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Abdominal Wall Abscess Caused by Fish Bone Ingestion: A Case Report

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ABSTRACT

Background:
Intra-abdominal abscesses are usually caused by infectious, inflammatory, or malignant conditions. In cases with unclear etiology, further evaluation is required.

Case Presentation:
A 55-year-old male presented with four weeks of epigastric abdominal pain. Abdominal ultrasonography revealed a hypoechoic, avascular subhepatic lesion. The patient received antibiotic therapy. Further evaluation, including assessment for immunodeficiency, revealed no abnormalities. Contrast-enhanced computed tomography demonstrated a linear hyperdense structure, suspicious for a foreign body.

Results:
Laparoscopic exploration confirmed a migrated fish bone measuring 3.5 cm within the abscess. The foreign body was successfully removed, and the abscess was drained. The patient showed complete clinical improvement with resolution of symptoms and normalization of inflammatory markers.

Conclusion:
In patients with intra-abdominal abscesses of unclear etiology, evaluation for underlying immunodeficiency should be considered. Additionally, although foreign body ingestion is relatively common, its complications—such as migration and abscess formation are rare and should be included in the differential diagnosis when common causes have been excluded.

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Introduction

Abdominal abscess is a complex and potentially life-threatening condition that usually arises from bacterial infection or injury to the gastrointestinal tract. In most cases, the immune system prevents progression of infection and abscess formation through coordinated inflammatory and immune responses. However, in patients with immunodeficiencies, these protective mechanisms are impaired, increasing the risk of severe infections, including abdominal abscesses (1). Intraperitoneal abscesses are uncommon in patients without a history of abdominal surgery or trauma. Approximately 15% of subphrenic abscesses occur in the absence of these risk factors, and most are associated with perforated hollow viscera or cholecystitis. Early diagnosis and accurate localization are essential for effective management, as treatment typically requires both antibiotic therapy and surgical drainage. Nevertheless, clinical suspicion of abdominal abscess remains low in patients without prior surgery or trauma (2).

In patients presenting with abdominal abscesses without an apparent predisposing factor such as surgery or trauma, underlying primary immunodeficiencies should also be considered and evaluated. Here, we report a case of a 55-year-old male who underwent laparoscopic drainage of a pyogenic intra-abdominal abscess caused by a migration of a swallowed fish bone, resulting in bowel wall perforation and a subhepatic abscess. This case highlights that intra-abdominal abscesses, although uncommon, may be associated with ingested foreign bodies such as fish bones, even in the absence of a clear history of ingestion.

Case Presentation

"A 55-year-old male presented with a 4-week history of abdominal pain. The pain was localized to the epigastric region, radiating to the back, and described as sharp and continuous. He also reported chills and nausea over the preceding two days.

On physical examination, mild epigastric tenderness was noted on deep palpation. The patient had a low-grade fever of 37.5°C (axillary). Vital signs were stable, with a blood pressure of 130/90 mmHg and a heart rate of 90 beats per minute. He had no significant past medical history. Laboratory investigations revealed leukocytosis (17,400 cells/μL, 87% neutrophils), elevated erythrocyte sedimentation rate (ESR: 107 mm/h), and strongly positive C-reactive protein (CRP 4+). Other laboratory parameters were within normal limits. The patient had been self-medicating with mebeverine (an antispasmodic agent) and a proton pump inhibitor for two weeks, with partial symptom relief.

Abdominal ultrasonography demonstrated a 50 × 52 mm hypoechoic avascular lesion in the subhepatic region adjacent to the ampullary pyloric area, with extension into the left hepatic lobe. Given the unclear etiology of the abscess, further evaluation was performed, including immunodeficiency workup, which showed normal immunoglobulin levels and a normal nitroblue tetrazolium (NBT) test. Empiric antibiotic therapy (imipenem 2 g daily) was initiated due to the patient's clinical condition. Contrast-enhanced abdominal computed tomography (CT) revealed linear hyperdense foci measuring 17 mm within the lesion, raising suspicion of a foreign body (Figure 1).

