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Case Report

Silent steel-a case report of retained foreign body in abdomen

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ABSTRACT

Foreign body insertions are seen in patients with a wide variety of backgrounds, ages and lifestyles. The incidence of colorectal foreign bodies is disproportionately higher in men. The earliest published report of a rectal foreign body insertion was in 1919 by Smiley. The typical age at presentation ranges from 20 to 90 years old, with a mean age of 44 years old. Here in our hospital a patient presented with the retained knife in abdomen for 8 months. A 30-year-old male patient who came to OPD with the history of self-insertion of a foreign body (kitchen knife) into his rectum due to cannabis induced psychosis (polyembolokoilomania) and had a retained foreign body for 8 months. After thorough clinical and radiological examination he had a finding of a metallic knife inside his Large Bowel without perforation and no signs of peritonitis. In view of difficulty in laparoscopic approach for removal, laparotomy and colotomy of descending colon made and retrieval of foreign body performed. Postoperative period was fair.

Keywords: Psychiatric patient, Foreign body (metallic knife) in descending colon, Colotomy

INTRODUCTION

Foreign body insertions occur in individuals from various backgrounds, ages, and lifestyles. Each year, around 80,000 cases of foreign body ingestion are reported in children under 20 years old.[1] This issue is particularly common among pediatric patients. In cases involving adults or the elderly, a psychiatric evaluation is recommended. Typically, foreign bodies lodged in the esophagus should be carefully extracted using endoscopy while the patient is under anesthesia. Tools such as large endoscopic graspers and nets can be utilized for retrieval.[2] If the object cannot be removed through these methods, laparoscopic or open surgery with gastrotomy may be required. Benign esophageal fistulas can develop in patients who have undergone multiple procedures or have foreign bodies located in the upper mediastinum.[2] Sharp objects that enter the bowel often become coated with intestinal contents and can pass through. However, if a sharp foreign body remains lodged for 48 hours or longer, removal should be considered.[3] Ingested button batteries or multiple magnets require immediate extraction, as multiple magnets can lead to entero-enteric fistulas. Button batteries can cause severe tissue damage due to their alkaline nature, leading to necrosis and potentially fatal hemorrhaging, making their removal a surgical emergency.[4] For foreign bodies lodged in the rectum, if vacuum techniques are ineffective, laparotomy or laparoscopy may be necessary for removal. The object can be pushed from above into the assistant's finger or extracted through a rectotomy in the proximal rectum. If significant mucosal laceration is present, a temporary colostomy may be recommended.

CASE REPORT

A 30-year-old male presented to the OPD with complaints of abdominal pain for 3 months and he had a history of constipation for 3 months. Patient himself revealed about his past history of psychiatric disorder and had a history of self-insertion of a knife into his rectum 8 months back. Owing to his illness he has not visited any health care centre. Patient had several traumatic histories in past. On examination, Per-abdomen was soft and no mass palpable and had tenderness over his left lumbar region. Digital rectal examination was normal. Vitals

were stable. Plain X-ray abdomen shows foreign body in his abdomen (Figure 1).

Figure 1: Plain X-ray abdomen shows foreign body in abdomen.

