

Case Report

A case report of *Linguatula serrata* infestation from rural area of Isfahan city, Iran

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Abstract

Linguatulosus occurs accidentally in human by ingestion of raw or undercooked visceral tissues of sheep, goat, camel, and other herbivores. In this case report, 2 patients from an Afghan family infested with this parasite in rural area of Isfahan, Iran are presented. Clinical signs and symptoms including pricking sensation in throat, coughing, sneezing, yellow nasal and ears discharges, which started 2-3 hours after eating raw goat liver. Nymphs of *Linguatula serrata* were isolated from their tongues and later, several more parasites were discharged by coughing and sneezing. An ancient belief about nutritional benefits of eating raw liver may causes more Halzoun syndrome in future.

Key Words: Halzoun syndrome, Infestation, Iran, Isfahan city, *Linguatula serrata*

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INTRODUCTION

Linguatula serrata or tongue worm is an endoparasite worm-like arthropod belongs to the *Pentastomida* class and *Linguatulidae* family, which cause visceral and nasopharyngeal Pentastomiasis. Adults of the *Linguatula serrata* are found in the respiratory tracts and sinuses of the carnivorous (especially wolves, foxes, jackals, dogs and cats)

as definitive hosts. Nymph stage of *Linguatula serrata* lives in the liver, lungs, and lymph nodes of herbivores.^[1] Nasopharyngeal linguatulosis, which called Halzoun syndrome in middle-east or Marrara syndrome in Sudan, sometimes occurs accidentally in human by eating raw or undercooked internal organs of the sheep, goat, camel, rabbit, and other herbivores.^[2]

In human, this disease often remains undetected, but could be easily diagnosed by clinical signs and symptoms or microscopic examination in the laboratory.^[3]

Linguatula serrata infestation has been reported in tropical and subtropical regions of the world,^[4] and also several cases had been reported from Iran.^[5-9]

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As our knowledge in this case report, this parasite has been reported for the first time from the rural area of Isfahan city in province of Isfahan, Iran.

CASE REPORT

Two female Afghans refugees of a family (a 34 years old mother and her 12 years old daughter) that live in Borkhar, Khorzogh a rural area of Isfahan city of Iran

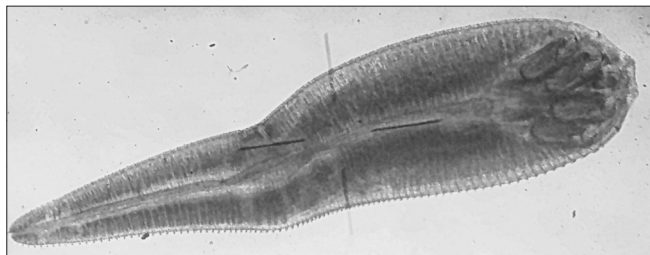


Figure 1: Nymph stage of *Linguatula serrata* isolated from patients in rural area of Isfahan city, Iran



Figure 2: End anterior section of the nymph stage of *Linguatula serrata* containing two pairs of prominent hooks

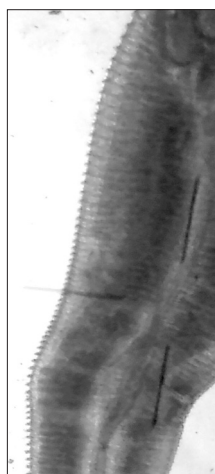


Figure 3: Membrane of nymph stage of *Linguatula serrata* with large spines on surface

admitted to the Dr. Enayatinia private medical office, with nasopharyngeal symptoms. They stated that their clinical symptoms started 2-3 hours after eating raw goat liver. The symptoms described were discomfort and pricking sensation in throat with expansion to the ears. Symptoms like coughing, sneezing, yellow nasal and ear discharges were appeared; and after several days, patients felt epigastric pains and movement of something in their nose and ears, and several organisms were removed after coughing and sneezing.

Then, patients referred to the Souroosh Diagnosis Medical Laboratory in Khorzogh, using forceps, 3 worm-like and white colored organisms were detected from tongue and due to coughing and sneezing, 4 other organisms were exited. Using stereo microscope and direct microscopy with normal saline, the nymph of *Linguatula serrata* was diagnosed in Parasitology and Mycology Department, School of Medicine, Isfahan University of Medical Sciences [Figure 1]. In the anterior end of parasite 4 large hooks surrounded its mouth [Figure 2], and its segmented membrane covered with prominent spines [Figure 3].

DISCUSSION

Linguatulosis is a rare human infestation, causes by nymph stage of *Linguatula serrata* from *Pentastomida* class. Human infestation occurs by ingestion or eating of encysted third stage larva in raw or undercooked liver and other visceral organs of intermediate hosts.

This infestation reported from many tropical and subtropical regions of the world,^[4] including Iran.^[5-9] In this case study, 2 Afghans female refugees from a family infested to the third nymph stage of *Linguatula serrata* by eating raw goat liver and showed early signs and symptoms about 2-3 hours later. The isolated worm-like and white colored organisms diagnosed as *Linguatula serrata* nymph stage.

Clinical signs and symptoms are nearly similar in all reported cases of this parasite.^[4-5, 9-10]

In Iran, this traditional belief that eating raw liver is nutritionally more efficient may be associated with occurrence of more cases of linguatulosis.

Therefore it is suggested that the people should be subjected to health education programs about disadvantages of eating raw or undercooked liver or other internal organs of herbivores.

REFERENCES

1. Gerald D Schmidt, Larry S Roberts: Roberts' Foundation of Parasitology

- 4th ed. WCB Publishers. Dubuque IA, USA 1995:486-8.
2. Schacher JF, Saab S, Germanos R, Boostani N.: The etiology of Halzoun in Lebanon; recovery of *L.serratanymp* from two patients. *Trans R Soc Trop Med Hyg* 1969; 63:854-8.
3. Mehlhorn H. *Encyclopedic reference of parasitology*. 2nd ed. Heidelberg: Springer-Verlag; 2004.
4. John DT, Petri WA. *Markell&Voge's medical parasitology*. 9th Ed. Missouri: Saunders Elsevier; 2006.
5. Siavashi MR, Assmar A, Vatankhah A. Nasopharyngeal Pentastomiasis (Halzoun): Report of 3 cases. *IJMS* 2002; 27:191-2.
6. Maleky F., A case report of *Linguatula serrata* in human throat from Tehran, central Iran. *Indian J Med Sci* 2001;55:439-41.
7. Yeganeh MA, Talari S, Dehghani R. A case of *Linguatula serrata* in Kashan. *Journal of Kerman University of Medical Sciences*. 2001;8:175-8
8. AnarakiMohammadi G, Mobedi I, Ariaeipour M. A case report of nasopharyngeal linguatulososis in Tehran, Iran and characterization of the isolated *Linguatula serrata*. *Iranian J Parasitol*. 2008;3:53-5.
9. Arbabi M, Hooshyar H, Mobedi E, Boostani M. First case report of Marrassa disease from Kashan. *The Journal of Shahid Sadoughi University of Medical Sciences*. 1997; 5:58-60.
10. Schlossberg D, Goldman I, Ausiello D, editors. *Cecil Text Book of Medicine*. Philadelphia: Saunders (an imprint of Elsevier); 2004. p. 2126.

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