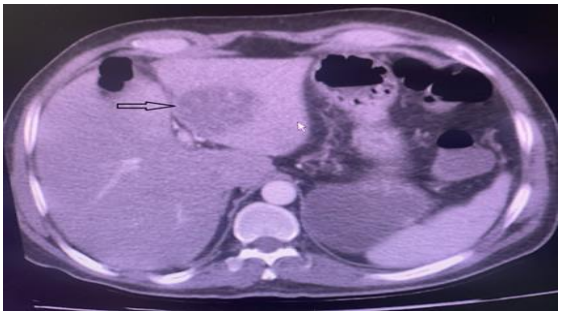

Figure 1. Abdominal CT scan indicated a hypoechoic lesions without vascularity,

measuring 50x52 mm, located in the subhepatic region adjacent to the ampullary-pyloric area, with extension into the left lobe of the liver.

The patient subsequently underwent laparoscopic surgery, during which the abscess cavity was drained and a sharp foreign body a 3.5 cm fish bone was identified and removed (Figure 2).

Figure 2. sharp foreign body (a fishbone) measuring 3.5 cm in length.

The abscess was located in close proximity to the fish bone. A percutaneous drain was placed, and antibiotic therapy was continued for 14 days postoperatively.

Postoperative history revealed that the patient had consumed fish approximately two months prior to admission. Following surgical intervention, symptoms resolved completely, and inflammatory markers normalized within a few days.

Discussion

Immunodeficiencies are important risk factors in the development and progression of abdominal abscesses. A comprehensive assessment of the patient's immune status, including appropriate laboratory investigations, may facilitate early diagnosis and optimal management. Clinicians should consider underlying immunodeficiency in patients presenting with abdominal abscesses, particularly in cases with recurrent or treatment-resistant infections (1).

Accidental ingestion of foreign bodies is relatively common and is most often related to food consumption, with fish bones being among the most frequently ingested objects (3,4). In many cases, ingestion goes unnoticed, and symptoms may appear after a prolonged delay ranging from months to years. Consequently, patient history alone is often unreliable, as most reported cases of fish bone–related abscesses lack a clear history of ingestion (5,6).

Complications of fish bone ingestion may include a wide spectrum of clinical manifestations such as gastrointestinal obstruction, dysphagia, perforation, and peritonitis (7). However, abdominal wall abscess formation secondary to migrated fish bones is exceedingly rare, with only a limited number of cases reported in the literature (8–10).

Advances in computed tomography (CT) imaging have significantly improved the detection of ingested foreign bodies. In most reported cases, CT not only identifies inflammatory lesions but also demonstrates linear hyperdense structures corresponding to fish bones (11–14). In the present case, CT imaging revealed a linear hyperdense object adjacent to the abdominal wall abscess, despite the absence of a history of foreign body ingestion.

Management of ingested foreign bodies depends on the clinical presentation, as well as the size, shape, and location of the object. Most asymptomatic cases can be managed conservatively, as spontaneous passage occurs in the majority of patients (15). However, esophageal foreign bodies require removal within 24 hours due to the increased risk of complications (16). Sharp objects pose a particularly high risk of

perforation and should be removed urgently. Even after gastric passage, complications have been reported in up to 35% of cases (17). Objects larger than 2–2.5 cm in diameter or longer than 5–6 cm should be removed endoscopically when possible, as spontaneous passage is unlikely. Surgical intervention is indicated in cases of complications or failure of progression through the gastrointestinal tract (18).

Several cases of intra-abdominal abscesses caused by foreign bodies involving the liver, pancreas, gastrointestinal tract, and peritoneal cavity have been reported (19–23). In selected cases, laparoscopic removal has been successfully performed (22,23), often requiring careful dissection. Similarly, abdominal wall abscesses secondary to perforating foreign bodies have been described (8–10). In the present case, the foreign body was located within the abscess cavity, and surgical drainage with removal of the fish bone was successfully performed.

Results

Laparoscopic exploration confirmed a migrated fish bone measuring 3.5 cm within the abscess. The foreign body was successfully removed, and the abscess was drained. The patient showed complete clinical improvement with resolution of symptoms and normalization of inflammatory markers.

Conclusion

In cases where all known causes of intra-abdominal or abdominal wall abscesses have been excluded, clinicians should also consider the presence of a foreign body as a very rare underlying cause. This highlights the importance of considering foreign body ingestion in any unexplained intra-abdominal or abdominal wall inflammatory process to ensure timely diagnosis and appropriate management.

Ethical Considerations

The case report was conducted in accordance with ethical standards of Mashhad University of Medical Sciences.

Written Informed Consent

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

Conflict of Interest

The authors declare no conflicts of interest.

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