



**LAPAROSCOPIC MANAGEMENT OF ILEAL PERFORATION BY
FISH BONE - CASE REPORT**

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<p>Article Info <i>Received 03/05/2015</i> <i>Revised 10/05/2015</i> <i>Accepted 14/05/2015</i></p> <p>Key words: Foreign body, Fishbone, Gastrointestinal tract, Ileum, Laparoscopy.</p>	<p>ABSTRACT Foreign-body ingestion may be accidental or intentional as in the cases of mental disorders, bulimia alcoholism, bipolar disorder, depression, or post-traumatic stress disorder. When a foreign body is ingested, it may pass through the entire alimentary tract and out in the feces without any sequelae. But foreign body ingestion can result in gastrointestinal perforations in less than 1% of patients. By far fish bones are the most common objects that can perforate the gastrointestinal tract, most commonly in the distal ileum. While computed tomography can substantially aid in confirming, diagnosis is best made by laparoscopic exploration of the peritoneal cavity or laparotomy. We report the case of a fish bone perforating the distal ileum, resulting in a clinical presentation of acute abdomen, diagnosed and treated with laparoscopic surgery</p>
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CASE REPORT

We present the case of a 53-year-old woman who came to emergency department with acute pain in the right lower abdomen for three days. She also complained of nausea, vomiting and abdominal distension. She had signs of peritonism and was very tender in right lower quadrant. Her white blood cell count was $16.7 \times 10^3/\text{mm}^3$ and other labs were within normal limits. X-ray and ultrasound of the abdomen and pelvis were normal. Considering her age, abdominal CT was done which showed a linear hypodense structure within the distal ileum with an extra luminal component and adjacent fat stranding representing a foreign body perforating the intestine. The patient underwent laparoscopic exploration, which revealed a fish bone in the terminal ileum partially protruding out of the intestine near the mesenteric border. It was removed in intact condition and the ileum was closed with PDS suture. Thorough peritoneal lavage was done with normal saline. The patient made smooth recovery and discharged on the third post-operative day.

DISCUSSION

Foreign body ingestion in the GI tract can be a cause of significant morbidity and mortality as it has been estimated that 1000 to 2000 people in the USA die each year from complications related to the ingestion of foreign bodies [1-7]. It has also been reported that the ingestion of foreign bodies results in perforation of the GI tract in less than 1% of cases [12, 19]. It is often reported that the type of foreign body ingested in a certain population depends on the dietary habits prevalent within that population as Madrona *et al.* reported chicken bones as the most common foreign bodies causing GI perforation [2]. Likewise, Nandi and Ong [8] in their study reported fish bone [86.3%] as the most commonly ingested foreign body. Population based dietary ingestion of foreign bodies is also shown in the studies by Jakson [6] and Clerf [9].

Voluntary ingestion of one or more foreign bodies can be seen in the psychiatrically ill, alcoholics, drug abusers, people with poor near vision, people with rapid eating habits [5] and people who wear dentures. The clinical presentations may vary, depending on the site and



extent of perforation. For this reason, a definite preoperative diagnosis is seldom made. In a study by Goh *et al.*, [5] definite preoperative diagnosis was made in only 10 [23%] of 44 patients and only one [2%] gave a definitive history of foreign body ingestion.

Foreign body impaction can occur in areas of anatomical narrowing of the GI tract or at physiological angles like the curvature of the duodenum or in areas of pathological GI stricture as in intestinal stricture [10,16]. Foreign bodies more than 2.5 cm in diameter usually cannot pass through the pylorus and those more than 6-10 cm do not pass through the duodenum [10-16]. The most commonly reported sites of perforation are the distal ileum [5], caecum, left colon [18], Meckel's diverticulum, appendix, and sites of diverticular disease [2,15]. Fish bones and other bone fragments can pose a problem in diagnosis by imaging as studies have reported that the degree of radio-opacity of the bone depends on the species of fish [3]. CT scan will usually demonstrate a linear calcified lesion, the sensitivity of which in detecting intra-abdominal fish bones was reported to be 71.4% [5/7] by Goh *et al* [4]. In more than 90% of cases however, definite diagnosis was made during laparotomy [5,18].

