

Intestinal anisakiasis

Anisakiasis is caused by accidental ingestion of *Anisakis* larvae, present in fresh fish and squid. Abdominal pain is severe and abrupt to cause acute abdomen. Human anisakiasis can be divided into the three types; gastric, intestinal, and extra-gastrointestinal anisakiasis. According to a series of 15,715 cases of anisakiasis reported by Ishikura, gastric anisakiasis accounts for 95.6% of the cases, whereas intestinal and extra-gastrointestinal anisakiasis account for 4.1% and 0.3% of the cases, respectively. Intestinal anisakiasis is often seen in gastrectomized individuals, and may be complicated by perforation and strangulation. *Anisakis* larvae can survive only for a few days in the human gastrointestinal tract. Therefore, the symptoms due to acute inflammation subside within 2-3 weeks and may be treated well by conservative therapy.

Ref.-1: Ishikura H. *Anisakis*. *Rinsho Shokaki Naika* (Clin Gastroenterol) 1991; 6: 1052-1060 (in Japanese).

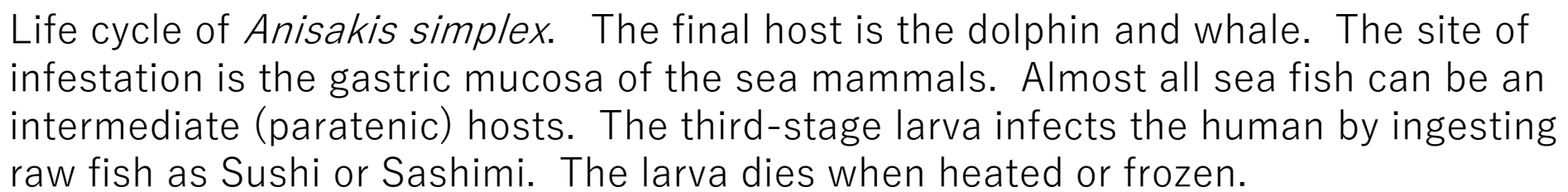
Ref.-2: Shrestha S, et al. Intestinal anisakiasis treated successfully with conservative therapy: importance of clinical diagnosis. *World J Gastroenterol* 2014; 20(2): 598-602. doi: 10.3748/wjg.v20.i2.598

