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Fish Bone of Distal Ileum: A Rare Misdiagnosis

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Abstract

Fish bone ingestion is a common occurrence, and most cases are uneventful. However, in some cases, fish bones can cause perforation of the gastrointestinal tract. Even with the growing utilization of computerised tomography (CT) imaging and the Alvarado criteria application, the potential for misdiagnosing acute appendicitis persists.This case report describes a patient who presented with abdominal pain and vomiting after ingesting a fish bone. The patient was found to have a perforation of the distal ileum by the ingested fish bone during surgery, which was repaired primarily. The patient made a full recovery. This case report highlights the importance of considering fish bone ingestion in patients with abdominal pain. Early diagnosis and treatment are essential to prevent complications.

Keywords Acute Appendicitis, Ileal Perforation, Fish Bone Ingestion

1. Introduction

According to a report, the occurrence of gastrointestinal tract perforations caused by ingested fish bones (FB) is rare, affecting less than 1% of cases (1). The symptoms experienced by patients primarily depend on the part of gut perforated by the bone. Diagnosis typically involves radiological imaging tests and necessitates surgical intervention (2).

Acute appendicitis is a common condition characterized by migratory lower abdominal and right iliac fossa pain, often accompanied by such as fever and malaise. The diagnostic attitude currently integrates the suspicion, hematological disturbances, other differentials exclusion, and ultrasonography and other radiological investigations to accurately identify acute appendicitis (3). Nevertheless, despite these advancements, misdiagnosis can still occur, as illustrated by the following case involving fishbone- induced injury. This report presents the details of a patient who experienced ileum perforation as a consequence of fish bone ingestion misdiagnosed an acute appendicitis. Dengue

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2. Case Presentation

A 48-year-old woman, without any significant medical history, presented to the emergency department with a 24-hour history of abdominal pain, nausea, vomiting, and fever. Her vital signs revealed: pulse 103/min, temperature 37.6°C, respiratory rate 22/min, and blood pressure 115/65 mmHg. Tenderness was noted in right iliac fossa, along with mild abdominal distension on abdominal examination. Rectal examination revealed an empty rectal ampulla. Initial investigations revealed leukocytosis of 13,800/mm3 with 89% neutrophils, a hemoglobin of 13.8 g/dl, a thrombocytes count of 209,000/mm3. Abdominal X-ray showed no evidence of pneumoperitoneum, and the chest X-ray displayed normal findings without air beneath the diaphragm.

Abdomino-pelvic ultrasound revealed edematous gut loops, a hyperechoic mesentery, and intact peristalsis. Alvarado score was 9 suggestive of acute appendicitis.

The patient was diagnosed as acute appendicitis and received initial management consisting of intravenous fluid resuscitation and analgesia. An emergency laparotomy through the grid-iron incision was performed under general anesthesia. Intraoperatively, a

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small pointed foreign body, identified as a fish bone, was discovered approximately one foot proximal to the ileocolic junction. The ileum was penetrated by fish bone just before the ileocecal junction.

There were not sings of acute inflammation of the appendix . The foreign body was successfully removed, followed by a primary closure of the perforation and appendectomy (Figure 1).

