



Atypical presentations of foreign body in gastrointestinal tract: A case series

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Citation this Article: Dr. Anusha Alla, Dr. Pragada Susmitha, Dr. Siva Sankara Rao, “Atypical presentations of foreign body in gastrointestinal tract: A case series”, IJMSIR- February - 2022, Vol – 7, Issue - 1, P. No. 94 – 101.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Introduction: Foreign bodies in GIT can be ingested/retained ones. In adults, the most common foreign bodies were meat bone. 80-90% of foreign bodies in GIT pass spontaneously. Only 1% require surgery. The incidence of retained foreign body is 0.01-0.001% of which most common is Gossypiboma. Mesh extrusion into the bowel (i.e, Erosion of prolene mesh into hollow viscus) can infrequently cause serious complications after several years in case of patient mesh rectopexy history.

Methodology: Herein we report, the cases with usual and unusual foreign bodies all in the gastrointestinal tract who presented with various symptoms and signs to the surgical outpatient or the emergency department of NRI Medical College and General Hospital and their management approach.

Conclusion: There is a wide range of variability in presentation for ingested foreign bodies. Most commonly patients are asymptomatic, may also present with obstruction, hemorrhage or perforation, and subsequent sepsis. Diagnosis of bowel perforation, caused by a

sharp/pointed foreign body is difficult in absence of proper history without CT. Management depends on the nature of the object, but sharp objects should be retrieved from the GI tract.

Keywords: Foreign body, Gossypiboma, Mesh extrusion.

Introduction

Foreign bodies in GIT can be ingested type or iatrogenic type. In adults, the most common foreign bodies are meat bone, coins and dentures. Fish bone foreign body is one of the most commonly ingested foreign bodies encountered in the emergency department, accounting for 46 to 88% of the total adult foreign body admissions, according to some studies [1,2,3]. The incidence of an iatrogenic foreign body is 0.01-0.001% of which most common is gossypiboma accounting for 80% of the cases [4]. Mesh rectopexy is a frequently performed surgery for the treatment of rectal prolapse. Prolene mesh is a commonly used synthetic material in prolapse surgery. Erosion of prolene mesh into hollow viscus can infrequently cause serious complication. 90% of foreign

bodies in GIT pass spontaneously. Only 1% require surgery. Thus, conservative management is appropriate for most blunt objects in asymptomatic patients. However, objects larger than 6 cm in length or 2.5 cm in diameter, on the other hand, rarely pass through the stomach [19]. The clinical presentation, symptoms, and management of foreign bodies depend on their location within the GI tract.

Methods

Herein we report, the cases with usual and unusual foreign bodies all in the gastrointestinal tract who presented with various symptoms and signs to the surgical outpatient or the emergency department of NRI Medical College and General Hospital and their management approach.

Case report 1

A 55 years old female patient presented to the emergency department with complaints of diffuse abdominal pain, 5 episodes of non-bilious vomitings, 3 episodes of loose stools all since 2days. She had history of tubectomy 28yrs back. No other associated comorbidities.

On clinical examination revealed - tachycardia, fever, dehydration signs. On Per abdomen examination - abdominal distension was present, subumbilical midline scar was noted. Diffuse tenderness (more in the lower abdomen) and guarding were noted. Per rectal examination – anal sphincter tone was normal and rectum was collapsed and no staining of the glove finger was noted. Hematological reports revealed – elevated WBC count (19400cells/cumm) with neutrophilia (82%). Initial Resuscitation was done by bowel decompression with nasogastric tube and iv fluids and iv antibiotic was given. The patient was subjected to radiological investigations which revealed- On X-ray erect abdomen - multiple air-fluid levels in the lower abdomen, no air under the

diaphragm. On CECT abdomen- Linear radio dense foreign body of length 4 CMS, Small bowel perforated by the leading sharp end of foreign body (Fig 1.). Few tiny specks of air foci were noted in the peritoneal cavity. She was diagnosed to have small intestinal perforation with foreign body and planned for emergency exploratory laparotomy.

Intraoperative findings (Fig 2.) were -Exudates and fibrinous adhesions were noted between small bowel loops. About 4cms linear fishbone end perforating mid ileal loops was noted. Fishbone was retrieved (Fig 3.) and primary repair of the perforation was performed. Retrospective counseling revealed history of ingestion of fish curry 1day prior to the onset of symptoms. Postoperative period was uneventful without any complications.