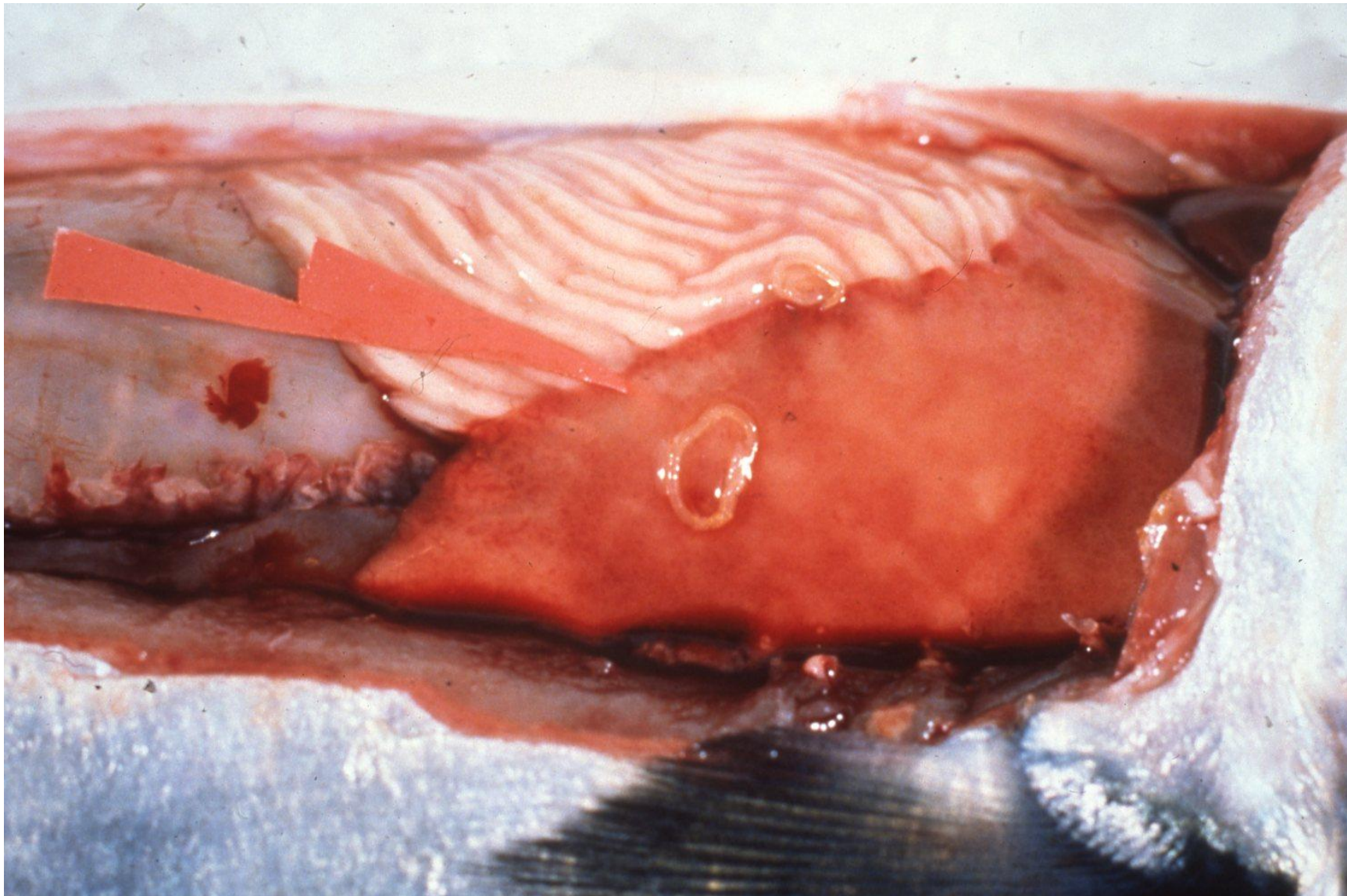


Gross appearance of intestinal anisakiasis in a male patient aged 50's with a history of gastrectomy. Intestinal anisakiasis is often seen in gastrectomized individuals. A 2 cm white-colored nematode is stuck in the highly edematous, partially removed jejunum.



Gross appearance of an *Anisakis simplex* larva after formalin fixation. A thin translucent nematode is seen. A measure indicates 5 mm.





An *Anisakis* larva (the third stage) on the gill of the mackerel is shown. The larvae are preferentially distributed in/on the gill, peritoneum and gonads of the fish. They migrate to the striated muscles when heavily infected.



