

## Fish bone migration through a sigmoid colon diverticulum causing an anterior abdominal wall abscess

E.M.M. Ekanayaka<sup>1</sup>, K. Gunasekare<sup>2</sup>, R. Fernando<sup>3</sup>, P.C. Chandrasinghe<sup>3</sup>, S. Kumara<sup>3</sup>

<sup>1</sup>Colombo North Teaching Hospital, Ragama, Sri Lanka.

<sup>2</sup>Faculty of Medicine, University of Peradeniya, Sri Lanka.

<sup>3</sup>Department of Surgery, Faculty of Medicine, University of Kelaniya, Sri Lanka.

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### Background

Fish bone migration is a rare but well described phenomenon and a majority occurs in the ileocaecal region or at the colonic flexures<sup>1</sup>. Large bowel perforation due to foreign bodies is commonly associated with intra-abdominal abscess formation, fistulation, or peritonitis<sup>2</sup>. Migration of a fish bone through the large intestinal into the anterior abdominal is an extremely rare occurrence<sup>3</sup>. We report a case of complete migration of a fish bone through a diverticulum in the sigmoid colon presenting as an abdominal wall abscess.

### Case Presentation

A 60-year-old previously well man presented with a painful left-sided anterior abdominal wall lump which increased in size over a week (Fig.1). He had pain and redness over the lump but denied fever, change in bowel habits, or loss of appetite. He denied any history of abdominal trauma. Physical examination showed a tender swelling over the left abdominal wall with overlying erythema. He was afebrile and haemodynamically stable.



Figure 1. CT image

Laboratory tests showed a white cell count of 16,000 and a C reactive protein of 160mg/dl. The rest of the laboratory tests revealed no abnormality.

A soft tissue ultrasound scan showed a hypoechoic area in the left side rectus abdominal muscle with linear hyperechoic object raising the suspicion of a foreign body. Contrast-enhanced computer tomography (CT) of the abdomen showed a heterogeneously enhancing lesion anterior to left rectus muscle measuring 9.5 \* 5.5 \* 4.6 cm with possible intra-peritoneal communication and a hyper enhancing liner object (2cm) piercing anterior abdominal wall mimicking a foreign body (Fig.1). The sigmoid colon was closely situated with extensive diverticulosis without a demonstrable fistulous connection with the abscess.

Colonoscopy showed extensive sigmoid diverticulosis without evidence of a fistulous opening from the lumen. Surgical drainage of the abscess was performed under general anesthesia after full bowel preparation expecting to go ahead

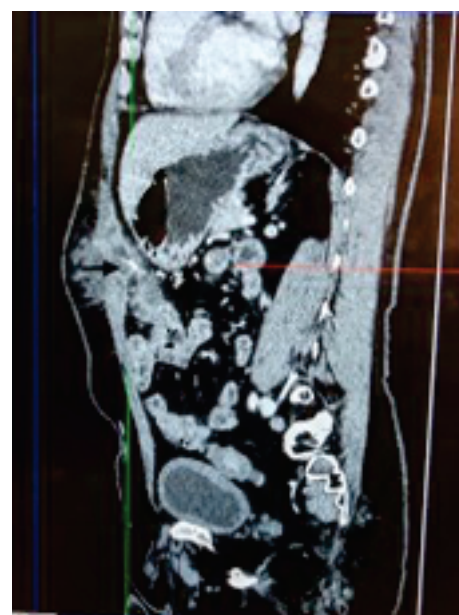



Figure 2. fish bone image

Correspondence: E.M.M. Ekanayaka

E-mail: imadhuekana@gmail.com

 <https://orcid.org/0009-0005-4621-3081>

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with laparotomy if a fistula was detected. A fishbone piercing through the left rectus muscle was retrieved from the abscess cavity during the drainage (Fig.2). A connection with the bowel was not detected during the exploration of the abscess cavity. The patient recovered completely with normalizing inflammatory markers and remained symptomless for a period of 6 months.

### Discussion and Conclusions

Most ingested foreign bodies pass through the gastrointestinal tract uneventfully and less than 1% will cause complications. The most common sites of perforation are ileocecal and rectosigmoid regions. In these regions, there is a change in the caliber of the bowel lumen and also a change in direction of the bowel contents. Appendix, Meckel's diverticulum, hernial sacs, and diverticula are also more prone to perforate by foreign bodies<sup>2</sup>. Colonic diverticula perforated by foreign bodies have been reported in the literature although we could not find an anterior abdominal wall abscess as a complication of colonic diverticulosis caused by fish bone migration.

Clinical presentation depends on the site of impaction and it may range from dysphagia, bowel obstruction, inflammatory masses, local or generalized peritonitis to silent perforation.<sup>3</sup> Clinical history may not be accurate in arriving at a diagnosis since most fish bone ingestion goes unnoticed to the patient<sup>4</sup>. This is further compounded by the long-time lag between the ingestion and presentation.

Plain radiography does not help to detect fish bones due to the low calcium content and other obscuring factors like pus and soft tissue shadows.<sup>1</sup> Ultrasound scan of the abdomen is useful to detect intra-abdominal collections and masses and may demonstrate fish bones as a linear echogenic shadow. In this patient, ultrasonography revealed a linear echogenic object in the abscess cavity although a fish bone was not readily suspected due to the tissue plane of the abscess. CT scan is a sensitive imaging modality for the diagnosis of non-metallic foreign bodies. CT will also demonstrate abscesses, inflammatory masses, intestinal thickening, or pneumoperitoneum in relation to a foreign body perforation<sup>2</sup>. However an inflammatory mass in the anterior abdominal wall can be difficult to differentiate from a neoplastic lesion. Fish bones and other foreign bodies have been missed at times in initial CT scans and detected retrospectively after careful inspection of previous scans<sup>4</sup>.

Initially, a soft tissue tumour was suspected in our patient due to the insidious onset of the lump and heterogenous features in the CT scan. The possibility of an anterior abdominal wall

abscess due to a foreign body perforation was also considered due to the presence of a linear calcified object in the CT scan. There are few reported cases of abdominal wall abscesses due to foreign body perforation in which foreign body was removed via a laparotomy with resection of the involved segment of bowel.<sup>2</sup> There is one report of laparoscopic resection of a foreign body perforating through the caecum.<sup>3</sup> In this patient we managed to treat only with incision and drainage of the abscess and retrieve the fish bone from the abscess cavity. However, we were vigilant about the possible development of an enterocutaneous fistula in the postoperative period. The wounds healed and the patient had an uneventful recovery. Gradual migration of the fish bone may have allowed the point of perforation to heal without the development of a fistulous tract<sup>5</sup>.

Slow migration of a fishbone can rarely present with abdominal wall sepsis without causing intra-abdominal sepsis or fistula formation.

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**Learning Points:**

- Fishbone remains some of the most ingested alimentary foreign bodies
- Ingested fish bone may present with bizarre of clinical presentation, some are life-threatening and a high degree of suspicion is required in diagnosis.
- In such cases, management should be decided on individual case basis.