

FISH BONE AS A CAUSE OF SEALED INTESTINAL PERFORATION, A RARE PRESENTATION

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ABSTRACT

Foreign body (FB) ingestion is frequently reported topic in pediatric literature. Spontaneous passage of FB through the gastrointestinal tract is a norm and the complication rate is very low. Nonspecific presentation and lack of obvious history are the main culprit for delayed diagnosis of these conditions. We also came across a patient with sealed intestinal perforation due to fish bone. This patient presented to us with a one week history of generalised pain abdomen, bilious vomiting, high grade fever, abdominal distension and constipation. There was no history of any foreign body ingestion at that time. On examination tenderness was more in the left hypochondrium. Plain radiographs of the abdomen and CT failed to detect any foreign body. However, ultrasound and CT scan of the abdomen showed some mass lesion with a suspicion of intussusceptions. Abdominal exploration and careful dissection of a mass lesion in the left upper quadrant revealed sealed intestinal perforation and a fish bone lying outside the intestinal lumen. Postoperative patient recovered well and discharge on home medication.

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INTRODUCTION

Foreign body ingestion is common in pediatric population with a reported spontaneous passage rate of 80 to 90%¹. Children age 3 months to 6 years is the most commonly affected population². Less than 1% of the foreign body in gastrointestinal tract lead to perforation and peritonitis³. Terminal ileum is the most common site of intestinal perforation due to FB. Detailed history, physical examination and CT abdomen are key steps toward diagnosis of complications caused by foreign body⁴.

Fish bone ingestion is less common in pediatric population as compare to adults. Acute abdominal pain due to fish bone ingestion is one of the rare presentations in a surgical emergency room. Unnoticed ingestion of fish bone by children with abdominal pain as a presenting symptom a diagnostic challenge⁵. We report a case of sealed small bowel perforation caused by fish bone, which was recovered from the peritoneal cavity.

CASE PRESENTATION

A five year old female child presented to ER with generalized pain abdomen, abdominal distension, bilious vomiting, constipation and a high grade fever for the last 7 days. There was no history of any trauma to the abdomen. On physical examination patient was febrile with temperature of 101 F⁰. There was generalized tenderness and guarding all over the abdomen. Rectum was empty on digital rectal examination. Her hemoglobin level at presentation was 10 g/dl and total leucocyte count was 22000 with neutrophil predominance. Platelets count was within normal range. Urinalysis was normal. ESR was¹². Abdominal ultrasound showed intussusception, as the age was atypical and history was not conclusive initially, so CT abdomen was performed which also reported intussusception. At that time no foreign body was reported on CT scan, neither history of any foreign body swallowing was present. We explored the patient and noted the following operative findings.

Jumbled mass in left hypochondrium consisting of distal ileum, Omentum and small amount of pus in the lesion area.

Omentum was grossly inflamed.

Mesenteric lymph nodes enlarged.

A foreign body measuring about 5 cm retrieved from inside the lesion, outside the intestine.

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Rest of the gut was normal.

Adhesions were released, foreign body retrieved. Whole gut was examined for any perforation but except few discolored areas on ileum inside the lesion area, no perforation was found. After surgery Reevaluating patient history and CT scan, a linear foreign body of same length was identified in left hypochondrium (Fig 1). To make sure that the same foreign body caused the sealed perforation and mass formation, x-rays of that fish bone was taken and that confirmed the diagnosis (Fig 2). Patient was put on intravenous antibiotic. She was kept nil by mouth for 48 hours and allowed orally on 3rd POD. Postoperative patient recovered well and discharged on 5th POD.

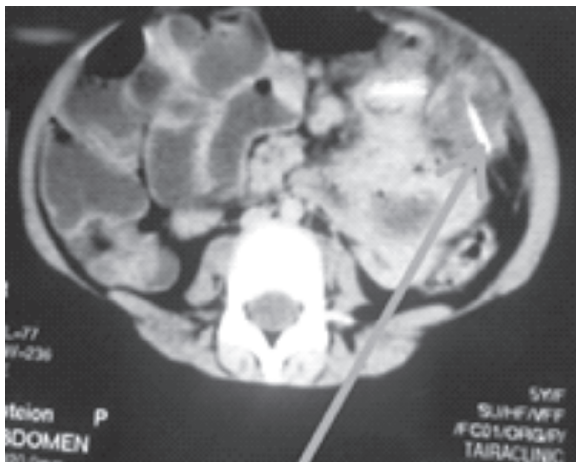


Fig 1: Sampling Frame for data collection



Fig 2: Sampling Frame for data collection

DISCUSSION

Children with foreign body ingestion is not an uncommon event⁶. Paediatric population is at risk of accidental ingestion of foreign body, especially below 3 years⁷. Spontaneous passage of in stool is commonly reported in the literature review with the frequency of more than 80%. FB as a cause intestinal perforation is

a rare event, mostly due to sharp objects like fish bone. Peritonitis, localized abscess formation and fistula were also reported due to sharp object impacted in the gut. Anatomy of the gut has a special role in causing impaction and perforation. Areas of gut which are more angulated had a high chance of foreign body impaction and complications, such as ileocecal and rectosigmoid region⁸. However, perforation has been reported in the stomach, duodenum and transverse colon as well⁹. Some investigators have reported oropharynx as common site of impaction⁵. This is especially true in case of children where the intestinal lumen is very small and the chance of impaction such as fish bone is high.