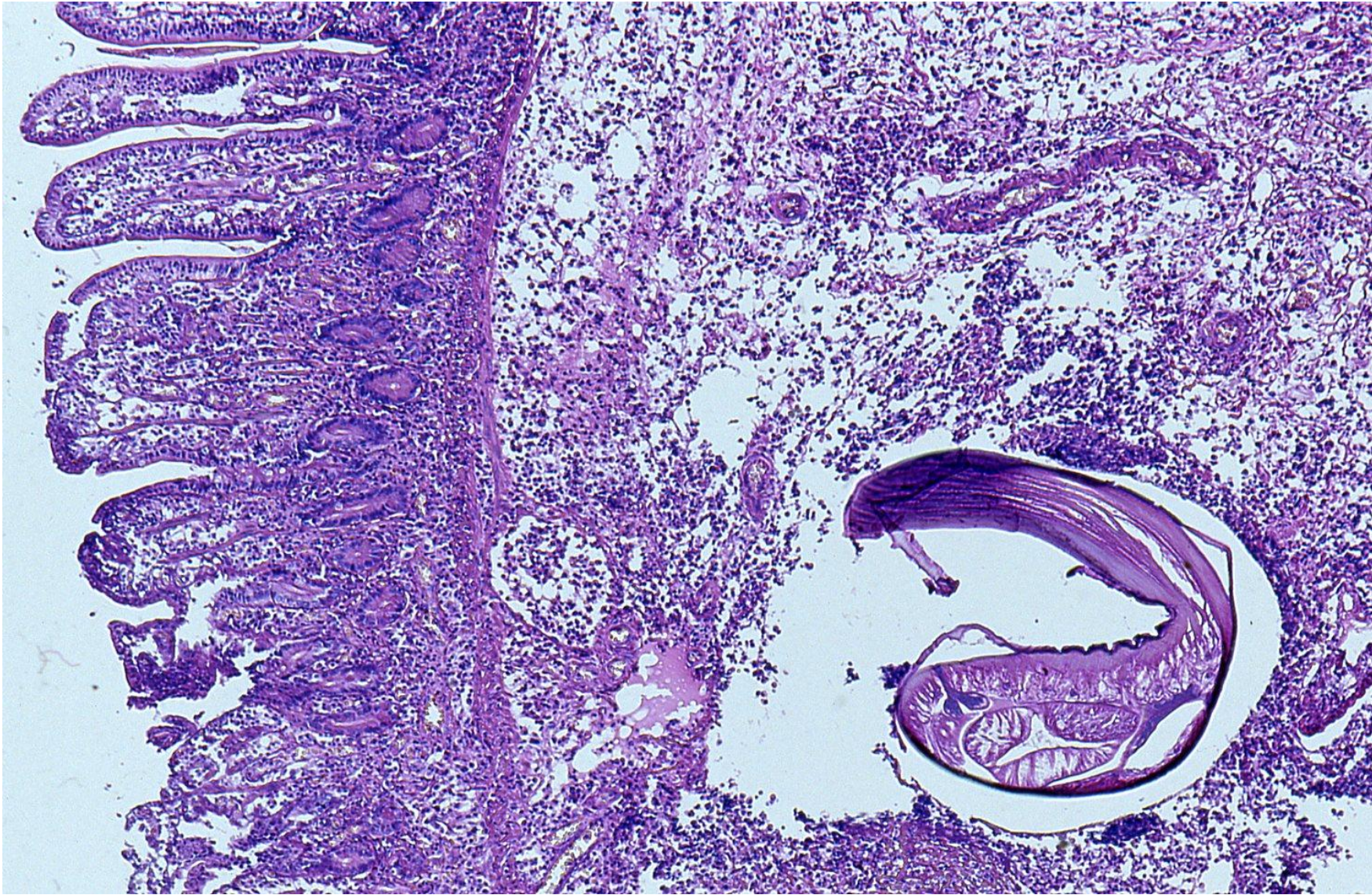
Intestinal anisakiasis. The cut surface of *Anisakis simplex* is demonstrated. Columnar-shaped muscle layer is located just beneath the cuticle. Paired clover-shaped lateral chords are characteristic. Intestine and Renette cells (a long solid structure, representing an excretory organ) are observed. Eosinophilic cellulitis has been provoked. H&E-1



Intestinal anisakiasis. The cut surface of *Anisakis simplex* is demonstrated. Columnar-shaped muscle layer is located just beneath the cuticle. Paired clover-shaped lateral chords are characteristic. Intestine and Renette cells (a long solid structure, representing an excretory organ) are observed. Eosinophilic cellulitis has been provoked. H&E-2