Mortality from secondary peritonitis due to

foreign body ingestion ranges from 30% to 50% despite advancements in its management [1, 17]. It can be managed by conservative approach or by interventional methods such as endoscopic, laparoscopic or open surgery. Endoscopic removal attempts can be made for foreign bodies in the stomach or duodenum, as the risk of perforation of the ileocecal valve is approximately 35% [10,16]. Non-surgical conservative management can be successful in stable patients who have minimal signs and symptoms of peritoneal irritation or those who have small injuries (micro-perforations) to the stomach, duodenum, and retroperitoneal portions of the colon [14]. The duration of antibiotic coverage is also controversial [13, 15], but usually antimicrobial therapy for 5 to 7 days is adequate if clinical signs of infection have resolved [15, 13]. A patient with a fish bone induced perforation of the GI tract would usually present with acute onset of abdominal pain with or without vomiting, signs of peritonism, and evidence on abdominal CT; the patient may or may not properly recall dietary intake of fish. Emergency exploration of the abdominal cavity is required if the patient develops clinical signs of acute peritonitis [10, 16]. In intestinal perforation, treatment commonly involves suture repairs, or less commonly, bowel resection [18, 19].

Fig 1. Laparoscopic view of fish bone seen partially from the ileum

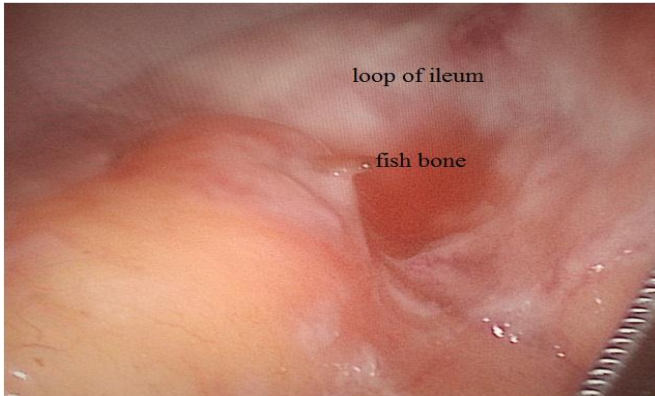


Fig 2. Laparoscopic view of the ileum and fish bone being extracted

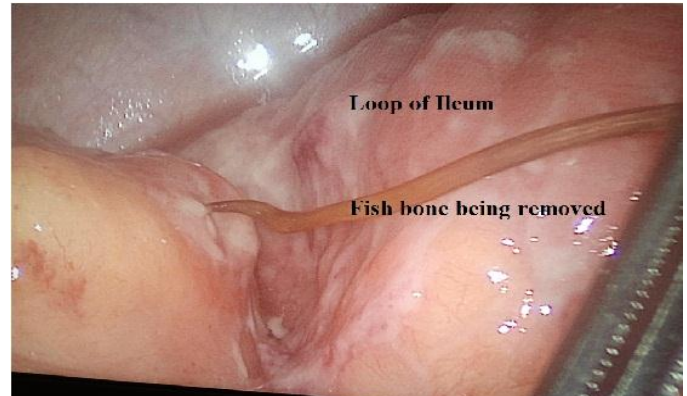


Fig 3. Laparoscopy and ileum with fish bone

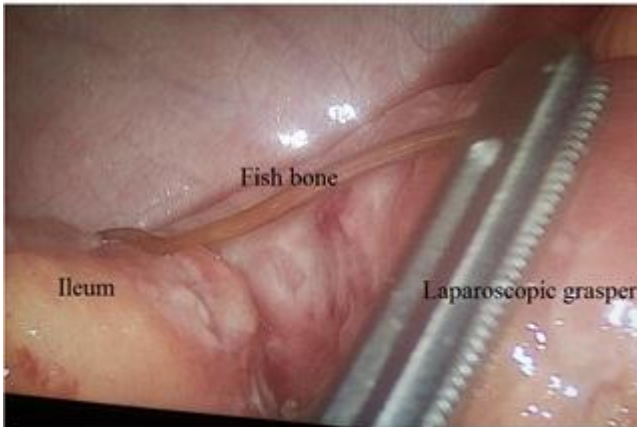


Fig 4. Fish Bone after extraction



CONCLUSION

In recent years, laparoscopy has been widely used for diagnosis and treatment of GI foreign bodies, therefore

foreign bodies that have perforated the intestine can be safely removed laparoscopically.

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