VOLUME - 11, ISSUE - 12, DECEMBER - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

General Surgery

NOVEL APPROACH FOR REMOVAL OF STUBBORN RECTAL FOREIGN BODY – A CASE REPORT

Dr Monika Joshi	MBBS, DNB General Surgery-Third year Resident, Apollo Hospital NaviMumbai
Dr Makrand Karpe	MBBS, FCPS-General Surgery, Fellow Surgical Oncology
Dr Ronak Tate	MBBS, MD-General Medicine, DNB Medical Gastroenterology-Third year Resident, Apollo Hospital Navi Mumbai
Dr Shishir Shetty	MBBS, MS General Surgery, M.Ch Surgical Oncology, Senior Consultant-Department of Surgical Oncology, Apollo Hospital Navi Mumbai
Dr Nitish Jhawar	MBBS, MS general surgery, Senior Consultant- Department of General Surgery, Apollo Hospital Navi Mumbai, Head of the Unit

ABSTRACT Rectal foreign bodies are usually rare presentations among cases presenting to the emergency department. Males in the age group of 20 years to 40 years are usually affected. The appropriate management technique depends on the size and surface of the retained object and the presence of complications such as perforation or obstruction. Selection of the technique should also involve consideration of morbidity and patient's future quality of life. Here we present a case of a 51-year-old man presenting to the emergency department with retained foreign body in his rectum. Initially, patient was prepared for manual, and colonoscopy assisted removal but due to the shape and location of the foreign object, laparoscopic assisted removal was done. By this approach we prevented an enterotomy and colostomy decreasing the morbidity and better quality of life post discharge.

KEYWORDS : rectal foreign bodies, laparoscopy, perforation, peritonitis

INTRODUCTION

Medical history of retained colorectal foreign bodies dates to sixteenth century.[1] One of the earliest published case reports was that by Smiley O in 1919, who noted a glass tumbler in the rectum.[2] There is an increased incidence in the cases with colorectal foreign bodies presenting to emergency department since that time. Men in their 30s and 40s constitute two-thirds of patients presenting with colorectal foreign bodies.[3] A diagnosis of intrarectal foreign body requires urgent surgical intervention to relieve symptoms and prevent complications. Extraction can be difficult due to size, shape, and migration of the foreign body. Here we present a case report of an unusual rectal foreign body and safe and appropriate method of its removal.

Case Report

A 50-year-old Indian male presented to the emergency department (ER) complaining of severe pelvic pain from a foreign body he had inserted in his rectum approximately 16 hours prior to presentation. There was no significant medical history. Patient was too reluctant to provide the history. On examination, his abdomen was soft, mildly distended and nontender to palpation, without signs of peritonitis. Bowel sounds were found to be decreased. Abdominal radiography was done to find out the source of his symptoms. An X-ray of the lower abdomen revealed a large, bottle shaped object in the rectum (Fig. 1) There was no free gas noted in the x-ray. The foreign body was palpable in the rectum upon per-rectal examination.

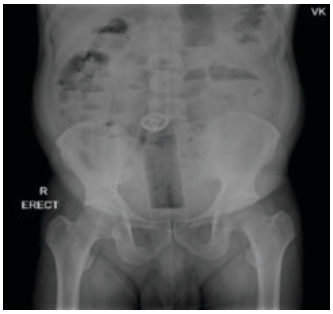

Fig.1: Abdomen Erect Radiograph depicting bottle in the rectum

To get a more detailed information on the type as well as size of foreign body, and to rule out any perforation, a contrast-enhanced computed tomography (CECT) scan of abdomen was planned. Fig.2 and fig. 3 depicts the CECT abdomen images.

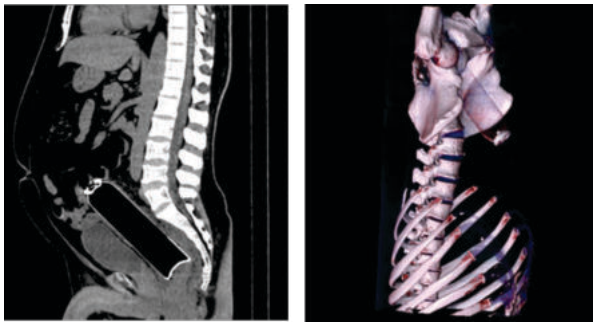

Fig.2,3- CECT Abdomen (lateral view) depicting a bottle in the rectum

Initial attempts of foreign body removal:

Patient was prepared and planned for an examination under anaesthesia and if required, manual colonoscopy assisted removal of foreign body in operating theatre was also intended.

All preoperative investigations were conducted, adequate fluids were given, and intravenous antibiotics were administered. The patient was brought to the operating room, where he was placed in lithotomy position under general anaesthesia. A rigid sigmoidoscope was inserted in the anal canal and the foreign body was visualised, found to be at 12 cm from anal verge.

An attempt was made to remove the foreign body manually with lubrication and aggressive manipulation but was unsuccessful as we were unable to grab a complete hold of the foreign body. The foreign body remained there as an intraluminal vacuum effect was created, which also made the dislodgement difficult. The proximal rectal wall was sliding

over the apex of the foreign body, not allowing significant force to be applied uniformly onto it. We further tried using delivery forceps and vacuum cup but were unsuccessful. We tried placing a Foley's catheter above the distal end in order to fix the distal end of the foreign object and then dislodge it manually, but the attempt was unsuccessful. Upon continuous manoeuvring we were noticing that foreign object was moving away from the anal verge. Thereafter, we decided to proceed with colonoscopy-assisted removal of the foreign body.

Colonoscopy-assisted removal of the foreign body

Proximal end of the foreign object was visualized. We tried grasping that end with a laparoscopic tooth extractor but the foreign body did not move as it was stuck.