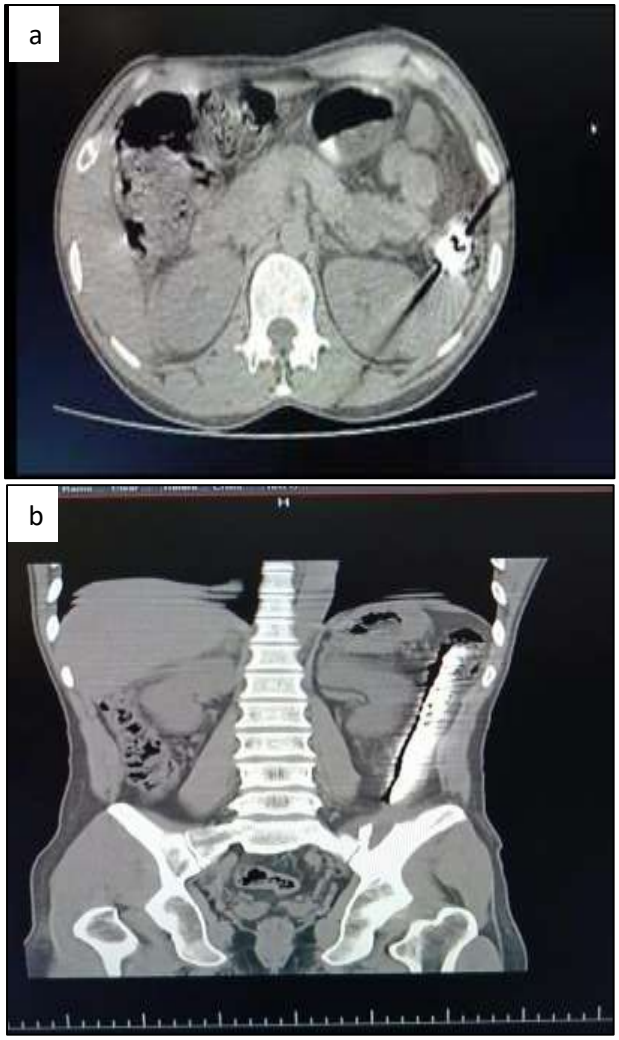

Figure 2: (a) CT abdomen shows a foreign body in descending colon, (b) CT abdomen (coronal view) shows a foreign body in descending colon.

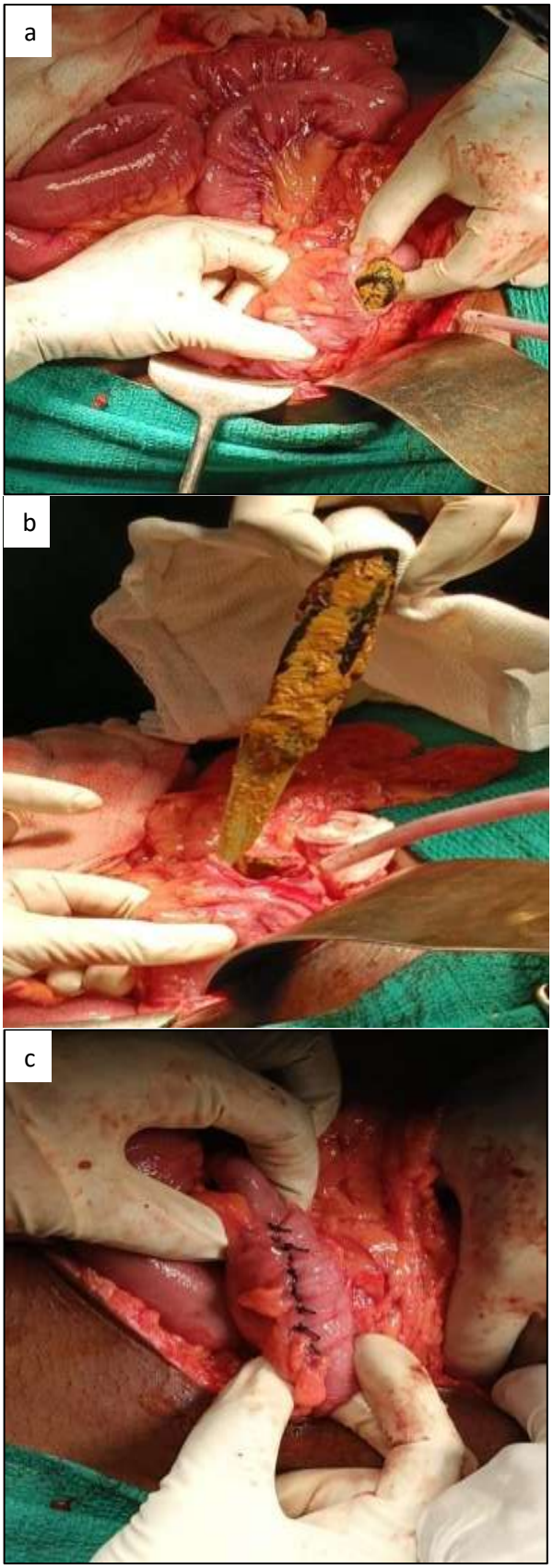

Figure 3: (a) Retrieval of metallic knife from descending colon, (b) retrieval of metallic knife from descending colon, (c) primary closure of colon after retrieval of a foreign body.

Figure 4: Retrieved metallic knife measures 7 inches.

Figure 5: Postoperative period patient was stable.

Figure 6: Post-operative period plain X-ray abdomen shows no e/o retained foreign body.