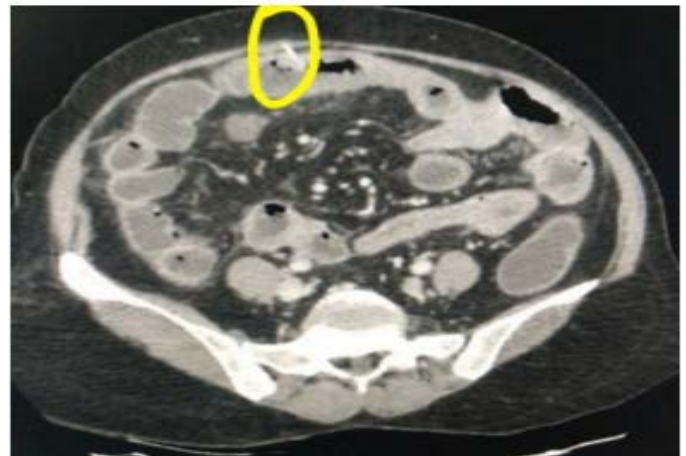


Fig 1: CECT abdomen showing foreign body.



Fig. 2: Intraoperative image of fish bone.



Fig.3: Fish bone retrieved from small bowel.

Case Report 2

A 48 years old female patient came to opd with complaints of occasional vomitings which were bilious in nature and loss of appetite since 1month and abdominal pain in the infraumbilical region which is dull aching, non-radiating, and intermittent in nature since 15days. She had hysterectomy 4yrs back and no other associated comorbidities. On Clinical examination revealed- Per abdomen examination showed that umbilicus was in midline. Pfannenstiel scar was noted. No abdominal distention. No visible masses or pulsations. A 6*4cms oval-shaped firm mass was palpated in the hypogastric region extending into the right iliac fossa. It has smooth surface and well-defined borders. It was non-tender, with no local rise of temperature. It was not moving with respiration and it was falling forward in knee-elbow position. Per rectal examination – Anal sphincter tone was normal. The rectum is collapsed and the glove finger is stained with normal colored stools. Hematological values are within the normal range. CECT abdomen(Fig4.) showed 10*5.5cms heterogeneous spongiform mass with air pockets in the infra umbilical region . On oral contrast, there is communication between adjacent ileal loops. She was diagnosed to have foreign body at the mid small bowel loops with no evidence of perforation clinically or radiologically and

she was planned for exploratory laparotomy. Intraoperative findings were-A 10*10cms mass was found adherent at hypogastric and right iliac region. Fibrous adhesions are found between distal jejunal loops and between the proximal ileal loop and also to the peritoneum. Distal ileal loop is adherent to the sigmoid colon. During adhesiolysis of jejunal loops, bowel got opened through which surgical mop is visualized (Fig5.). Mop was delivered out (Fig6.), part of it is intraluminal, and part of it is at the serosal wall where it formed a mass. Adhesiolysis was done and resection of 20cms of small bowel is done and end-to-end anastomosis was done. Postoperative period was uneventful.

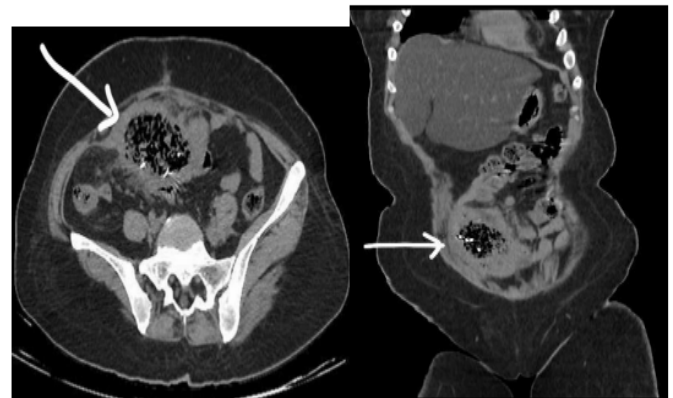


Fig. 4: CECT abdomen showing gossypiboma.



Fig.5: Intraoperative image of gossypiboma.



Fig. 6: Retrieved mop from the bowel wall.

Case report 3

A 43yr old male patient was referred to our opd in view of presence of foreign body at the esophagus. Patient had complaint of pain during swallowing since 4days.No history of fever, vomitings. On clinical examination – Neck was normal with no swellings, tenderness, no local inflammatory signs. All the Hematological values came out normal. The patient was subjected to esophagogastroduodenoscopy, which revealed nothing significant. He was finally subjected to radiological investigations which revealed – on X-ray c-spine (Fig8.) revealed thin radio dense opacity in anterior to C6-C7 vertebral junction, projected to left side lateral to trachea. The Computerized tomography of the neck (Fig7.) also revealed the same. Patient was diagnosed to have foreign body in the neck and he was subjected to exploration of the neck. Exploration of the neck (Fig9.)- About 4cms oblique neck incision on the left side of the neck was given. The esophagus was exposed and a stapler pin was seen in the left trachea-esophageal groove piercing the left lobe of the thyroid. The pin was retrieved and no abnormality was seen on the esophagus and any other structure. Postoperative period was uneventful.

