

## CASE REPORT

## Intra-abdominal Collection Caused by Fish Bone Migration

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### Abstract

A 45-year-old Libyan male presented to the gastroenterology outpatient clinic with non-specific abdominal pain. After the initial diagnostic investigative imaging, he proceeded to undergo laparotomy in which a large mass was found adjacent to jejunum. The surgery confirmed the preoperative diagnosis of an intra-abdominal collection caused by extra-intestinal fishbone migration reported by ultrasonography and CT of the abdomen.

**Key words:** Fish bone, Foreign body, Laparotomy

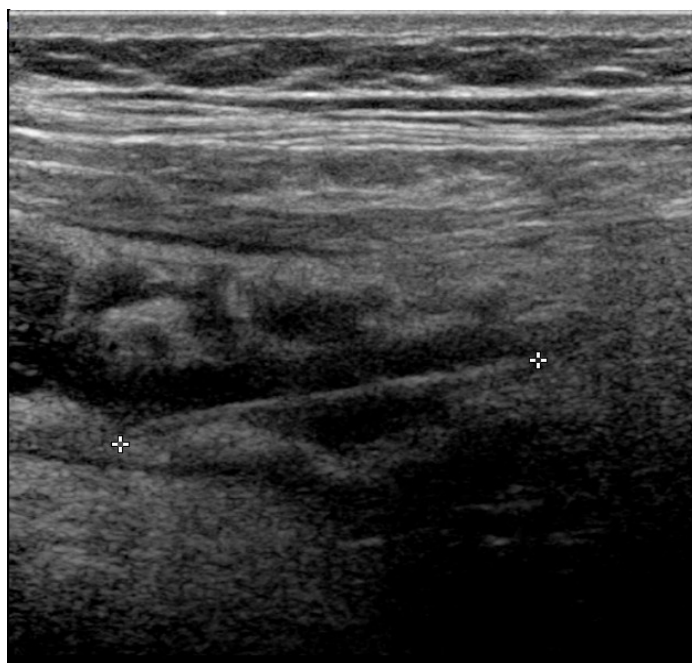
### Introduction

Ingestion of foreign bodies is not uncommon. Fish bones are particularly notorious culprits; however most will pass through the gastrointestinal tract uneventfully (1,2). Symptoms, should they occur, tend to occur later as the abscess/reaction progresses (2). Serum amylase and liver function tests are generally within normal limits (3-5) or

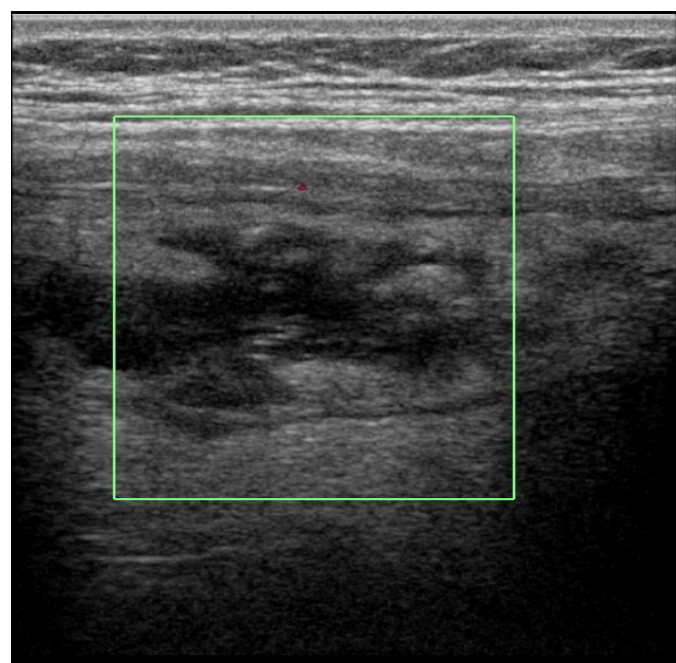
occasionally raised (4), but all these inflammatory response markers are non-specific and therefore unreliable. We report an interesting case with complicated fish bone ingestion and discuss the clinically relevant literature.