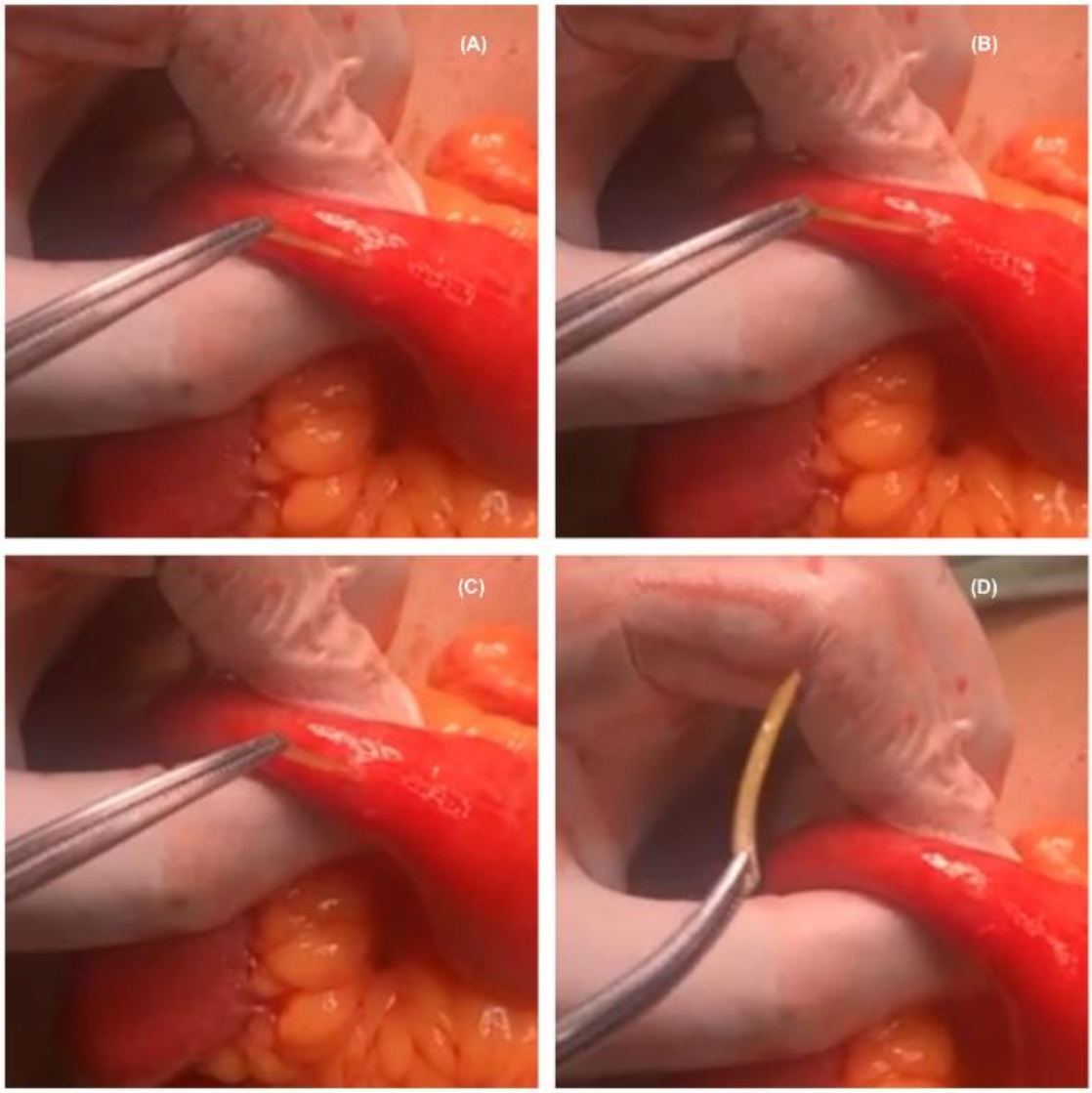

Figure 1: Removal of a small Fish Bone from Distal Ileum

The patient recovered completely and was sent home on the third day of operation. The patient herself admitted to accidentally swallowing the fish bone two days before admission, during post- operative interview.A notable improvement in the patient's general condition was witnessed and follow-up visit after one week was clinically satisfactory.

3. Discussion

Ingestion of any foreign material is a common occurrence, with the pediatric population being the most affected group. While conscious patients rarely experience this, psychiatric patients often encounter this issue (4). Fish bone ingestion is responsible for about 84% of accidentally ingested foreign bodies, with denture use being the most significant risk factor (1, 5). Other minor risk factors encompass rapid eating, extreme age ranges, alcohol misuse, and intellectual disability (5).

The situation can become more complex due to the possible development of subacute symptoms resulting from microperforation caused by a fish bone, combined

with the patient's unawareness of having ingested the fish bone (6). The vauge presentation of this condition often contributes to missed diagnoses, resulting in complications (7).

The resistance of gastrointestinal (GI) system to perforation from small foreign bodies is remarkable. Sharp objects in contact with the intestinal wall cause an expansion of the bowel lumen at that particular point, allowing its easy passage. However, locations characterized by angulations, alterations in position of tip , and the shift from a mobile to a reletively less mobile segment are particularly susceptible to vulnerability to perforation by fish bones. Frequently, the ileum, ileocecal junction and rectosigmoid junction are perforated (6).

Fish bones may pass unnoticed per rectum but severe peritonitis can also occur. Perotinitis can present as pain abdomen, fever and vomiting. Melena and intestinal obstruction are the symptoms of severe perotinitis. Distal ileal perforation is a rare entity. It causes pain in right illiac fossa (RIF) and can be easily misdiagnosed as acute appendicitis, as it is the most common cause of RIF pain (4).

Plain film radiography is not useful in detecting fish bones. The detection sensitivity can be as low as 32%, resulting in false negatives occurring in up to 47% of cases (8). The absence of pneumoperitoneum in many cases indicates that it is not a reliable indicator of perforation (9).

CT-scan is the preferred method for evaluating patients with acute abdominal pain and detecting foreign bodies (10). It may reveal the thickening of the bowel mucosa, obstruction and an abnormal increased attenuation of paracolic fat. Formation of an abscess is a late sequale (8). We did not perform a CT-scan as the suspicion of acute appendicitis was very high according to alvarado score.

In situations where complications such as abscess, ileum, and fistulas arise due to foreign body-induced perforation, surgery is typically the preferred treatment option for repair. The appropriate course of action for small intestine perforations involves surgical repair or segmental resection, which is determined by factors such as the perforation diameter, underlying condition of gut, level of intraperitoneal spillage, and the professional judgment of surgeon.Timely intervention is essential in order to mitigate the risk of additional morbidity and mortality (10).

4. Conclusions

The diagnosis of intestinal perforation caused by a fish bone poses a formidable challenge and should consistently be taken into consideration when confronted with acute abdominal symptoms. It is crucial to employ appropriate imaging techniques and conduct a comprehensive inquiry in order to arrive at an accurate diagnosis. Some instances of distal ileal perforation may be mistakenly identified as acute appendicitis due to overlapping signs, symptoms, and investigative findings between the two conditions. Any delay in diagnosing and treating this condition can result in significant morbidity and mortality.

Conflict of Interest The authors declared that they have no competing or conflict of interest

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