

## A SURVEY ON HUMAN TRICHINOSIS IN IRAN

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(*BRIEF NOTE*)

Trichinosis is a disease of man and animals which afflicts striated muscles and caused by *Trichinella spiralis*. Hilton in 1833 gave macroscopic description of the Parasitic cysts in 1835 Farre gave full description of the live worm with in the cyst, Owen suggested the name of *Trichina spiralis* for the new parasite, Railliet in 1896 changed it to *Trichinella spiralis*.

Early in 1967 samples of infected meat of wild boar and brown bear submitted by H. Madadi\* were fed to mice, after a few days males and females *Trichinella spiralis* were found in the intestine, larvae were also found in the muscles. The existence of animal trichinosis among wild animals provided a good basis for starting a research on the evaluation of the possibility of human infection in Iran.

4838 samples of muscles collected from Legal Medicine Tehran, examined for detection of human trichinosis. The study started in 1967 and lasted until 1970. Samples consisted about 20 grams intercostal and 20 grams diaphragm muscles taken in a jar container of 10% formaline solution. Fresh samples obtained weekly, were subjected to the following tests which were the compression and digestion. No single larvae was observed by either methods.

The first animal trichinosis in Iran was reported in Caspian Region by Afshar and Jahfarzadeh (1967). It had been found among wild animals such as brown bear, golden jackal (*Canis aureus*), jungle cat (*Felis chaus*) and wild boar (Mobedi et al 1973). Cases among wolves, dogs, and rats have also been reported in the central and southwest parts of Iran (Massud 1976).

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Although animal trichinosis has been reported in a variety of beasts in this country, except for a single suspected case no human infection has so far been officially reported (Moin 1966).

*Trichinella spiralis* is a very minute parasite. The adult male is normally 1.4 – 1.6 mm long and 0.033 – 0.04 mm wide and the female measures from 3 – 4 mm in length and from 0.06 - 0.72 mm wide. The spicules are absent in the male but there is a pair of papilla on the posterior part of the body behind cloaca. The females are viviparous and the larvae are 0.08 – 0.12 mm long.

*Trichinella spiralis* has a direct life cycle. The larvae gain entrance to the body through infected meat or meat products. They emerge from the cyst and grow adult in the intestinal mucosa of duodenal and jejunal portions. After copulation the males die and the fecundated females begin to produce larvae. The young larvae burrow to the blood vessels and reach the various parts of the body. Normally, they enter to striated muscles especially diaphragm, intercostals, extraocular, lingual, pectoral and after growing become spiral and encapsulated with 0.1 – 1.15 mm length.

Although trichinosis is relatively prevalent among wild animals in Iran, but only one single suspected case of human infection was reported until now. There are several reasons for the absence of human trichinosis, among which the following may be of some importance:

- 1 – Religion, under Islamic religious laws, consumption of meat of domesticated as well as wild pigs is prohibited.
- 2 – Nutritional preference, trichinosis is normally transmitted through using uncooked or undercooked meat or meat products and the infection frequently occurs among people who permanently or occasionally consume such products. Iranians, prefer to use completely cooked meat which no parasite can stand to such a degree of heat.

As the games are transported to Tehran for meat inspection and sale, therefore about eighty percent of human samples under our examination were obtain from this city and the remaining from other parts of the country. This paper does not claim to verify that human trichinosis in Iran is absolutely non existant, but may lead, as an initial information, for further extensive investigations on the possibility of human trichinosis in Iran.

Since there are reports of animal trichinosis in Iran, during four years (1967 – 1970) 4838 samples of human muscles which received from Legal Medicine Tehran were examined, no single larvae was observed.

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