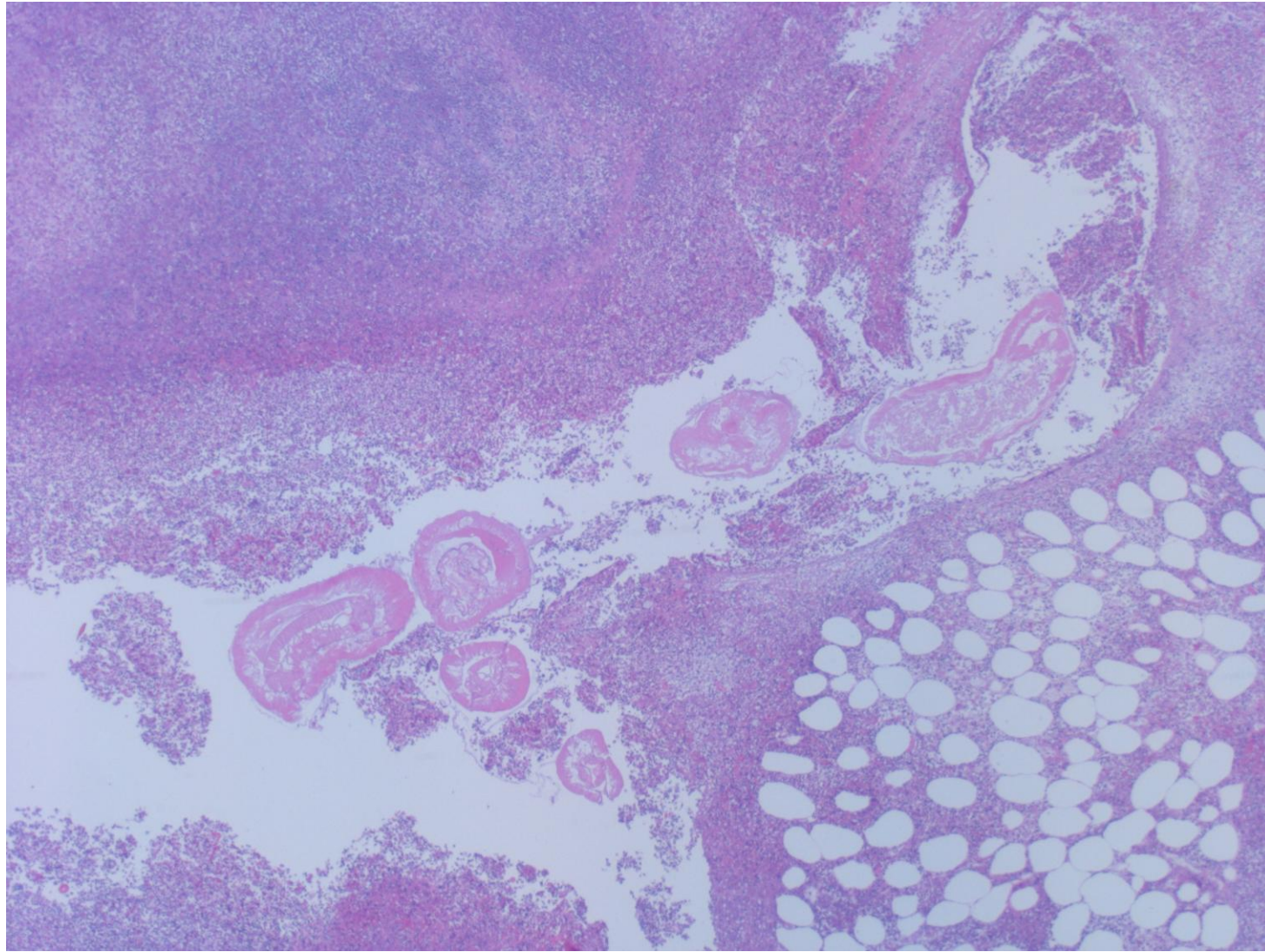
Intestinal anisakiasis. The cut surface of *Anisakis simplex* is demonstrated. Columnar-shaped muscle layer is located just beneath the cuticle. A clover-shaped lateral chord and intestine are closed up. Eosinophilic cellulitis is seen. H&E-3



