



Case report

Conservative management of fish bone-induced large bowel perforation: Case report

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ABSTRACT

Introduction: Fish bone ingestion is one of the common medical complaint. Most foreign bodies passed safely through gastrointestinal tract (GIT) without any complications. The clinical presentation of foreign body ingestion is similar to other conditions such as diverticulitis. Most literatures focus on the surgical management of complications secondary to fish bone ingestion. In this case we report a case of an elder patient with complain of progressive abdominal pain.

Presentation of case: 71-year-old female, admitted to surgical ward with the complain of progressive abdominal pain. Physical examination revealed right upper quadrant tenderness with normal digital rectal examination. An abdominal X-ray was obtained and was not remarkable. Computed tomography (CT) chest, abdomen, and pelvis with contrast revealed proximal transverse colon wall thickening with regional soft tissue thickening, inflammation and a radiopaque foreign body. Patient was managed conservatively by bowel rest, and antibiotics.

Discussion: Fish bone swallowing account for two third of these foreign bodies. Most of the foreign bodies pass through the gastrointestinal tract (GIT) without any significant harm or complications. The clinical presentation of perforation secondary to fish bone is nonspecific which may delay the diagnosis. The management can be either medical or surgical depend on many factors.

Conclusion: Although, foreign body ingestion is one of the common complaints in the medical practice, its complications is extremely uncommon. However, improvement of medical imaging increased sensitivity and specify in detecting fish bone.

1. Introduction

Fish bone ingestion is common, it accounts for 48%–88% of ingested foreign bodies [1]. Most foreign bodies passed safely through gastrointestinal tract (GIT) without any complications, nevertheless, around 1% may perforate GIT, especially, terminal ileum due to its anatomy, while large bowel perforation is extremely uncommon [1–4]. Presentation of foreign body ingestion is similar to other conditions such as diverticulitis [3,5]. Most literatures focus on the surgical management of complications secondary to fish bone ingestion. However, conservative management with antibiotics and other supportive treatments can be an option. We are reporting a case of 71 year old female who developed large bowel micro-perforation secondary to fish bone ingestion, and was

treated non-surgically.

The manuscript was prepared and revised according to the SCARE guidelines (2020) [6].

2. Case presentation

71-year-old female, admitted to surgical ward with the complain of progressive abdominal pain, that started 5 days before presentation, located in the right upper quadrant, stabbing in nature, not radiating, associated with nausea, and constipation with no fever, symptoms of peritonitis, or other inflammatory aspect. Physical examination revealed right upper quadrant tenderness with normal digital rectal examination. There was no significant changes in the laboratory result WBC:9.5

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Fig. 1. Abdominal CT showed impacted fish bone in the transverse colon.

($4.5\text{--}11 \times 10^9/\text{L}$), lactate:0.78(0.5–22 mmol/L). An abdominal X-ray was obtained and was not remarkable. Computed tomography (CT) chest, abdomen, and pelvis with contrast revealed proximal transverse colon wall thickening with regional soft tissue thickening, inflammation and a radiopaque foreign body (likely fish bone). Findings are concerning for concealed perforation (Fig. 1).

Patient was kept nothing per oral (NPO) on intravenous fluid, Tazocin, pantoprazole, and analgesia were started in the emergency. After admission the patient continued the same management. During the first 3 days her symptoms improved, she started to pass bowel motion, as a result of that patient was started on clear liquid diet, then her diet was progressed gradually as tolerated. There was no surgical intervention done, as her symptoms was improved. She was discharged in the 6th day tolerating orally, and passing bowel motion. The first and second outpatient clinic follow up visit with 3 months intervals were uneventful, no abdominal symptoms, and she was tolerating diet.

3. Discussion

Foreign body swallowing is one of common complaints in hospitals, Fish bone account for two third of these foreign bodies [7]. Most of the foreign bodies pass through the gastrointestinal tract (GIT) without any significant harm or complications, however 75% of ingested foreign bodies are impacted at the cricopharyngeal sphincter, > 90% pass through the intestine if they reach the stomach, and less than 1% cause bowel perforation [4].

80–90% of people who seek medical advice will not require any intervention, 10–20% require endoscopic removal, and around 1% require surgical intervention [3,4].

Although perforation can occur at any part of GIT, it commonly occurs at the angulating regions including ileocecal, and rectosigmoid junction, while large bowel perforation is rare [2,8]. Study conducted by Coulier et al. reported that most common sites of perforation are the ileal, ileocecal and the rectosigmoid junction [5,9]. The clinical presentation of perforation varies including abdominal pain, nausea, vomiting, fever, peritonitis, localized abscess formation, inflammatory mass, colorectal and colovesical fistulas, mechanical bowel obstruction and gastrointestinal hemorrhage [9].

Diagnosis of perforation secondary to fish is rarely done preoperatively because of the nonspecific presentation and its similarity to other

condition such as appendicitis, and diverticulitis [3,5]. As in our patient she presented with symptoms not specific to bowel perforation which are abdominal pain and constipation. The modalities used in detection of fish bone and its complication including plain radiograph which has low sensitivity and specificity to detect fish bone, ngan et al. reported that the plain radiograph has sensitivity of 32%, and specificity of 91% for fish bones, which varies according to species [10]. Another study done by akazawa et al. “plain X-ray can be quite low with sensitivities and specificity of which to be 54.8% and 100%” [11].

In contrast, CT scan has essential role in the diagnosis of fish bone, it gives an information about the location, and its relation with the adjacent structure, presence of abscess and the signs of inflammatory process, it also help in the design of the type of management. It has a sensitivity and specificity of 100% [4].

Ultrasound has high sensitivity in foreign body detection, however it's difficult to detect foreign body in deep tissue, and obese patient, and it's an operator dependent [5].

Management of bowel perforation could be either surgical or non-surgical.

Surgical management rate reached up to 62% of foreign body ingestion however it is decreased to 5–12% due to low complication rates of non-surgical management [12].

Surgical management indication includes peritonitis secondary to perforation, abscess, blood vessel penetration, severe inflammation or bleeding [7,13].

Whereas, non-surgical management of bowel perforation depends on the size and the location of perforation, diagnosis time, patient condition, and contamination degree [7]. Some anatomical location provide containment of the contamination such as retroperitoneum and omentum, other location necessitate surgical management such as intraperitoneum unless it is microperforation [7].

Non-surgical management includes nutrition support, intravenous fluid, broad spectrum antibiotics, control source of contamination, and organ support [14]. There is no specific duration for antibiotics, some physicians use it for 7–14 days, while others depend on WBC level or clinical picture, nowadays it's used for 5–7 days if patients improved clinically [7].

Our patient was managed non-surgically, she responded well to the non-surgical management, she was kept on tazocin for 5 days till her symptoms resolved.

4. Conclusion

In conclusion, although, foreign body ingestion is one of the common complaints in the medical practice, its complications is extremely uncommon. Diagnosis of perforation secondary to fish bone is difficult because of similarity of its presentation with other medical conditions and unawareness of fish bone ingestion time. However, improvement of medical imaging increased sensitivity and specify in detecting fish bone. Management of complications can be medical or surgical depending on many factors includes presence of complications, location, and patient clinical picture.

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Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Guarantor

Raja Husain, Mohammad Al Duhileb

Declaration of competing interest

No conflict of interest to declare.

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