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A case of chronic abdominal pain related to the ingestion of raw seafood: Anisakiasis

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ABSTRACT

A previously healthy 40-year-old man presented to the emergency department with acute abdominal pain and repeated bilious vomiting that began the previous day and progressively worsened. On examination, he was afebrile and hemodynamically stable, with mild diffuse abdominal tenderness and no peritoneal signs. Laboratory studies showed leukocytosis with neutrophil predominance, an elevated C-reactive protein, and no eosinophilia. Contrast-enhanced abdominal computed tomography revealed segmental thickening of the small bowel wall with localized obstruction, without evidence of a mechanical cause such as adhesions, masses, or strangulation. A detailed dietary history disclosed that the patient had consumed raw flounder obtained directly from a fisherman three days earlier. Given the coastal endemic setting and high clinical suspicion, serologic testing for *Anisakis*-specific IgE was performed, yielding markedly elevated levels (>100 UA/mL), supporting the diagnosis of allergic-mediated intestinal Anisakiasis.

The patient was treated conservatively in the ED observation unit with nasogastric decompression, bowel rest, and intravenous hydration. Over the next 48 h, symptoms resolved, vomiting ceased, and bowel function returned to normal. He was discharged on a cooked-seafood-only diet.

At follow-up, he reported complete resolution of chronic intermittent abdominal discomfort that had been present for several years. Repeat IgE testing demonstrated a substantial decline, correlating with sustained symptom relief.

This case underscores the importance for emergency physicians in endemic areas to consider allergic intestinal anisakiasis in patients presenting with unexplained small bowel obstruction, to obtain a thorough dietary history, and to utilize specific IgE testing to guide diagnosis and avoid unnecessary surgical intervention.

1. Introduction

Anisakis-related disease is caused by ingestion of raw or undercooked seafood [1,2]. While classical anisakiasis involves larval penetration of the gastrointestinal mucosa, allergic-mediated forms without larval visualization can occur, leading to localized intestinal wall edema and obstruction [1,3]. In endemic coastal regions where raw fish is frequently consumed [2], these cases can mimic other causes of acute abdomen [4,5], posing a diagnostic challenge in the emergency department (ED). Early recognition is crucial to avoid unnecessary surgical intervention.

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2. Case presentation

A previously healthy 40-year-old man presented with sudden-onset abdominal pain and frequent bilious vomiting. He was afebrile, normotensive, and oxygenating well. Physical examination revealed mild abdominal distension and diffuse tenderness without guarding or rebound. Laboratory results showed WBC 11,500/μL (77.9 % neutrophils), CRP 4.16 mg/dL, and no eosinophilia. Liver and renal function were normal.

Contrast-enhanced CT revealed localized small bowel wall thickening with mucosal edema and partial obstruction, without evidence of mechanical blockage or strangulation (Fig. 1). He was admitted to the ED observation unit and treated with nasogastric decompression, bowel rest, and intravenous fluids. Symptoms improved markedly within 48 h.

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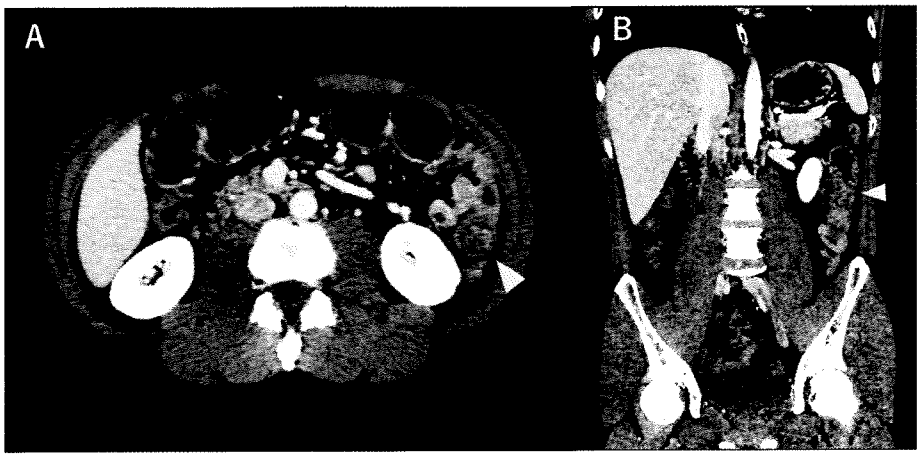

Fig. 1. CT images of intestinal obstruction (A, horizontal; B, coronal) showing mucosal thickening of the small intestine (yellow arrowheads). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

A dietary history revealed raw flounder ingestion three days prior, obtained directly from a fisherman. Given the endemic location and imaging findings, *Anisakis*-specific IgE was measured and found to be >100 UA/mL (reference <0.34). He was discharged with instructions to avoid raw seafood. At follow-up, chronic intermittent abdominal pain of several years' duration had resolved completely, and IgE levels had declined significantly (Fig. 2).

