Jejunal Perforation Caused by Ingested Fish Bone: A Case Report

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Foreign body perforation of the gastrointestinal tract has diverse clinical manifestations, and the correct preoperative diagnosis is seldom made. Herein, we report the case of a 53-year-old man who initially presented with left abdominal pain and distension after ingesting his food quickly, followed by several vomiting episodes. The patient was initially treated as functional gastrointestinal disturbance. He was later diagnosed with a fish bone perforation of the jejunum which was subsequently confirmed by computed tomography of the abdomen. The patient underwent emergency laparoscopic surgery with a good outcome.

Key words: jejunal perforation, fish bone, acute abdomen

Introduction

A variety of foreign bodies are seen on abdominal radiographs in emergency departments. Most foreign bodies pass through the gastrointestinal tract without any consequence. A very small percentage of them (about 1%) actually perforate the bowel, leading to acute abdomen and requiring surgical intervention (1). We report a case of jejunal perforation caused by ingested fish bone in a 53-year-old man.

Case Report

A 53-year-old man presented to the emergency department (ED) with left abdominal pain and distension. He had ingested food quickly, and several episodes of vomiting followed. The patient had a history of hypertension that was under regular medical control. On arrival in the ED, his blood pressure was 132/88 mm Hg, with a heart rate of 86 beats/min and a respiratory rate of 18 breaths/min. He had abdominal distension and localized middle abdominal tenderness, but no peritoneal signs. Laboratory tests indicated an elevated white cell count of 19,060/mm³ with a left shift. Other laboratory data including renal, liver and coagulation function tests, routine urinalysis and microscopic examination of the urine sediment, showed no abnormal findings. No remarkable findings were noted by abdominal radiography. Bedside sonography of the liver and kidneys revealed no significant findings. The clinical impression was functional gastrointestinal disturbance with dehydration, so he was treated with intravenous hydration and observed in the ED.
Three hours later, the patient had an abrupt onset of severe abdominal pain and cold sweating and his blood pressure dropped to 90/45 mm Hg. The patient received fluid resuscitation with Normal Saline 500 mL. After that his vital signs returned to the normal limit.

After his vital signs stabilized, he underwent contrast-enhanced computed tomography (CT) of the abdomen (Fig. 1), which revealed a thin, long hyperdense lesion like a fish bone, which had perforated and was sticking out of the small bowel wall. He underwent emergency laparoscopic surgery where the foreign body was removed and the intraabdominal abscess drained. The surgeon confirmed that the foreign body was a fish bone, which had penetrated through the jejunum (Fig. 2) causing an intraabdominal abscess and peritonitis. The patient received antibiotics therapy to control the intraabdominal infection and recovered uneventfully. He was discharged from the hospital 5 days after admission and was still doing well 6 months after the surgery.

Fig. 1  A computed tomography of the abdomen reveals the presence of a thin, long hyperdense lesion like a fish bone, which has perforated the small bowel wall and is sticking out (white arrows)

Fig. 2  Laparoscopic examination shows perforation of the small bowel by the fish bone (black arrow)
Discussion

Accidental foreign body ingestion is commonly encountered in the emergency department. However, bowel perforation by a foreign body (FB) is less common, as most foreign bodies pass through the digestive tract uneventfully and are expelled. Only 1% of them (the sharper and more elongated objects) perforate the gastrointestinal tract, usually at the level of the ileum\(^1\). Accidentally ingested fish bones are the most common foreign bodies to cause gastrointestinal (GI) tract perforation due to their sharp ends and elongated shape\(^2\). Most FB ingestion is accidental, but there may be contributing factors such as mental disorder, bulimia, alcoholism, and prison incarceration\(^1\). Other risk factors leading to incidental fish bone ingestion include increased age, reduced time or capability to form a food bolus, increased bowel fragility due to inflammatory disease, and the wearing of dentures, which eliminate normal tactile sensations of eating\(^3\). Foreign bodies such as dentures, fish bones, chicken bones, toothpicks, and cocktail sticks have been known to cause bowel perforation, only about 1% of the perforations result in peritonitis and require surgical intervention\(^4\). Overeating, rapid eating, or a voracious appetite may be contributing factors for ingesting chicken bones. The mean time from ingestion to perforation was 10.4 days\(^8\).

The perforation can occur anywhere within the GI tract, but usually occurs at areas of angulation or narrow lumen such as the distal ileum\(^2-3\). Perforation of the jejunum, as occurred in our case, is relatively uncommon and has a reported incidence of approximately 14.3%\(^2\). The potential complications of a fish bone perforation include the formation of localized abdominal abscesses; colorectal, colovesical, and enterovascular fistulas, inflammatory masses or omental pseudotumors, pyemia, endocarditis\(^2-3\), and liver abscess\(^6-7\). Fish bone ingestion is especially common in cultures where the consumption of an entire fish is considered a delicacy\(^8\) or when a great deal of fish is consumed in a particular period for religious reasons, which was true in previous report\(^9\).

FB perforation of the GI tract has diverse clinical manifestations, and the correct preoperative diagnosis is seldom made. Nonmetallic FBs, such as fish bones, are rarely detected on radiographs\(^10\). Prediction of the presence of fish bones based on symptoms or a radiograph is unsatisfactory and usually misleading\(^9\), as like our case. Preoperative diagnosis of foreign body ingestion is a clinical challenge because ingestion is usually incidental and thus forgotten, and therefore goes unreported during a patient's history assessment. Furthermore, the clinical presentation is usually nonspecific\(^3-4,11\) and can mimic other surgical conditions, such as acute appendicitis and diverticulitis\(^11\).

Clinically, patients often do not recall ingesting the foreign body, which makes the clinical diagnosis more challenging and frequently delays a correct diagnosis. Several paraclinical investigations, such as a small-bowel series, ultrasonography, and computed tomography, may lead to the correct diagnosis, but in most patients, the diagnosis is not confirmed until the surgical intervention has been performed\(^11\). Computed tomography, especially multidetector CT, is considered the method of choice for preoperative diagnoses of ingested foreign bodies and their complications due to its high-quality multiplanar capabilities and high resolution\(^3-4,12\).

In conclusion, this case demonstrates an unusual presentation of a fish bone perforating the GI tract. It also serves as a reminder to all clinicians that the diagnosis of an FB perforation should always be kept in mind in cases of acute abdomen with sepsis or intraabdominal infection of unknown origin.
References


吞入魚骨引起空腸穿孔：病例報告

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吞入異物引起胃腸道穿孔有不同的臨床表現，術前正確診斷是難。我們報告一位53歲的男性，
吃完食物後左側腹痛，腹脹，之後幾次嘔吐發作。初步診斷為腸胃道功能不良。後來他被診斷出急性腹
痛。隨後安排腹部電腦斷層掃描，發現魚骨穿入空腸。患者接受緊急腹腔鏡手術，術後恢復良好。

關鍵詞：空腸穿孔，魚骨，急性腹痛