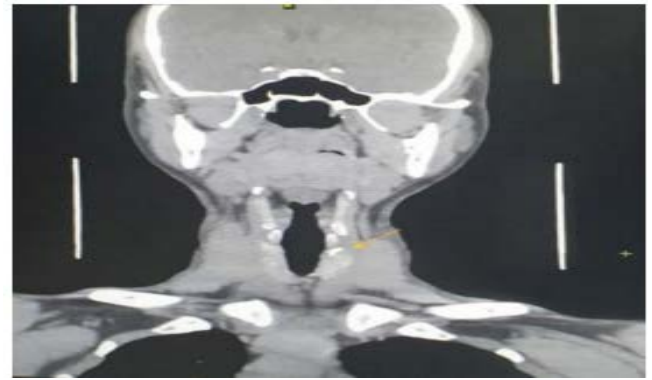


Fig. 7: CT neck showing foreign body (arrow).



Fig. 8: X-ray neck lateral view showing foreign body.

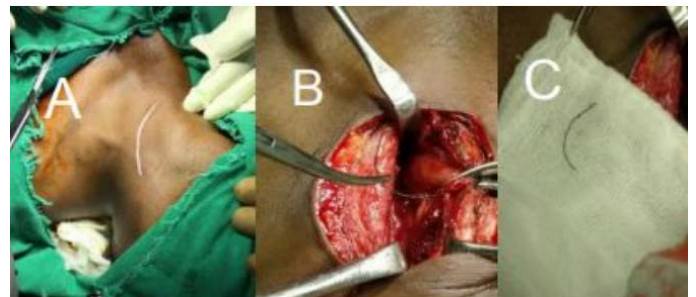


Fig. 9: Intra operatives images of foreign body in neck.

Case report 4

A 73 years old male came to surgery opd with anal incontinence since 1month and bleeding per rectum since 1month. He had history of rectal prolapse for which she underwent mesh rectopexy 6years back. The procedure was uneventful and she had no complaints since the last 1month. On clinical examination- abdomen was soft, no distention, no tenderness, no organomegaly. Digital rectal examination showed laxity of sphincter tone and foreign body palpable at 5cms from the anal verge and no masses were palpable. He was subjected to Colonoscopy (Fig10.)

which revealed lax anal canal, foreign body/mesh in the rectum from 5-15 cms from the anal verge. On CECT abdomen (Fig11.) an ill-defined heterogeneously hyperdense material was noted in the rectum approximately measuring 5.3*3.4*2.7cms which was 7.5cms from the anal verge, there was no evidence of focal defect in the rectal wall and rectal prolapse. All the hematological investigations came out to be normal. He was diagnosed to have rectal prolapse with mesh extrusion through the rectum. He was subjected to laparotomy. Because there was little fibrosis around the mesh, an anterior resection of the rectum with complete mesh excision (Fig12.) was performed and diversion colostomy was placed and after 4weeks reconstruction along with rectopexy was performed. All the procedure was uneventful.



Fig. 11: CECT abdomen showing mesh extrusion into rectum.



Fig. 12: Intraoperative image of mesh which was retrieved from specimen following resection of bowel.



rectum

Fig.10: Colonoscopy showing mesh in rectum.

Tab 1: Different presentations of different types of foreign bodies in GIT.

Sn.	Age/sex	FB	Insult to presentation duration	Presentation	Investigation	Treatment
1.	55yrs/F	Fish bone	2days	Pain abdomen, non -bilious omiting se stools	CECT abdomen	FB retrieval and primary repair of perforation
2.	48yrs/F	Gossypiboma	4years	Bilious omiting, pain abdomen	CECT abdomen	FB retrieval, small bowel resection, and anastomosis

3.	43yrs/M	Stapler pin	4days	Pain during swallowing	x-ray neck, CT neck	FB retrieval
4.	73yrs/M	Mesh	6years	Anal incontinence, bleeding per rectum	Colonoscopy, CECT abdomen	FB retrieval, rectum AR, diversion oostomy f/b reconstruction after 4weeks.

