

## PICTURES IN DIGESTIVE PATHOLOGY

### Direct parasitological diagnosis of infection with *Hysterothylacium aduncum* in a patient with epigastralgia

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#### CASE REPORT

A patient with no relevant history presented with epigastralgia for the last 4 hours. A lab workup showed no significant findings. Abdominal CT revealed gastric wall thickening with increased contrast uptake and adipose tissue rarefaction (Fig. 1). A gastroscopy was performed 12 hours after admission, which revealed an edematous, erythematous antral mucosa with 4 whitish, worm-like structures about 15 mm in length attached to it by one end. The diagnosis was reached by direct endoscopic observation, light microscopy, and scanning electron microscopy - no serology testing was needed (Fig. 2). The patient initially denied having eaten raw fish, only to later confirm its ingestion after endoscopy. Following parasite removal the patient remained asymptomatic and treatment with albendazole was initiated.

#### DISCUSSION

Direct observation allowed parasite identification as third-stage (L3) larvae of *Hysterothylacium aduncum*, an ascaroid

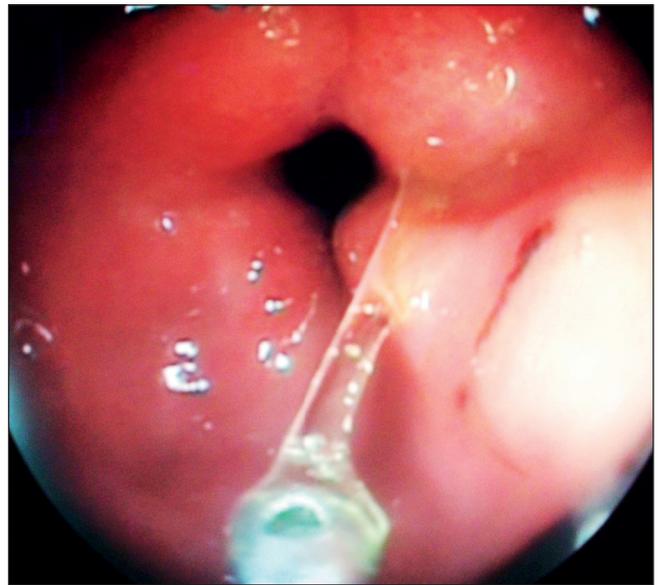


Fig. 2. Upper GI endoscopy: Whitish, worm-like structure anchored to the antral mucosa by one end. Endoscopic removal with forceps.

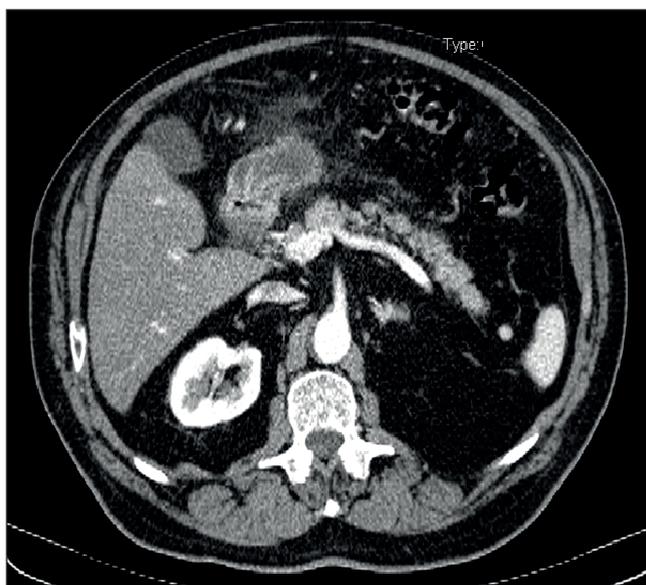


Fig. 1. Abdominal CT: Wall thickening at the gastric antrum with contrast uptake and peripheral adipose tissue rarefaction.



Fig. 3. Scanning electron microscopic image: Anisakis-like worm with the transverse striae and lateral wing-like alae characteristic of *H. aduncum*. The cephalic end with three lips is protruding outwards as a result of endoscopic removal.

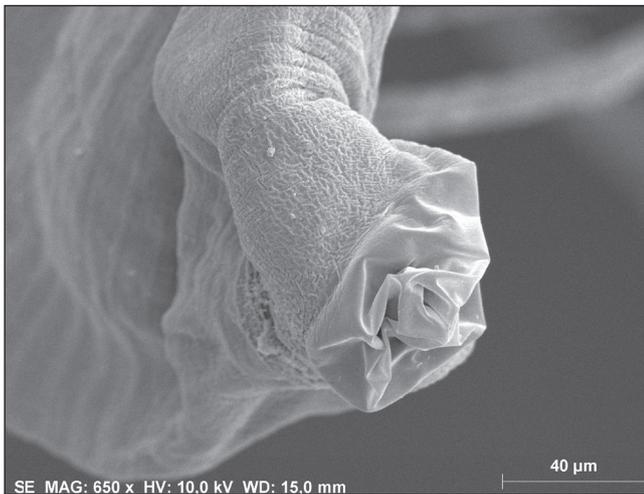


Fig. 4. Scanning electron microscopic image: The tail portion, although contracted, belongs to an L3 stage larva as it lacks the typical cactus-like spicules of adults; however, some early folds provide a hint of the developing cactus tail.

nematode belonging to the *Anisakidae* family (1). *Hysterothylacium aduncum* is an unusual parasite – it has only been described as the causal agent of at least one case of non-invasive anisakiasis

(2). Body size is consistent for this species' L3 stage (Figs. 3 and 4). Manifestations result from local damage (epigastralgia, vomiting, obstruction, diarrhea, ulceration, bleeding) and hypersensitivity reactions (urticaria, angioedema, shock) (3). A definitive diagnosis may only be reached by direct parasite visualization (4). Diagnosis is challenging and relies on clinical suspicion, findings such as eosinophilia, recent raw fish ingestion, and both direct (endoscopy) and indirect (serology) testing.

The prevalence of anisakiasis has been on the rise worldwide for the last few years (5), which may result from improved diagnostic technique resolution, increased interest in dishes consisting of raw fish, and coexistence of sea mammals acting as reservoirs in fishing areas.

## REFERENCES

1. Sanmartín ML, Quintero P, Iglesias R, et al. Nematodos parásitos en peces de las costas gallegas. Ed. Díaz de Santos; 1994. p. 40-53.
2. Yagi K, Nagasawa K, Ishikura H, et al. Female worm *Hysterothylacium aduncum* excreted from human: A case report. *Jap J Parasitol* 1996;45:12-23.
3. Pontone S, Leonetti G, Guitoli E, et al. Should the host reaction to anisakiasis influence the treatment? Different clinical presentations in two cases. *Rev Esp Enferm Dig* 2012;104:607-10.
4. Henríquez-Santana A, Villafreua-Cives M. Anisakis: pasado, presente y futuro. *Medicina Clínica* 2009;112:400-3.
5. Chai JY, Murrell KD, Lymbery AJ. Fish-borne parasitic zoonoses: Status and issues. *International J Parasitol* 2005;35:1233-54.