the past 30 years, horse meat has been identified as the main source of human trichinellosis in the EU with more than 3350 cases reported in 14 outbreaks [1,2]. However, the classical porcine vehicle remains. Small outbreaks due to wild boar meat are still reported in hunters and their families in France, Spain, Poland [3, 4]. Outbreaks due to infected pork have been reported in Spain and Germany and are still reported in Latvia and Lithuania [5,6,7,8]. Until recently, *Trichinella* was considered to be absent from the Mediterranean islands but ten infected pigs were found in Corsica in 2004 and, small outbreaks of pork-related trichinellosis involved patients in Sardinia in 2005 [7,8]. Infected foxes have also been found in Ireland, although this country was considered to be *Trichinella* free [8]. Is trichinellosis emerging in these islands or is the disease simply better recognised? These observations are good examples illustrating the difficulty to declare that some countries or areas are "*Trichinella* free". Pork-related trichinellosis is frequently reported in the potential future European Union states of Serbia, Croatia, Romania and Bulgaria where the disease has re-emerged in recent years [9]. A survey performed by the International Commission on Trichinellosis (<http://www.med.unipi.it/ict/ICT%202004%20human%20survey.htm>) identified more than 1100 trichinellosis cases in Europe for the year 2004, with 984 cases being reported from these four countries. Therefore, suitable and sensitive methods to detect parasitised animals are of crucial importance. Interestingly, the report by Webster et al shows that meat inspection methods used for porcine species may differ in the various countries of the EU and the authors conclude that the classical trichinoscopy method could not be longer recommended, as it has a low sensitivity and usually fails to detect non encapsulated species such as *T. pseudospiralis*. This last species was involved in a small wild boar meat outbreak in southern France [10]. Therefore, trichinoscopy should be replaced in every country by the magnetic stirrer digestion method.

The reliable use of sensitive methods requires adequate training, proficiency testing and performance in a recognised quality assurance system. Meat inspection for *Trichinella* in horsemeat was implemented in Europe in 1985 after huge outbreaks but it did not prevent the subsequent occurrence of ten additional outbreaks in France and Italy. Then, following the occurrence of two new outbreaks involving 550 cases in 1998 in the south of France, the meat inspection system was modified by implementing examination of larger samples and quality control. Consequently, two infected horses were detected, one in 1999, the other in 2001 [7]. However, these preventive measures cannot prevent the occurrence of trichinellosis from imported meat inspected in countries not belonging to the European Union and the risk still exists, as demonstrated by the occurrence of seven cases due to horse meat consumption reported in October 2005 in the

north of Italy (E. Pozio, personal communication).

Travel is also a driver for some cases acquired in highly endemic regions (for example, Romania, the former Yugoslavia, Laos and Argentina) and others are due to persons returning from these countries and bringing back traditionally prepared sausages and delicatessen for consumption by their families and relatives. Such cases have been described in France, the United Kingdom, Denmark, Germany, Spain, Italy [11]. Recently, eight hunters contracted trichinellosis in Quebec, Canada with infected black bear meat; two of them brought this meat back to France, where it was the source of infection for nine additional persons [12].

Travellers should be informed of the risks of illegal importations of such meat products [13].

Trichinellosis is a concern for public health authorities in Europe and efforts have been made to promote and fund European networks such as Trichiporse, TrichiNet and Trichimed. Key scientists in this field have been identified and meet or communicate regularly to improve the management and prevention of this potentially lethal disease (<http://www.medvetnet.org/cms/templates/doc.php?id=53>). Training the technicians in charge of meat control, and education of the consumers (to cook potentially infected meat thoroughly) are also key preventive measures.

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