Discussion

Fishbone is the most common foreign body among the population in Asia, the Mediterranean, and other coastal countries due to dietary habits [6]. Generally, it is recommended to remove fishbone before they pass through the pylorus, otherwise, 15–35% of them may perforate the intestine [7]. Perforation commonly occurs at the point of acute angulation and narrowing. The risk of perforation is related to the length and the sharpness of the object [20]. Diagnosis of bowel perforation, caused by a sharp/pointed foreign body is difficult in absence of proper history without CT. Conditions such as acute abdomen due to intestinal perforations are seen in nearly 1% of patients who have ingested foreign bodies.

Two major types of reactions that occur in response to iatrogenic foreign bodies are -the first reaction, an abscess may form with or without secondary bacterial infection and the second reaction is an aseptic fibrinous response, resulting in tissue adhesions and encapsulation and eventually foreign body granuloma [4] . Reactive fibrinous exudates caused by the foreign body may create adherence to the mucosa, and objects may move outside the intestinal lumen, if objects do not traverse the tract in 3 to 4 weeks [21], this occurred in our case with Gossypiboma. Symptoms may not present for long periods of time, sometimes months or years following surgery [4].

A Gossypiboma can appear in any of two forms- immediate or delayed. In the acute phase, an abscess may occur, and in the early postoperative period, a fistula may form [5] . Nausea, vomiting, a palpable mass, rectal hemorrhage, or a altered bowel habits are common complaints. It can also present with nonspecific fever, anorexia, and weight loss [8]. According to most of the publications, the chance of a retained swab is higher in emergency situations or when the surgery is unexpectedly changed, especially when more than one surgical team is engaged [9]. A high BMI is another known patient-related risk factor [9,10]. Iatrogenic foreign bodies often present clinically or radiologically, similar to tumors and abscesses, making diagnosis difficult. A retained foreign body is echogenic on ultrasound and appears as a sharply delineated acoustic shadow or a hypoechoic mass with a complex cystic pattern. According to CT scans, the pattern is spongiform surrounded by a dense, enhancing rim that is suggestive of a retained foreign body If there is any doubt about the diagnosis, MRI can be performed as a presumptive diagnosis.

Jia et al. [11] reported a mesh erosion rate of 0–12% for synthetic implants and it was 0% for biological implants. The clinical presentation of patients with mesh erosion reported in the literature is extremely varied. They may present with bleeding or mucous/pus discharge from the rectum, fecal impaction, constipation, mesh protrusion

through the anal canal, chronic pelvic pain, or, in rare cases, symptoms due to erosion into adjacent viscera/recto cutaneous fistula. According to Hernández et al.,[12] peristaltic activity of the bowel can sometimes cause spontaneous expulsion of mesh during defecation. Digital rectal examination, proctoscopy, and flexible sigmoidoscopy are be used to evaluate patients. A contrast-enhanced computed tomography (CT) scan of the abdomen and pelvis will reveal the position of the mesh in relation to the rectum, the presence of any pelvic collections, the severity of inflammation around the area of the mesh, and any erosion into adjacent viscera. It also helps in planning the management. Risk factors for erosion are both mesh and patient-related. Erosion is less common with type I mesh due to the large pore size (>75 mm), which reduces the risk of infection [13]. Larger mesh can adhere to adjacent viscera, such as the small bowel loop or appendix, causing secondary infection and erosion. Furthermore, after fixation, it causes more folding, which can lead to erosion. Furthermore, ischemia caused by excessive tension around the rectum and pressure exerted on the rectal wall by the fecoliths as they pass through the mesh sling can result in erosion. Some authors [13,14,15] have reported satisfactory results after trans abdominal mesh removal with/without rectal resection. However, Tran chart et al. [16], Karagulle et al. [17], and Trilling B [18] all reported good outcomes after conservative management in the form of near total mesh excision via a trans anal approach.

Conclusion

There is a wide range of variability in presentation for ingested/retained foreign bodies. Most commonly patients are asymptomatic, may also present with obstruction, hemorrhage or perforation, and subsequent

sepsis. The retained foreign body should be considered in the differential diagnosis of any postoperative patient who presents with pain, infection or palpable mass. To prevent gossypiboma, sponges are to be counted by hand before and after surgeries Patients presenting with colorectal symptoms with a history of mesh rectopexy warrant prompt evaluation for mesh-related complications. Diagnosis of bowel perforation, caused by a sharp/pointed foreign body is difficult in absence of proper history without CT. Management depends on the nature of the object, but sharp objects should be retrieved from the GI tract.

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