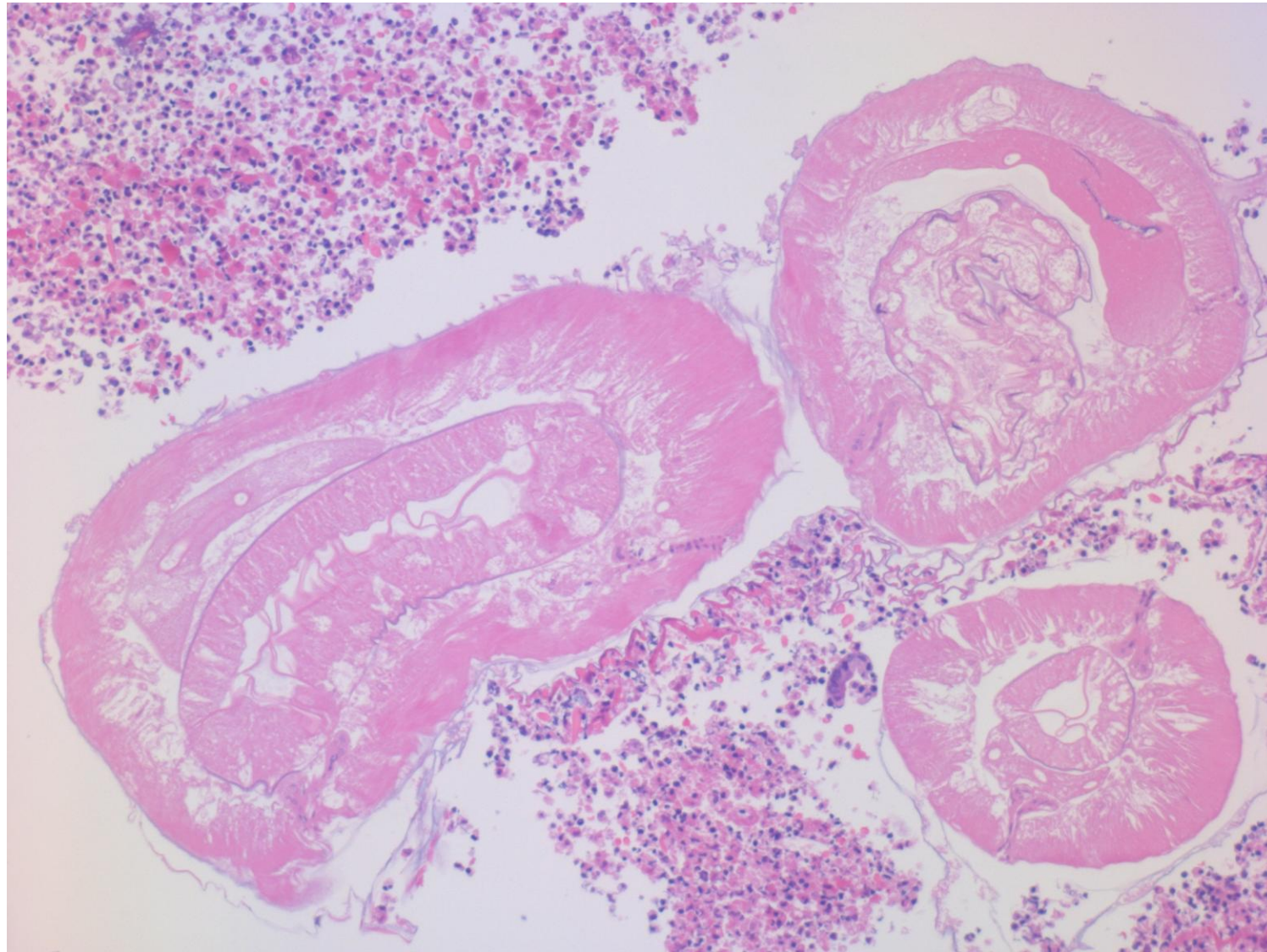
Another case of intestinal anisakiasis. The cut surface of *Anisakis simplex* is demonstrated. In the submucosal layer. The muscle layer, clover-shaped lateral chord and intestine can be recognized. Eosinophilic cellulitis has been provoked. H&E-4