Laparoscopic assisted manual removal of foreign body

After all the failed attempts we decided to proceed with laparoscopic assisted manual removal of the foreign body. Pneumoperitoneum was created using a Veress needle at supraumbilical site. 2 5-mm ports were inserted as shown in the fig. 4. Foreign body was found lodged in the U-curve of the sigmoid colon. (fig. 5). There was no evidence of perforation of the colonic wall.

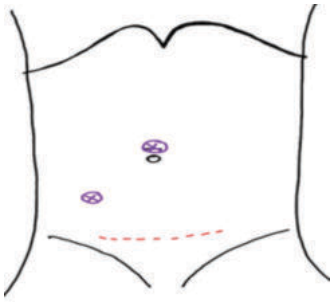

Fig.4- laparoscopic port position and Pfannenstiel incision

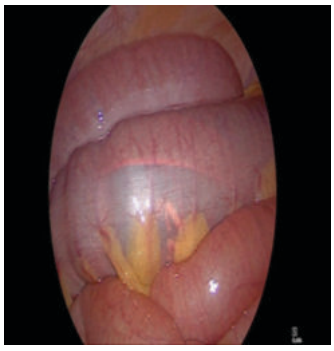

Fig.5- Laparoscopic view of the foreign object inside colon

A 10-cm Pfannenstiel's incision was taken and extended through the subcutaneous fat and fascia with monopolar cautery. Peritoneal cavity was entered. Care was taken to prevent bladder injury, and the distal sigmoid and rectum were identified. Foreign body was palpated above the pelvic brim. By providing a constant external pressure and preventing any injury to the intestinal and rectal mucosa the foreign body was milked from distal end towards the anal canal transabdominally.

The foreign body was then retrieved through the anal canal manually with the simultaneous application of downward manual pressure from the peritoneal cavity. The specimen was retrieved by trans-anal route(fig.6). Thorough wash was given in the peritoneal cavity. A Foley's catheter was introduced through the rectum and was insufflated with air to check for any breach in the continuity of intestinal wall. It was left in place and removed on first day after procedure. Abdominal drain was kept, and incision was closed in 2 layers. The patient had an uneventful recovery and was discharged on post-operative day-4.

Fig.6- the specimen derived was found to be a perfume bottle

Our Approach

As the foreign body was quite large, its removal was difficult by manual and colonoscopic approach. And the patient would have required a formal laparotomy with enterotomy with stoma. But by the approach we adopted formal laparotomy, breach in the intestinal wall and stoma was prevented, giving this patient a better quality of life

DISCUSSION

Foreign bodies in the rectum and colon are a well-known phenomenon most seen in middle aged males. Busch and Starling had published a review of literature and revealed a plethora of publications related to rectal foreign bodies.[4] These included a whisky bottle, a light bulb, and a magazine. Foreign bodies can be inserted in the rectum for sexual gratification or non-sexual purposes – as is the case in body packing of illicit drug and voluntarily or not. In a systematic review by Kurer et al., it was noted that sexual stimulation was the confirmed or implied reason in 48.7% of cases.[5] Generally, patient inserts the object into own rectum; rarely it may happen accidentally, or it may be the result of a criminal act. In the present case report, the patient had inserted foreign object into their rectum possibly seeking sexual satisfaction. The biggest challenge lies with the method of removal. The size, shape, and nature of the foreign object should be known before any attempt is made to remove it. Imaging can help with rectal foreign body identification, including its exact form, quantity, size, direction, and position. To check for symptoms of blockage or perforation (pneumoperitoneum), a plain abdomen and pelvic X-ray should be taken. Computed tomography can be useful and important in subsequent therapy if surgery is intended or if X-ray imaging doesn't show the foreign body, and it's also advised if more than 24 hours have elapsed with the foreign body within.[6,7] A digital rectal examination and rigid sigmoidoscopy can be done on table to find out the exact distance of the foreign object from the anal verge. Appropriate method in various interventions should be chosen to reduce the injury to the rectum and anus.

There are chances that the patients who present to the emergency department with rectal foreign bodies have attempted to remove the object unsuccessfully prior to seeking medical care. Presentation can vary from vague abdominal pain, constipation, bleeding per rectum to obstructive symptoms and signs of peritonitis due to perforation. Physical examination mainly consisted of abdominal examination, per rectal examination and ruling out signs of peritonitis. Patients are usually reluctant to present immediately and present late to the emergency department in the hope of spontaneously passing foreign body.

Lake et al suggested a treatment algorithm of patients with rectal foreign bodies. It was observed at most foreign bodies can be removed through anus at the bedside with sedation, there is a population of patients who require operative intervention.[9] Usually under the scenario encountered by us, where the foreign body was quite large and crossed above the pelvic brim, it becomes difficult to remove the foreign body without enterotomy and patient would require a stoma. The

approach that we adopted included assistance of laparoscopy for a better visualization of the foreign object with respect to other surrounding structures, Pfannenstiel incision and milking the foreign by an external constant compression holding the sigmoid and releasing it beyond the pelvic brim to be retrieved trans-anally. By this approach we prevented an enterotomy and colostomy decreasing the morbidity in the individual, and quick recovery.

In conclusion removal of intrarectal foreign bodies depends on various characteristics of objects such as perforating or cutting qualities, size, hardness, and depth of insertion, along with status of complications. Referral of these patients with foreign bodies in the rectum to psychiatry outpatient clinics for treatment of any underlying issues may be beneficial

Conflict Of Interest
The authors have no conflicts of interest to declare.

Funding
None.

Ethical Approval
Written consent has been obtained from the patient for the information to be included in our manuscript. His information has been de-identified to the best of our ability to protect his privacy.

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