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| RESEARCH ARTICLE

Extra Luminal Migration of Fishbone to the Spleen: A Complication of Foreign Body Ingestion

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| ABSTRACT

The ingestion of foreign bodies, either accidentally or intentionally, is a common complaint in the emergency department. Most patients may present with symptoms of upper airway obstruction if ingested into the trachea, while others may present with abdominal pain due to a gastrointestinal obstruction. Although relatively uncommon, some patients may be completely asymptomatic and complain of complications of ingestion. In rare instances, the foreign body may migrate and get encapsulated within other organs such as the spleen, lung, and liver. This case follows a 74-year-old male complaining of abdominal pain with a computed tomography (CT) finding showing encapsulated fish bone within the spleen.

| KEYWORDS

Fishbone; spleen; foreign bodies; perforation

| ARTICLE INFORMATION

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1. Introduction

Ingestion of foreign bodies is an extremely common complaint within the emergency department. It is more common in extreme ages, patients with psychiatric illnesses, and alcoholics (1). Fish bones are small pointed foreign bodies that are frequently ingested accidentally. Although in most cases they pass spontaneously, they could lead to possible dangerous complications through their passage in the digestive tract. In rare cases, sharp foreign bodies migrate extraluminally into adjacent organs. Diagnosing these complications could be challenging when a patient presents with atypical symptoms. Computed tomography (CT) with contrast can assist in diagnosing the exact location of migrated foreign bodies (2). Gastrointestinal perforation of foreign bodies like fishbone can either present as acute abdominal pain or later as an intra-abdominal collection (3). Management of foreign body ingestion is mostly conservative, although some may need endoscopic removal (4). Surgery is rarely required (4).

2. Case Presentation

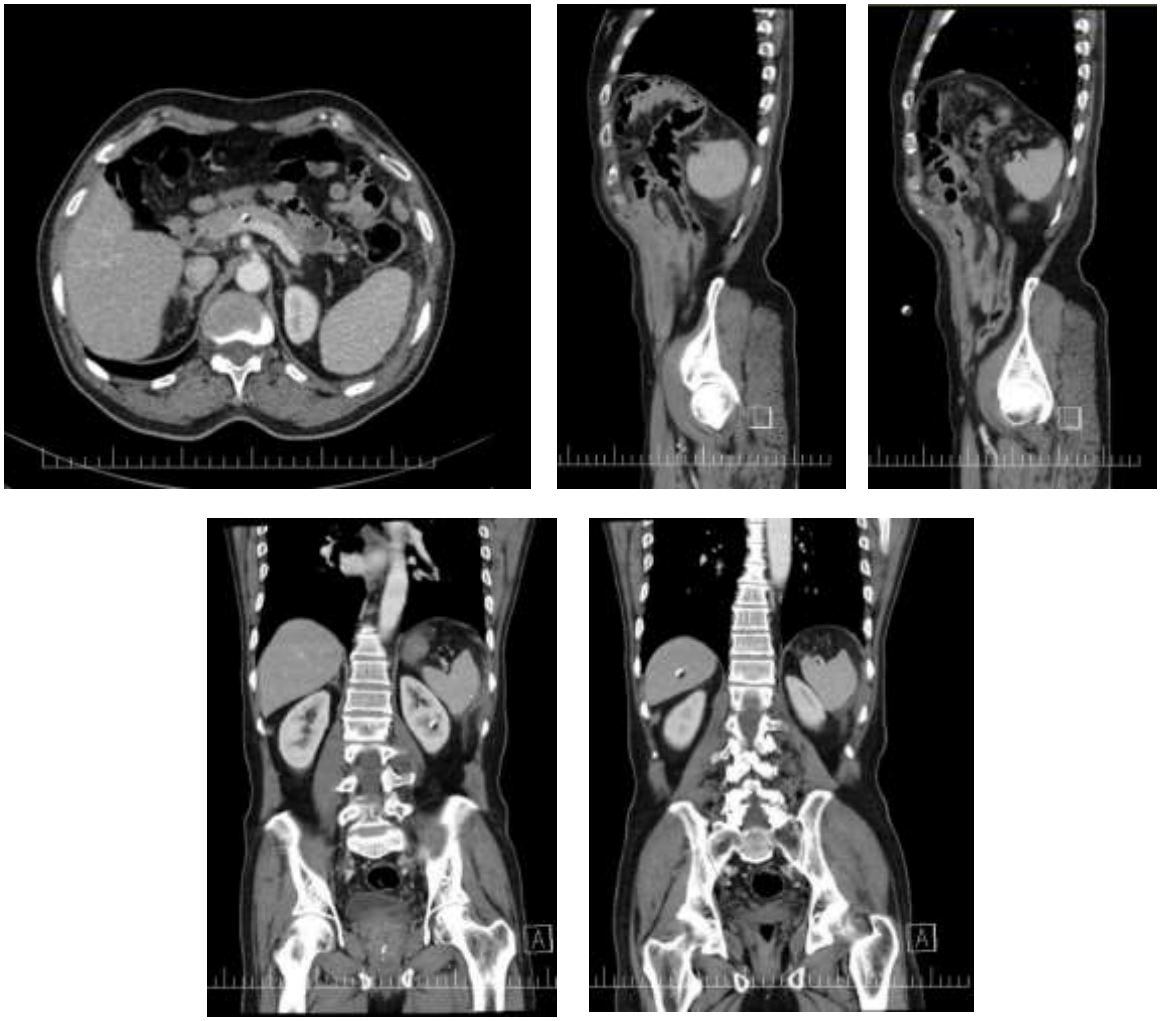
A 74-year-old Middle Eastern Male patient, presented to the emergency department with a complaint of sudden onset left lower abdominal pain for one-day duration. The patient had a history of chronic constipation. There was no history of nausea, vomiting, or urinary symptoms. On examinations, the patient was in mild pain with a heart rate of 95 beats per minute and a blood pressure of 138\73 mmHg. Per abdomen examination suprapubic and left lower quadrant tenderness. Laboratory investigations showed a hemoglobin of 12.2 g\dL and, a white blood cell count of 5.8. The liver function test and kidney function test were within normal limits.

