Radiological and Surgical Findings in Fish Bone Perforation of the Alimentary Limb in a Patient with Previous Gastric Bypass: A Case Report

Shahzad Yousaf, Ayesha Inam and Ashok Bohra

Department of General Surgery, Mediclinic Parkview Hospital, Dubai, United Arab Emirates

ABSTRACT

Gastrointestinal perforation caused by a fish bone is rarely documented. The commonest site is the oesophagus, followed by the ileum. Few cases have been reported involving the appendix or Meckel's diverticulum. Herein, the authors reported an interesting case of a female patient with a history of bariatric surgery who developed bowel perforation after fish bone ingestion. She presented with abdominal pain and signs of peritonitis. She underwent urgent diagnostic laparoscopy, removal of the fish bone, and primary closure of the small bowel perforation. Foreign body ingestion and bowel perforation should be kept in mind when the aetiology of an acute abdomen is not clear. To provide proper care, a low threshold for diagnostic laparoscopy and a high index of suspicion are necessary.

Key Words: *Foreign body, Fish bone, Computerised tomography, Gastrointestinal perforation*.

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INTRODUCTION

Less than 1% of patients have gastrointestinal (GI) tract perforation because of ingesting fish bones (FBs). Most fish bones pass through the digestive system without any problems or perforations.[1] Injury may occur anywhere from mouth to anus.[2] The appendix and Meckel's diverticulum have occasionally been mentioned as having perforations. It is challenging to identify before surgery, and the history taking frequently misses it.[3] The authors discussed a unique case of a female patient who had previously undergone bariatric surgery and presented with an acute abdomen.

CASE REPORT

A 51-year Emirati female presented to the Emergency Department with a 12-hour history of sudden-onset generalised abdominal pain. Pain started in the periumbilical area and then became generalised. It was associated with bloating, burning sensation, nausea, dizziness, and right shoulder pain. She did not report fever, change in bowel, or urinary habits.

Correspondence to: Dr. Shahzad Yousaf, Department of General Surgery, Mediclinic Parkview Hospital, Dubai, United Arab Emirates
E-mail: drshahzad1@mail.com

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Abdominal examination showed generalised abdominal tenderness with peritonitis. She had a previous history of single anastomosis sleeve ileal bypass surgery in 2014, which was converted to a Roux-En-Y bypass in 2020 due to persistent bile reflux. On workup, her blood tests and chest x-ray were within normal limits. CT abdomen/pelvis with oral and IV contrast revealed previous gastric surgery with anastomosis in the right haemi-abdomen, with thickening and dilatation of the small bowel loops adjacent to the anastomosis. Foecal matter in the small bowel in the right haemi-abdomen was also noted with streaking of the mesenteric fat and small extra luminal loculi of air, suggestive of perforation/leak (Figure 1). The patient was booked for immediate diagnostic laparoscopy. The authors found fibrinous flakes in the upper abdomen around the site of previous bypass surgery and approximately 20 ml of free bile-stained fluid in the right-upper quadrant (RUQ), which was sucked and sent for culture. Phlegmon was noted, which was suggestive of old perforation (about 24 hours). On the careful run through small bowel, the authors found the fish bone sticking through the perforation just about 5-10 cm distal to the anastomosis (gastro-jejunostomy) in the alimentary limb (Figure 2). The fish bone was retrieved, and perforation was primarily repaired. Abdominal cavity was washed with plenty of normal saline. Postoperative recovery was smooth.

DISCUSSION

Ingestion of a foreign body is a common clinical issue that shows up in the Emergency Department. Due to their pointed edges, toothpicks, FBs, and chicken bones are the most often encountered foreign bodies that can induce intestinal perforation.