CT Abdomen shows large radio opaque material in left lumbar region at the level of T12 to L5 (Figure 2a and b). Solid organs appear normal. No free fluid in the pelvis. Psychiatric opinion obtained suggested cannabis induced psychosis. Patient was taken to operation theatre and emergency laparotomy was done. Intra- operatively foreign body was palpable in descending colon (Figure 2).

Colotomy was performed in descending colon (Figure 3a) and foreign body (metallic knife) was retrieved (Figure 3b) and the bowel was primarily closed (Figure 3c) as there is no peritonitis and abdomen was closed in layers. Retrieved foreign body- metallic knife measures 7 inches length (Figure 4). Postoperative period was fair (Figure 5) and postoperative imaging done and ensured no evidence of foreign body left in the abdomen (Figure 6). Patient passed flatus and stools on POD 5. Oral feeds started on POD 6 and patient was discharged on POD 9. Follow up of the patient was done and sutures were removed and patient was comfortable and his bowel habits were normal.

DISCUSSION

D The occurrence of foreign bodies in the large intestine is relatively rare, with males being the most frequently affected demographic. The typical age range for those affected is in their 30's and 40's. In many cases, rectal foreign bodies are inserted intentionally for sexual pleasure or due to psychological conditions such as polyembolokoilomania. Commonly reported foreign objects include fruits, vegetables, nails, bottles, and rubber items.[6] Management of rectal foreign bodies begins with a proper diagnosis, which involves obtaining an anteroposterior (AP) and lateral X-ray to assess the shape, size, orientation, location, and type of the foreign body. Imaging should be performed before conducting a digital rectal examination to avoid potential injury from sharp objects. For radiolucent foreign bodies, a CT scan is preferred, as it can also reveal complications like perforation or abscess formation.[7]

The retrieval method depends on the foreign body's position. For objects near the anus, per-anal extraction is the first approach and can often be done in an outpatient setting during a rectal exam. If this method fails or if the object is located higher up, extraction should occur in an operating room under general or regional anesthesia.[8] Foreign bodies can cause significant damage to the rectum and colon, with patients typically presenting symptoms such as pelvic pain, rectal bleeding, incontinence, constipation, and bowel obstruction. In some cases, bowel perforation may occur. Delays in seeking treatment can last from hours to months, often due to the hope that the foreign body will pass on its own.[6] A thorough physical examination is essential to rule out peritonitis, and a rectal exam is necessary to assess anal sphincter function and the distance of the foreign body from the anal verge. Colonoscopy can be

beneficial for foreign bodies located higher in the colon. If endoscopic removal is unsuccessful or if peritonitis is present, emergency surgery is required. If attempts to push the object distally fail, a colotomy may be performed to remove the foreign body, and diversion may be necessary if the patient is experiencing peritonitis or is hemodynamically unstable. If the patient is stable, the colotomy can be primarily repaired. Post-procedure imaging is important to confirm the complete removal of the foreign body.

In cases where the foreign body is difficult to remove via the anal canal, a vacuum effect can be created, or laparotomy or laparoscopy may be necessary. The object can be pushed from above into the assistant's finger in the rectum or removed through a rectotomy in the proximal rectum. If there is significant mucosal laceration, a temporary colostomy may be recommended.[5] In our case report, the patient presented 8 months after self-inserting a metallic knife, experiencing abdominal pain in the left lumbar region and constipation. Remarkably, despite the knife being lodged in the bowel for such an extended period, there was no perforation, likely due to the cushioning effect of stool in the descending colon. The foreign body was present high above the descending colon beyond the scope of per anal retrieval and warranting laparotomy in our case.

CONCLUSION

Diagnosing and managing patients with a foreign body in the abdomen can be difficult due to patients often presenting late to healthcare facilities or failing to provide a clear history because of psychiatric issues. Therefore, patients who arrive at the emergency department with abdominal pain require a comprehensive clinical evaluation and imaging studies to exclude the presence of a foreign body. Once a foreign body in the colon is identified, it should be removed as soon as possible. In stable patients, an endoscopic approach should be attempted for removal; however, if there are challenges in moving the object distally, or if the patient shows signs of peritonitis or instability, a laparotomy may be necessary. A colotomy is performed to extract the foreign body, and if the patient is unstable or has peritonitis, diversion is required; otherwise, a primary repair can be performed.

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