An urgent contrast-enhanced computed tomography (CT) scan was done and relieved a linear hyperdense structure within the lateral aspect of the spleen, with the small splenic hypodense subcapsular region (figure One). When the patient was asked specifically about fish ingestion, he mentioned that he ate fish three days before the presentation to the emergency department.

The patient was admitted under the care of the general surgery team for observation and conservative management. He had uneventful hospitalization and was discharged after four days in stable condition.

Figure One: Computed Tomography (CT) Findings.

Discussion



The spleen is a unique organ that can be divided into the white pulp, which consists of aggregates of lymphoid-rich regions containing discrete areas for B cells & T cells, with each area surrounded by marginal zones, an area containing unique types of macrophages and B cells. This zone is highly effective in taking up pathogens in the blood. As for the red pulp, which eliminates old red blood cells, debris, and pathogenic microorganisms from the blood. It also plays a significant role in the recycling of iron from the erythrocytes (8) so in a way, the spleen acts as a filter for the blood, which Theoretically, with the absence of protective

layers of the skin and gut, makes foreign bodies being found in it plausible.

The most common organs affected by the migrating of penetrated objects are the skin & the gastrointestinal tract (5). Foreign bodies can through many ways, including ingestion, aspiration, or direct penetration. These injuries have shown to be more prevalent in the first decade of life with male predominance, ingestion injury is usually seen with abdominal FB, which can also migrate to extraluminal, solid organ migration. Feng et al. have described in a literature review 11 FB cases in the liver (2 were transcutaneous migration and 11 were extraluminal migration). FB migration to the spleen was similarly reported. The majority of the patients had no distinct memory of possible routes of migration (9). In our case, we assume extraluminal migration based on the history and the fact that the foreign body is a fishbone.

This unique condition comes with a variety of presentations, ranging from incidental findings in asymptomatic patients to splenic rupture and other complications (10). Malice Sierra-Riuz et al, have reported an unusual case of splenic rupture as a result of extra luminal migration of an ingested fish bone to the spleen, similar cases were reported with sewing needles by Cemil et al, Dr. CK Jakhmola, and Simbarashe et al. (1,2,3,). Gizem in-Aslan et al. described a surprising case of a six-month-old male patient admitted to the hospital due to constipation. His physical examination was unremarkable. However, his abdominal X-ray revealed a FB located in the Left upper quadrant, which was confirmed by Computerized Tomography (CT) was located in the splenic parenchyma, an exploratory laparotomy was then done, which revealed a 21G syringe needle that had been broken for sampling. It was located superficially on the lateral part of the spleen. It was simply removed by forceps with no post-operative complications (9).

Fish bone migration from the gastrointestinal tract is highly unfamiliar, to the best of our knowledge, this is the second case reported of a fish bone in the English medical literature.

Foreign bodies impacted in the skin or soft tissue appendages may be left alone. However, The nature & location of the foreign body highly impact the clinical approach to the patient, as sharp objects, especially in hallow, visceral organs can cause erosion, ulceration, or perforation, which can lead to devastating complications such as intussusception, liver abscess, fistulas, and even appendicitis. (7).

With the advancement of laparoscopic techniques, the safe extraction of impacted foreign bodies and the estimation of the extent of the damage has become achievable, in opposition to the prior techniques of laparotomy and exploration which required large incisions, long durations, and increased morbidity (7). The approach to splenic foreign bodies depends on multiple factors, including the patient's age, symptoms, type of the foreign body, and the risk of developing any complications. As for the operative approach, three options should be considered, a total splenectomy, partial splenectomy, or solely removing the foreign body. The patient should be informed and prepared for transfusion of blood in the event of bleeding after removing the foreign body. Gizem also mentioned the importance of considering Munchausen Syndrome by Proxy (MSBP) and child maltreatment when dealing with the pediatric age group, as children should be protected and kept away from sharp objects at all times (9).

4. Conclusion

Foreign body ingestion is a common issue encountered in accident and emergency departments. This case presents an elderly patient with a foreign body located in the spleen, a rare finding with only a few cases documented in the literature. The patient's history revealed an extraluminal migration of the foreign body, while other reported cases typically involve penetrating cutaneous injuries with sharp objects that penetrate the spleen. A CT scan is the most reliable diagnostic tool for such cases. Treatment approaches vary depending on the patient's overall condition and the extent of splenic injury. In our case, the patient was managed conservatively.

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