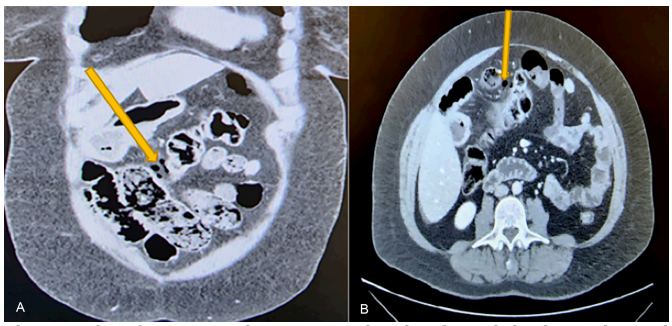

Figure 1: (A, B) Preoperative CT scan showing free air in the peritoneal cavity (arrows).

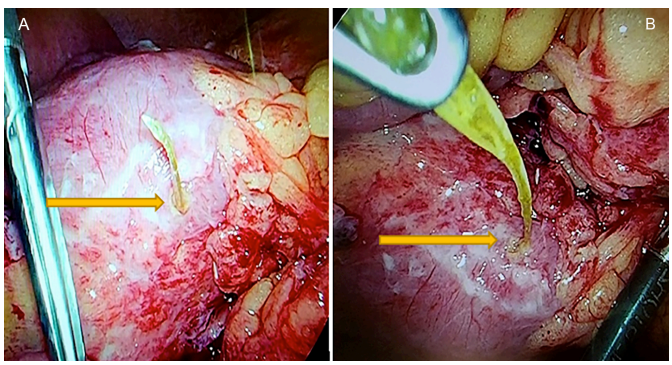

Figure 2: (A, B) Intraoperative photographs showing perforation of the alimentary limb by fish bone.

However, there are also reports that pegs, batteries, nails, nail clippers, and pens can induce intestinal perforation.[4] Because of their long bodies and sharp points, ingested FBs are the most frequent cause of gastrointestinal perforation. Perforation of the GI system by ingested FBs is extremely rare, with a frequency of <1%. The sorts of foreign bodies consumed are determined by the eating customs of the respective countries. FBs typically penetrate areas of the abdomen with acute angulations, such as the ileocaecal junction, ileum, or the colon's flexures.[5] These may sporadically involve the appendix or Meckel's diverticulum. Clinical presentations vary, depending on the site of perforation and the extent of peritonitis. Bowel perforation caused by an FB should be considered in the differential diagnosis list since it might mimic acute appendicitis. Yet, these people frequently also exhibit no symptoms.[6] Clinically, patients typically do not remember eating the FB, which makes the clinical diagnosis more difficult and frequently delays the diagnosis. The accurate diagnosis may need a number of tests, including small-bowel series, ultrasonography, and computed tomography scans; however, it can be difficult to identify FBs on a CT,[6] since they can occasionally resemble staple lines from prior surgery.[7] In most patients, the diagnosis is not verified until after the surgical procedure has been carried out. These FBs may lodge in any part of the digestive system, from the oesophagus to the rectum. Using a flexible overtube, a foreign body that has become stuck in the stomach can be easily removed. Endoscopic removal of 10 to 20% of stomach-bound items is possible.

Recent developments in the laparoscopic field have made it considerably simpler and practical to investigate urgent abdominal problems. Mazza *et al*. proposed that in situations of acute lower-quadrant abdominal discomfort of probable appendicular origin, laparoscopy should be done frequently.[8] If acute appendicitis is not the origin of the abdominal pain, laparoscopy allows for a more thorough examination of the entire abdomen, identifying other intraperitoneal illnesses that elicit similar symptoms, which may then be treated concurrently.

While intestinal perforation is uncommon following foreign-body intake, it should always be investigated in all cases of abdominal pain of unknown origin.

FB presentation and its diagnosis can still be overlooked despite recent improvements and the accessibility of imaging. Early management is greatly aided by early diagnostic laparoscopy.

PATIENT'S CONSENT:

Consent was not required, as no personal or identifiable patient details were included in the study.

COMPETING INTEREST:

The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION:

SY: Collected data and wrote the case report.
AI: Helped in writing and correction.
AB: Proofread and edited the manuscript.
All authors approved the final version of the manuscript to be published.

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