3. Discussion

In endemic coastal areas, allergic-mediated intestinal anisakiasis should be considered early in the differential diagnosis of acute small bowel obstruction without mechanical cause [4,5]. This is particularly important when symptoms develop soon after ingestion of raw seafood, CT imaging shows segmental bowel wall thickening, and there are no peritoneal signs despite significant discomfort.

Measurement of *Anisakis*-specific IgE is an important diagnostic step [3]. A markedly elevated IgE level strongly supports an allergic mechanism even in the absence of eosinophilia, and follow-up decline after dietary modification can help confirm causality.

Detailed dietary history is essential [2]. Emergency physicians should specifically inquire about seafood obtained outside regulated markets, as such sources bypass inspection and may carry a higher risk of parasitic contamination.

From an ED perspective, suggested evaluation includes:

- Focused dietary history emphasizing recent non-commercial seafood.
- Early abdominal imaging to detect localized intestinal wall edema.
- Prompt *Anisakis*-specific IgE testing when suspicion is high.

The differential diagnosis includes ischemic enteritis, adhesive small bowel obstruction, infectious enteritis, and inflammatory bowel disease [4,5]. Clues favoring allergic-mediated anisakiasis include the absence of prior abdominal surgery, normal eosinophil count, a strong temporal relationship to raw fish ingestion, and high *Anisakis*-specific IgE.

ED treatment is supportive, including nasogastric decompression, intravenous hydration, and bowel rest. Surgical intervention should be reserved for suspected strangulation or perforation [4]. Additional care includes dietary counseling to avoid raw or undercooked seafood, particularly from unregulated sources. Follow-up IgE testing can document decreasing sensitization and correlate with symptom resolution.

4. Conclusion

Allergic intestinal anisakiasis is an underrecognized cause of acute small bowel obstruction in endemic regions. Emergency physicians

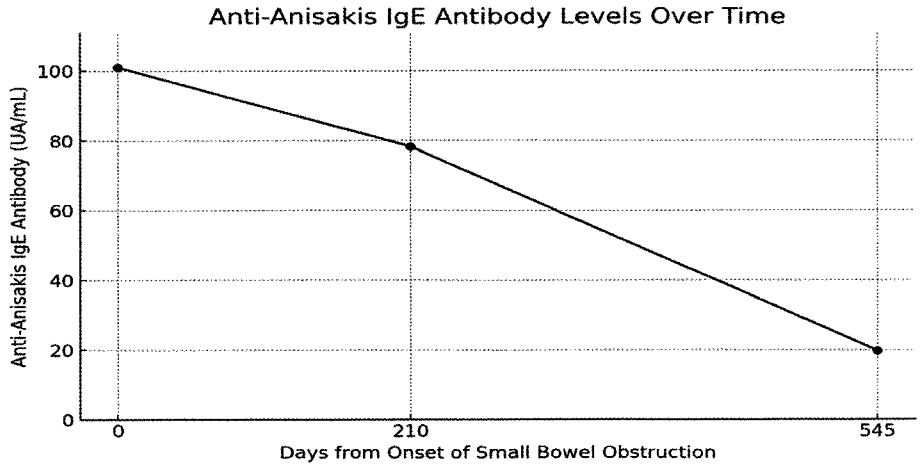

Fig. 2. Decline in Anisakis-specific IgE following elimination of raw seafood.

should maintain a high index of suspicion, perform targeted dietary histories, utilize *Anisakis*-specific IgE testing, and initiate supportive management to prevent unnecessary surgery.

CRediT authorship contribution statement

Fumiue Harada: Writing – original draft, Supervision, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Morihito Takita:** Writing – review & editing. **Hiroaki Saito:** Writing – review & editing. **Masahiro Kami:** Supervision.

Patient consent

Written informed consent for publication of this case report and any accompanying images was obtained from the patient.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the author(s) used ChatGPT (OpenAI) in order to improve the readability and language of the manuscript. After using this tool, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the published article.

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Declaration of competing interest

The authors declare no conflicts of interest.

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