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Laparoscopic-Assisted Transanal Extraction of an Impacted Rectal Foreign Body

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Abstract- A foreign body in the rectum (FBR) is becoming a common presentation in the surgical emergency department. Generally, rectal foreign body removal can be a challenge as regards management due to the wide variety of objects inserted in the rectum. Usually, a rectal foreign body is extracted manually in the emergency department under local anesthesia. In some cases, simple manual extraction of an impacted FBR is unsuccessful. In such cases, general anesthesia with surgical intervention may be required to extract the FBT. We describe the case of a 38-y-old previously healthy male, who presented to the emergency department with rectal bleeding and constant pain in the anal area for approximately three h after inserting a lubricant gel container transanally for autoerotic purposes. Proctoscopy was performed in the emergency department to retrieve the FBR. However, the retrieval attempts were unsuccessful. Laparoscopy-assisted transanal extraction of the object was performed under general anesthesia. The object was pushed (milked) using a laparoscopic bowel clamp down the rectum, and the object was then extracted transanally.

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Abstract- A foreign body in the rectum (FBR) is becoming a common presentation in the surgical emergency department. Generally, rectal foreign body removal can be a challenge as regards management due to the wide variety of objects inserted in the rectum. Usually, a rectal foreign body is extracted manually in the emergency department under local anesthesia. In some cases, simple manual extraction of an impacted FBR is unsuccessful. In such cases, general anesthesia with surgical intervention may be required to extract the FBT. We describe the case of a 38-y-old previously healthy male, who presented to the emergency department with rectal bleeding and constant pain in the anal area for approximately three h after inserting a lubricant gel container transanally for autoerotic purposes. Proctoscopy was performed in the emergency department to retrieve the FBR. However, the retrieval attempts were unsuccessful. Laparoscopy-assisted transanal extraction of the object was performed under general anesthesia. The object was pushed (milked) using a laparoscopic bowel clamp down the rectum, and the object was then extracted transanally. The main pathways of FBR extraction are transanal, endoscopic or surgical. Although multiple guidelines on FBR management have been developed, there are no specific criteria for management.

Keywords: rectal foreign body; transanal removal, laparoscopic-assisted.

I. INTRODUCTION

A Foreign body in the rectum (FBR) is becoming a common presentation in the surgical emergency department. Usually, FBR extraction is done manually in the emergency department under local anesthesia [1]. In some cases, simple manual extraction of an impacted FBR is unsuccessful. In such cases, general anesthesia with surgical intervention may be required for extraction [1]. An FBR may be the result of erotic behaviour, sexual assault, accidental insertion, illegal drug transportation, or self-evacuation of a stool in cases of constipation [1, 2]. The pathways of extraction are as follows: transanal, endoscopic and operative. Various methods of extraction have been described in the literature. These include uterine clamps [3, 4], laparoscopic-assisted extraction [5], transanal use of a SILS™ port [1], a modified TAMIS technique with standard instruments and trocars [6] or transanal extraction using rigid endoscopy and biopsy forceps [2]. In this case report, laparoscopic-assisted transanal extraction of an impacted FBR is described.

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II. CASE

A 38-y-old previously healthy male presented to the emergency department with rectal bleeding and constant pain in the anal area for approximately three hours. The patient reported using a lubricant gel container for autoerotic purposes. On examination, the patient's abdomen was soft and lax, with no rebound tenderness. A digital rectal examination revealed two superficial lacerations at the 6 and 9 o'clock position at the anal verge, with minimal bleeding. The foreign body was not palpated in the examination. An abdominal X-ray showed the gel container in the rectum (Fig. 1). Laboratory investigations were unremarkable. Proctoscopy was performed in the emergency department to retrieve the foreign body from the rectum. The retrieval attempts were unsuccessful. Therefore, the patient was admitted to the surgical ward to extract the foreign body transanally under general anaesthesia in the operating room.

III. TECHNIQUE

On initial inspection and palpation, the object was 10–12 cm from the anal verge. The patient was placed in the lithotomy position after anaesthesia induction and endotracheal intubation. Multiple transanal attempts were unsuccessful in retrieving the object using a uterine delivery forceps, Kocher forceps, and laparoscopic clamps because the object slipped from the transanal instrument and migrated further up the rectum. Rigid sigmoidoscopy was performed and identified the object 15–17 cm from the anal verge. All attempts at transanal extraction were unsuccessful. Thus, a laparoscopic abdominal intervention to assist in foreign body extraction was performed. A single 10mm trocar was placed supra-umbilically via open technique. An additional two 5mm trocars were placed in the right side of the abdomen to facilitate mobilization or 'milking' of the object through the rectum. The object was pushed (milked) using a laparoscopic bowel clamp (Karl Storz, Germany) down the rectum, and the object was extracted through the transanal pathway (Fig. 2). A small serosa tear in the anterior wall of the rectum that was laparoscopically repaired with interrupted sutures. The post-operative period of the patient was unremarkable. He tolerated oral intake on the second post-operative day and was discharged from the surgical ward on the third post-operative day.

