

Trichinella spp. – from parasite to human

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Trichinellosis is a meat borne zoonotic disease in humans caused by nematodes of the genus *Trichinella*. Within this genus, twelve taxa are recognized, nine encapsulated and three non-encapsulated species, which infect a wide range of carnivores and omnivores. The parasite infects domestic and wild animals and has a worldwide distribution. Domestic pigs, wild boar, and horses are the main animal species through which humans may acquire the infection by consuming contaminated meat. The main sources of human infection are a raw or semi-raw pork meat and pork products, as well as game products with encysted *Trichinella* larvae. In humans, the lowest infectious dose causing disease is not clearly defined. Trichinellosis continues to be a public health problem throughout the world and has been reported in 55 countries. The yearly total number of clinical trichinellosis was estimated to be 10 000 cases, with death rate of 0.2%.

In Poland, the average number of cases of human trichinellosis over the period 2005–2018 is 53, but this value varied considerably between years: from 1 in 2012 to 297 in 2007 (NIPH – NIH reports). In the first half of 2019 *Trichinella* cases were not reported. The last death due to infection with *Trichinella* took place in 1992.

In general, diagnosis of human trichinellosis should be based on three main criteria: clinical findings, laboratory findings and epidemiological searching.

Additionally, it is worth emphasizing that the early diagnosis of human *Trichinella* spp. infection is difficult because pathological signs and symptoms are lacking; and also later chronic phase of disease is not easy to diagnose. Moreover, the clinical course of trichinellosis may be benign or atypical, creating several diagnostic difficulties. Although clinical differences among persons infected with different *Trichinella* species have been observed, up to now it has not been possible to attribute these differences to nematode species.

The lecture will focus on signs and symptoms, treatment and diagnostic methods. Special care will be taken on chosen *Trichinella* outbreaks reported lastly.