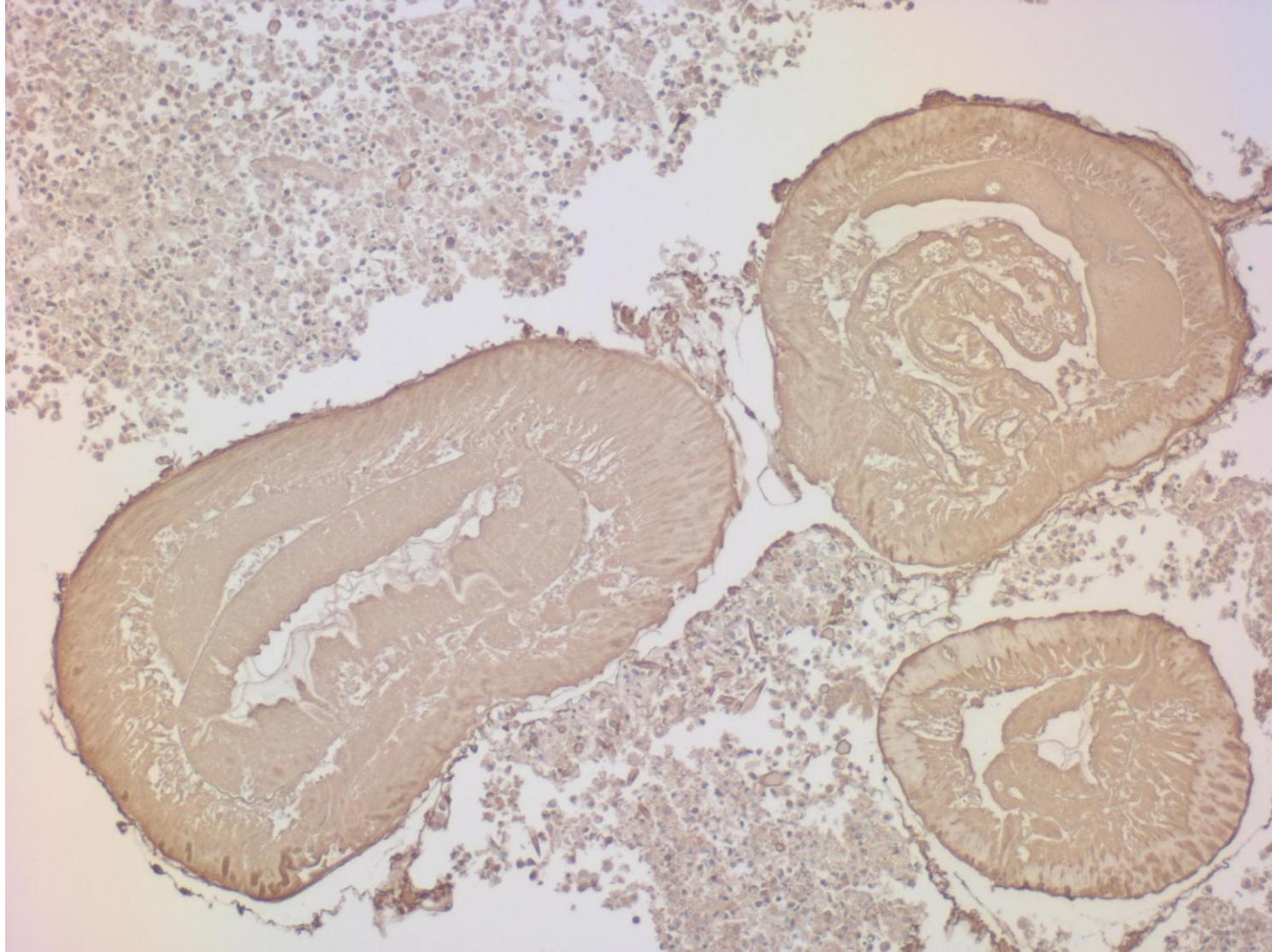
Another case of intestinal anisakiasis. The cut surface of *Anisakis simplex* is demonstrated. In the submucosal layer. The muscle layer, clover-shaped lateral chord and intestine can be recognized. Eosinophilic cellulitis has been provoked. H&E-5



