

THE INCIDENCE OF TRICHINELLOSIS IN HORSE MEAT AMONG BIHOR COUNTY

Purge Ramona*

*University of Oradea, Faculty of Environmental Protection, 26 Gen. Magheru St., 410048 Oradea, Romania, e-mail: rpurge@yahoo.com

Abstract

Trichinella is a special parasite among nematodes, in that it carries out a complete biological cycle, from larva to adult and then from adult to larva, in the body of a single host, which has a special influence on the epidemiology of trichinosis as zoonosis. When the cycle is complete, the muscles of the infested animal become a reservoir of larvae capable of long-term survival. Humans and other hosts become infected through the ingestion of muscle tissue containing viable larvae.

Key words: trichinella, parasite, zoonosis, horses

INTRODUCTION

In humans, the disease caused by *Trichinella* is initiated by eating raw or semi-prepared meat containing viable larvae. A classification of clinical course, ranging from asymptomatic to severe trichinosis, has been suggested by Kassur et al. (1978).

Starting from the initial number of ingested larvae, the clinical signs may be absent or very severe. But the evolution can be influenced by the immune status and possible previous infestations of the host with *Trichinella*.

Clinical manifestations also appear to be influenced by various *Trichinella* species. From a clinical point of view, trichinosis is divided into two phases, intestinal and extraintestinal.

The infesting larvae, released from the muscle cysts by digestion in the stomach, reach the small intestine. There, within two days, they penetrate the intestinal epithelium, develop through four larval stages, mature, and mate.

After 5-6 days from the infestation, the females begin to lay live larvae, a process that in humans seems to take several weeks. Most newborn larvae migrate into their own lamina, reach the lymph nodes and circulatory system, and are then transported to other tissues.

Symptoms may be absent, or may appear 1-7 days after infestation, but are nonspecific. Diarrhea and abdominal cramps predominate,

sometimes accompanied by nausea and poor general condition. There may appear loss of appetite and weight loss. Studies show that diarrhea can sometimes last up to a few weeks, but the opposite has also been observed, ie the almost total absence of gastrointestinal symptoms.

These different responses can be attributed to different *Trichinella* species.

MATERIAL AND METHOD

The study was conducted on a number of 250 horses, between January and June 2021 in the commune of Girişu de Criş no. 475, at the Domcol International slaughterhouse.

Horse slaughter took place in this slaughterhouse. Samples of meat from each animal were collected from the slaughterhouse at the time of slaughter. These samples were later transported to the laboratory in Oradea LSAVSA Bihor.

The method by which the meat samples were examined was artificial digestion. The digestion method has quickly replaced the microscopic procedure in most countries where inspection in the direction of trichinosis is performed.

This method, introduced about 15 years ago, involves the artificial digestion (pepsin-HCl) of collective diaphragmatic tissue samples in order to reduce the number of samples and the time required for the examination.

In general, a collective sample consists of 100 individual samples of 1 gram each. To increase the efficiency of the method, special equipment is currently used (eg Trichomatic* 35, Stomacher*).

RESULTS AND DISSCUSIONS

Of the 250 horses that were slaughtered and entered this study, the results of the artificial digestion method were amazing, namely of the 250 horses all tested negative for *Trichinella spiralis* by the method mentioned above. Epidemiology and control of synanthropic (domestic) trichinosis can not be underestimated.

There is compelling, although indirect evidence that stray cats and dogs and wild animals on the farm can be important reservoirs of *T spiralis* infestation and can reintroduce the parasite into a herd of horses if greater attention is not paid to preventing exposure.

Veterinary and sanitary-veterinary authorities have enough means to organize and carry out continuous surveillance programs. Such programs allow the identification of infested herds and make eradication attempts possible.

National surveillance may be carried out based on the results of the post-slaughter control and following the reverse route to the farm of origin.

CONCLUSIONS

1. Strict compliance with the provisions on residual feedingstuffs, in particular the need for thermal sterilization (100° C for 30 minutes).
2. Strict rodent control.
3. Prevention of animal contact with carcasses, especially pigs and rodents.
4. Prompt and appropriate disposal of carcasses of pigs and other animals (e.g. burial, incineration, or heat treatment). This reduces the risk of infestation for commensal wildlife.
5. Creating effective barriers between horses, wildlife, and even other domestic animals.

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