Some important factors related to patients were aged under six years, history of previous surgery and mentally handicapped, which can pose a high risk for foreign body ingestion and complications. Sharpness and length of the ingested object are key features of foreign body, renowned for causing complication such as perforation, abscess formation and fistula¹⁰. As in the current case sharp fish bone was the cause of gut perforation and complications.

Accidental ingestion of FB which are not noticed in children and later on presentation as acute abdomen, poses a diagnostic dilemma. Lack of history is the main hurdle in diagnosis. Imaging plays an important role in diagnosis of FB and CT abdomen is on top in the list diagnostic investigation for ingested FB^{11,12}. Plain radiograph of the abdomen, although reported as first line radiologic investigation in acute abdomen, but has limited diagnostic value for foreign body ingestion¹³. As in our case fish bone ingestion was unnoticed and presented in emergency as a case acute abdomen. Preoperative CT and Ultrasound abdomen, fail to pick the presence of fish bones and reported the diagnosis of intussusception. Postoperative re-reporting was done after the finding of fish bone in the peritoneal cavity and this confirmed the location of fish bone.

Presentation of patient in an emergency with complication having suspicion of FB ingestion usually requires Patient with presentation in emergency as acute abdomen requires surgical exploration to diagnose and treatment accordingly². A perforation in the intestinal usually requires peritoneal wash and primary repair. In our case fish bone was recovered from outside the intestinal lumen and a mass lesion was formed by omentum enveloping the sealed intestinal perforation and fish bone.

CONCLUSION

Foreign body ingestion like fish bone are usually accidental and unnoticed in children, this may lead to varied presentation in the emergency department.

Current scenario gives emphasis on the fact that foreign body ingestion should be considered as one of the reasons of acute abdomen with no obvious history.

REFERENCES

1. Lee JH. Foreign Body Ingestion in Children. Clin Endosc. 2018;51(2):129-36.
2. A-Kader HH. Foreign body ingestion: children like to put objects in their mouth. World journal of pediatrics. 2010;6(4):301-10.
3. Su F-J, Lin I-L, Yan Y-H, Huang C-L. Fishbone perforation of the gastrointestinal tract in patients with acute abdominal pain: diagnosis using plain film radiography. BMJ Case Reports. 2014;2014:bcr2014204201.
4. Yang T-H, Lu C-Y. Unexpected and unintentional fish bone ingestion causing acute abdomen and uncommon small intestinal perforation. Advances in Digestive Medicine. 2016;3(4):200-2.
5. Wong E, Cheng AT, Aggarwala S, Chong J, Duvnjak M, Azimi F, et al. Paediatric fish bone ingestion: a 10-year analysis at a tertiary pediatric hospital. Australian Journal of Otolaryngology. 2019;2.
6. Berdan EA, Sato TT. Pediatric Airway and Esophageal Foreign Bodies. The Surgical clinics of North America. 2017;97(1):85-91.
7. McKinney OW, Heaton PA, Gamble J, Paul SP. Recognition and management of foreign body ingestion and aspiration. Nursing Standard (2014+). 2017;31(23):42.
8. Bhatia R, Deane AJ, Landham P, Schulte KM. An unusual case of bowel perforation due to fish fin ingestion. International journal of clinical practice. 2006;60(2):229-31.
9. Dai J, Kapadia CR. Transverse colon perforation secondary to fish bone ingestion. Journal of surgical case reports. 2019;2019(2):rjy368.
10. Ichikawa T, Katayama N, Ikeda M, Tsukune Y, Sakai S. [Two cases of alimentary tract perforation owing to ingested foreign bodies: diagnosis by CT]. Nihon Igaku Hoshasen Gakkai zasshi Nippon acta radiologica. 2001;61(4):175-6.
11. Coulier B, Tancredi MH, Ramboux A. Spiral CT and multidetector-row CT diagnosis of perforation of the small intestine caused by ingested foreign bodies. European radiology. 2004;14(10):1918-25.
12. Pugmire BS, Lim R, Avery LL. Review of Ingested and Aspirated Foreign Bodies in Children and Their Clinical Significance for Radiologists. Radiographics: a review publication of the Radiological Society of North America, Inc. 2015;35(5):1528-38.
13. Khorana J, Tantivit Y, Phiuphong C, Pattapong S, Siripan S. Foreign Body Ingestion in Pediatrics: Distribution, Management and Complications. Medicina. 2019;55(10):686.

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Following authors have made substantial contributions to the manuscript as under:

Ullah M: Conception of Idea and Compiling Data.

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Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.