

Metallic Foreign Body in Appendix - A Case of Recurrent Appendicitis

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Abstract: Foreign bodies are rare causes of appendicitis and, in most cases, ingested foreign bodies pass through the alimentary tract asymptotically. However, ingested foreign bodies may sometimes remain silent within the appendix for many years without an inflammatory response. Despite the fact that cases of foreign-body induced appendicitis have been documented, sharp and pointed objects are more likely to cause perforations and abscesses, and present more rapidly after ingestion. Various materials, such as needles and drill bits, as well as organic matter, such as seeds, have been implicated as causes of acute appendicitis. Clinical presentation can vary from hours to years. Blunt foreign bodies are more likely to remain dormant for longer periods and cause appendicitis through obstruction of the appendiceal lumen. We present a case of ingested metallic pointed foreign body in the lumen of appendix. The contrast between the pointed nature of the foreign body and long duration of symptoms is notable. We suggest elective diagnostic laparoscopy with subsequent laparoscopic appendectomy as a feasible management option.

Keywords: Foreign body; Appendectomy; Laparoscopy; diagnostic laparoscopy; Acute appendicitis; Calcified fecaloma; Abdominal pain

1. Introduction

Acute appendicitis is most often encountered clinically as acute abdomen.^[1] The lifetime risk of acute appendicitis is 7%^[2]. In majority of cases, it is either secondary to hyperplasia of appendiceal lymphoid follicles, which usually occurs in children following a bacterial or viral infection, or fecal materials or fecalith.^[3] However, as rare cause of appendicitis, variety of foreign bodies have been found in the appendix in the last 270 years^[4]. The first foreign body appendicitis case was reported in 1735^[5] and there has been a surge in the reporting of the varied types of the foreign bodies extracted from appendix. Most of foreign bodies lodged in the appendix were asymptomatic.

We present a case of metallic foreign body in appendix with nonspecific symptoms with the practical approach towards the diagnosis and management of the incidentally detected foreign body.

2. Case Report

A 22 years girl, came with recurrent complaints of pain abdomen in the umbilical and right lower abdomen for 3 months. There was no history of fever, vomiting however the patient was feeling nausea frequently. The pain in the abdomen was unrelated to food, activity or bowel movement. There was no loss of weight or appetite with any change in the bowel activity.

Physical examination revealed mild tenderness in right iliac fossa. There was no mass in the abdomen or free fluid.

A plain x ray abdomen in standing position revealed a stapler pin like radiopaque foreign body in the right lower abdomen. [Fig 2] Same finding was elicited in the ultrasonography with presence of minimal free fluid in the

pouch of Douglas. Assuming foreign body in the intestine, laxatives were advised to clear the bowel and regular follow-up was kept.

In follow-up x-ray, foreign body was visualised at the same location after 1 month. The symptoms were not resolved. Contrast enhanced CT revealed the presence of a pin like metallic foreign body in the lumen of appendix. Repeat evaluation same CECT abdomen from a different radiologist gave report of luminal foreign body with features of subacute intestinal obstruction. [Fig 2]

The blood investigations were within normal limits with haemoglobin of 13.4 g% and total leucocyte count of 8400/mm³. Kidney function and liver function tests were within normal range.

It was noted during the diagnostic laparoscopy that the appendix was centrally dilated with a few mesenteric lymph nodes. There was minimal free fluid in the right iliac fossa. Laparoscopic appendectomy was performed. Resected appendix showed presence of the rusted metallic pin inside the lumen of the appendix. [Fig 1] The fluid in right iliac fossa was of exudative origin. Histopathological examination of the appendix revealed serositis with chronic inflammatory changes in layers of the appendix.

3. Discussion

Ingested foreign bodies are rarely found in the appendicular lumen. Claudius Amyand, reported the first case in 1736, when operating on an 11-year-old patient with a stubborn fecal fistula; he detected that the appendix was perforated by "pin" within the hernia sac^[6]

A variety of objects are reported to be lodged in the appendix. The most common foreign bodies have been needles, pins, screws and buckshots. Ingested foreign bodies

can remain immobile within the appendix for a long time without causing an inflammatory response or can cause an inflammatory reaction without causing perforation. The clinical findings range from asymptomatic to those of perforated appendicitis.

In majority of cases, ingested foreign bodies pass through the alimentary tract without complication due to fecal coat around the foreign body [7]. Considering the dependent position of the cecum, foreign bodies tend to gravitate and stay in the caecum. In addition, the chance of entry to appendiceal lumen is determined not only by its orifice, but also by the anatomic position of the appendix. There is almost no possibility for a foreign body to enter the lumen of retrocecal appendices [8].

Depending on the objects, foreign bodies in the appendix can be high-risk and low-risk ones. The high-risk foreign bodies include sharp, long or pointed objects, and low-risk include objects with blunt or round borders. Having reviewed 100 year experience, Klinger et al. found out that about 75% of the reported patients had high-risk foreign bodies, while less than 12% of the cases had low-risk foreign bodies. [8]

4. Conclusion

Presence of the metallic foreign body can be viewed on simple serial abdominal x-ray, as in this case, and the presence of the foreign body at the same place in the serial abdominal x-rays gives the suspicion of the foreign body being in the lumen of appendix. Diagnosis needs to be substantiated with other imaging modalities.

The presence of inflammation and associated intestinal pathology can be confirmed with diagnostic laparoscopy. Prophylactic appendectomy is advised in all foreign bodies in appendix owing to high risk of associated complications like perforation and abscess formation.

5. Conflict of Interest

Author 1, Author 2, and Author 3 declare that they have no conflict of interest.

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