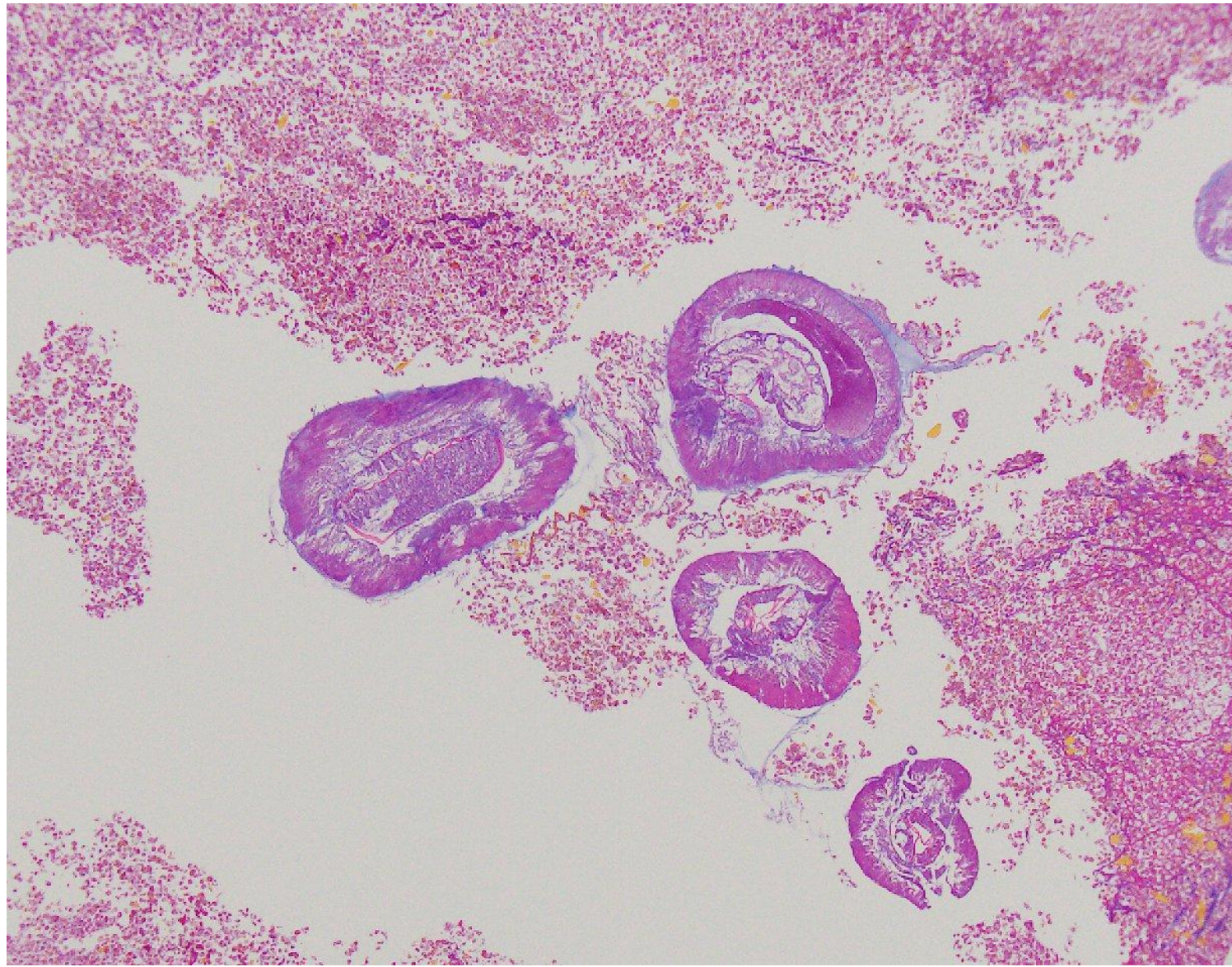
Perforated intestinal anisakiasis. The cut surfaces of *Anisakis simplex* are seen along the invading tract. Marked eosinophilic cellulitis is seen. H&E-a



Perforated intestinal anisakiasis. The cut surfaces of *Anisakis simplex* are seen along the invading tract. The muscle layer, intestine and Renette cells can be recognized. Eosinophilic reactions are observed. H&E-b



Perforated intestinal anisakiasis. The cut surfaces of *Anisakis simplex* are seen along the invading tract. *Anisakis simplex* antigen is positive. Immunostaining using monoclonal antibody An-2



Perforated intestinal anisakiasis. The cut surfaces of *Anisakis simplex* are seen along the invading tract. The muscle layer, intestine and Renette cells can be recognized. Eosinophilic reactions are observed. Azan staining