### Case Study

A 45-year-old man presented with a 14-day history of severe non-specific abdominal pain in the left lumbar region, anorexia and fever. The pain was cramping in nature, sudden in onset and was exacerbated by ingestion of food. The patient had been opening his bowels normally. A history of weight loss of 7 kg was recorded. There was past medical history of diabetes mellitus of 5 year duration and no family history of malignancy. On physical examination, the patient was in discomfort, hemodynamically stable but not pyrexial. Abdominal examination revealed vague left lumbar tenderness with no evidence of peritonism. Blood tests revealed raised inflammatory markers and an elevated blood sugar. Other laboratory data were normal. A Chest



(A)



(B)

**Figure 1A and 1B.** Ultrasound scan of the abdomen showing an inflammatory mass containing fish bone on a transverse plan left lumbar region



(A)

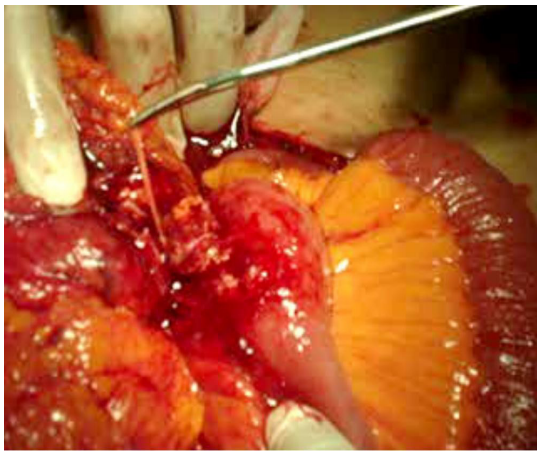


(B)





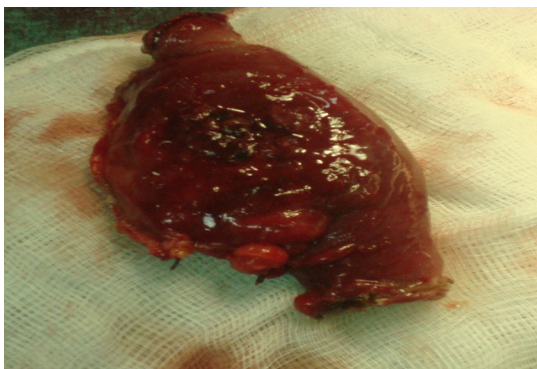
**Figure 2.A B and C.** CT scan appearances of inflammatory mass containing fish bone.



(A)



(B)



(C)

**Figure 3 A, B and C:** Intraoperative photographic of an inflammatory mass containing fish bone and perforated jejunal loop.

radiograph and a resting ECG were normal. Transabdominal ultrasonography showed a heterogeneous inflammatory mass with a 3 cm long echoic lesion mimicking a foreign body (Figure 1). On further questioning, the patient recalled having eaten bony fish few days prior to the development of his symptoms. An ultrasonographic diagnosis of fishbone migration causing intraabdominal collection was proposed. Computed tomography of the abdomen demonstrated the linear appearance of a density within a soft tissue mass adjacent to the jejunal loop. The structure was seen on both the enhanced and the unenhanced studies, confirming that it was not vascular in nature. The surrounding mass demonstrated peripheral enhancement with a low-density centre, more suggestive of an inflammatory mass or abscess rather than a tumor (Figure 2). Both ultrasound and CT scan favored the presence of a fishbone/foreign body as the underlying cause of the mass. Given the patient's history supported by the ultrasonographic and CT findings, the patient underwent an exploratory laparotomy. Intraoperatively, a large mass was found adjacent to the jejunum. The jejunal loop showed perforation and the mass was adherent to the anterior abdominal wall and was draining pus. A 3 cm long fishbone was identified within the mass causing the intra-abdominal collection and confirming the preoperative ultra-sonographic and CT diagnosis of migrated fishbone (Figure 3) Post-operatively, the patient made an uncomplicated recovery and was discharged on the seventh post-surgical day

### Discussion

Perforation of the gastrointestinal tract due to fish bone ingestion is rare (6,8,9). Less than 1% of patients with foreign body ingestion develop perforation (9), however this number encompasses all ingested foreign bodies and is not fish bone specific. Pre-operative diagnosis of foreign body may be difficult, especially if the patient may not remember actually ingesting the foreign body (2,5,7-10). Plain radiography of fish bones has a low sensitivity of 32% which varies according to species, in contrast to the higher sensitivity of chicken bones due to their higher density (6,8,11). In contrast, chicken bones are almost always radiopaque (8). Even when fish bones are sufficiently radiopaque to be visualized on radiographs, large soft-tissue masses and fluid can obscure the minimal calcium content of the bone, particularly in altered or obese patients (8). CT scanning has also proven beneficial in diagnosis where a linear calcified lesion (6,8,9) is very commonly demonstrated with a sensitivity of 71.4%, increasing to 100% retrospectively (8). Potential limitations of CT

scanning include: 1) Lack of observer awareness 2) CT scanning thickness- thinner slices better 3) Use of oral and IV contrast- can cause difficulty identifying fish bones (8). We are not aware of any report of an ultrasound diagnosis in the literature. In our case, the ultrasonographer and the radiologist were confident there was a fish bone/ foreign body within the mass as the cause of the intra-abdominal collection.

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