IV. DISCUSSION

Generally, the removal of rectal foreign bodies can be a challenge as regards management due to the wide variety of objects inserted in the rectum. These objects may have various consequences, from simple local trauma and soft tissue damage to complete obstruction and perforation [7]. In some cases, simple transanal extraction may be sufficient, whereas a surgical intervention may be required in other cases [7]. In patients without perforation, simple transanal extraction can be attempted as a first-line procedure, with a success rate of 75% [7]. A detailed history should be obtained from the patient about the shape, dimensions and content of the inserted foreign object to allow the surgeon to plan a strategy for extraction. A physical examination should be undertaken to assess the general condition of the patient. Imaging investigations, such as an abdominal X-ray or computed tomography may assist in planning the extraction strategy [7]. Evidence of peritonitis or perforation in clinical and radiological investigations of the patient with the FBR will direct the treatment plan towards surgical intervention, such as diagnostic laparoscopy or explorative laparotomy [8]. Multiple guidelines and non-specific criteria for FBR extractions have been developed [2, 8, 9]. Extraction procedures and methods described in the medical literature include uterine clamps [3,4], laparoscopic-assisted transanal extraction [5], transanal use of an SILS™ port [1], a modified TAMIS technique with standard instruments and trocars [6] or transanal extraction using rigid endoscopy and biopsy forceps [2]. In the present case, laparoscopy-assisted transanal extraction of the object was undertaken, and this removed the need to open the bowel intra-abdominally. Berghoff [10] reported a comparable procedure in 2005, with no complications.

V. CONCLUSION

The presentation of patients with rectal foreign bodies is relatively common in the emergency department. However, FBR management can pose a challenge to emergency physicians or surgeons. A patient history, physical examination and imaging investigations are essential to planning the extraction strategy. The main pathways of extraction are transanal, endoscopic or surgical. Although multiple guidelines on FBR management have been developed, there are no specific criteria for management. The dimensions shape and content of the object, in addition to the patient's general condition and stability, should determine the extraction strategy. Laparoscopy can help with 'milking' an impacted object in the rectum and extraction through the transanal pathway.

Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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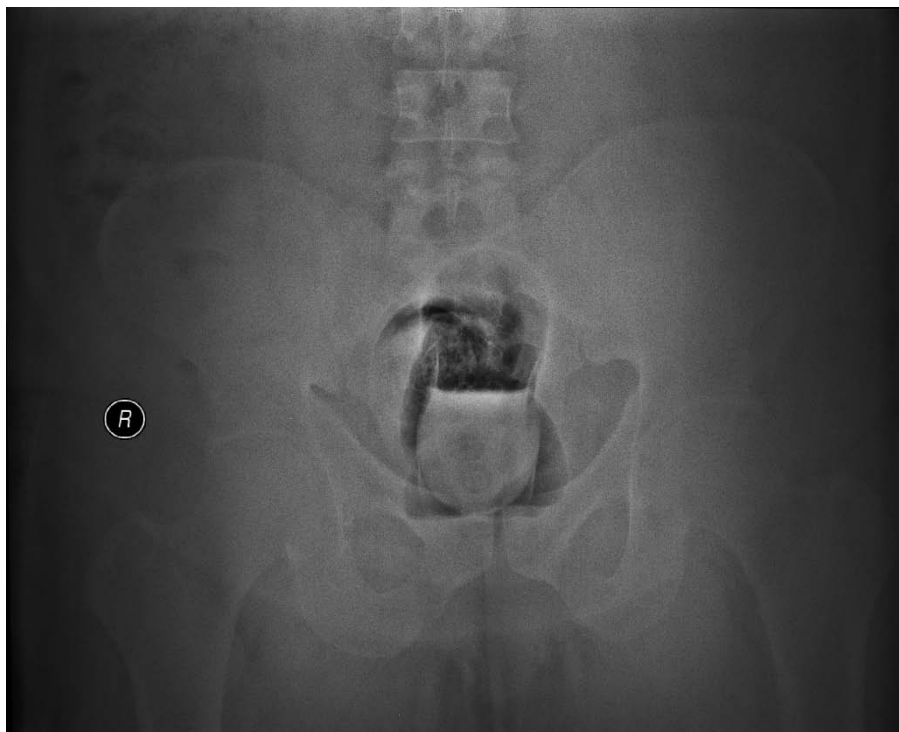


Figure 1: Abdominal x ray revealing FBR

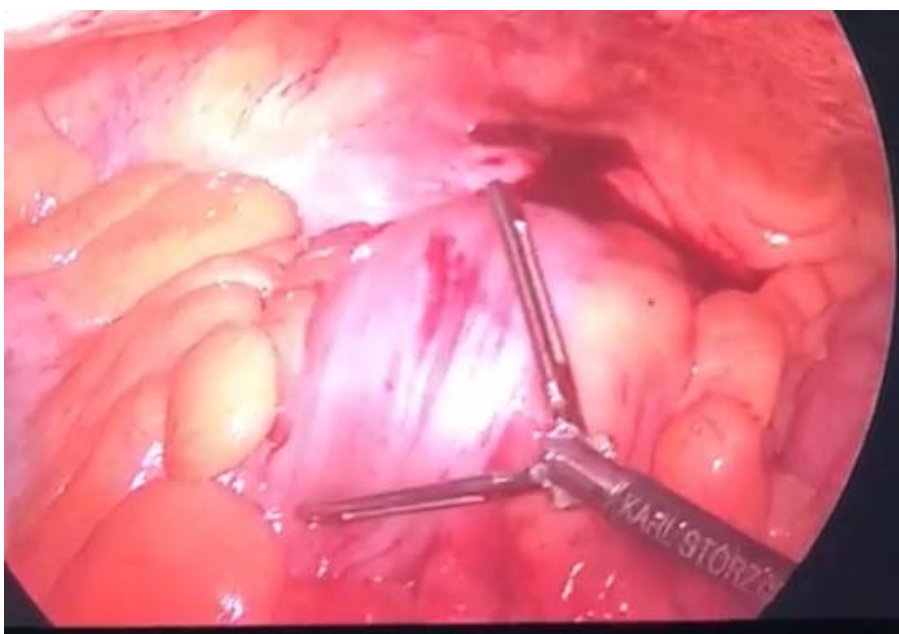


Figure 2: Laparoscopic view of the impacted foreign body in rectum