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Rectal foreign bodies: A case report and review of the literature

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ABSTRACT

INTRODUCTION: Rectal foreign bodies (RFB) present the modern surgeon with a difficult management dilemma, as the type of object, host anatomy, time from insertion, associated injuries and amount of local contamination may vary widely. Reluctance to seek medical help and to provide details about the incident often makes diagnosis difficult. Management of these patients may be challenging, as presentation is usually delayed after multiple attempts at removal by the patients themselves have proven unsuccessful.
PRESENTATION OF CASE: In this article we report the case of a male who presented with a large ovoid rectal object wedged into his pelvis. As we were unable to extract the object with routine transanal and laparotomy approach, we performed a pubic symphysiotomy that helped widen the pelvic inlet and allow transanal extraction.
DISCUSSION: We review currently available literature on RFB and propose an evaluation and management algorithm of patients that present with RFB.
CONCLUSION: Management of patients with rectal foreign bodies can be challenging and a systematic approach should be employed. The majority of cases can be successfully managed conservatively, but occasional surgical intervention is warranted. If large objects, tightly wedged in the pelvis cannot be removed with laparotomy, pubic symphysiotomy should be considered.

1. Introduction

Foreign body insertion in the rectum has been extensively described in the surgical literature, with the earliest reports dating back to the 16th century. Whether done for purposes of sexual gratification or not, voluntarily or accidentally, the reported incidence of rectal foreign bodies (RFB) is rather rare with only isolated published case reports or case series. It is important for emergency room physicians and general surgeons to be systematic in their approach and be familiar with a variety of extraction techniques and management of colorectal injuries resulting from the insertion or extraction of the foreign body.

A problem commonly encountered in patients with RFB is the delay in presentation.[1,2] While patients may be reluctant to disclose the cause of their presentation, diagnosis can be made in the majority of cases with accurate history and confirmed with plain radiographs. It is important to rule out signs and symptoms of peritonitis. An attempt at manual retrieval of the foreign body is always warranted as a first step, with or without light sedation. If this is unsuccessful, or there is evidence of significant bowel injury or even perforation, surgical intervention is warranted. In this report we describe a case of a Caucasian male who presented with a large oval foreign body in the rectum and in whom traditionally employed conservative and surgical methods of extraction failed. He eventually required pubic symphysiotomy to increase the diameter of his pelvic brim. We also review currently available and typically utilized methods of RFB extraction and management of potentially associated rectal injuries, and propose a management algorithm for the systematic approach of patients that present with RFB.

2. Case presentation

A 41-year-old HIV+ Caucasian male presented to the emergency department (ER) complaining of severe pelvic pain from a large oval-shaped marble he had inserted in his rectum approximately 2 h prior to presentation. The patient reported that multiple attempts to remove it at home failed, even with use of marijuana (in an effort to relax the anal sphincter) prior to his arrival at the ER.

On examination, his abdomen was soft, non-distended and non-tender to palpation, without sings of peritonitis. Bowel sounds were decreased. An X-ray of the lower abdomen revealed a large, ovoid-shaped object in the rectum (Fig. 1). The foreign body was palpable in the rectum, but due to its shape, large size and its smooth surface it was impossible to retrieve with simple maneuvering, including simultaneous application of suprapubic pressure. Proctoscopy was not attempted, as the anal canal was well dilated and the foreign object and distal rectal mucosa were easily seen and examined

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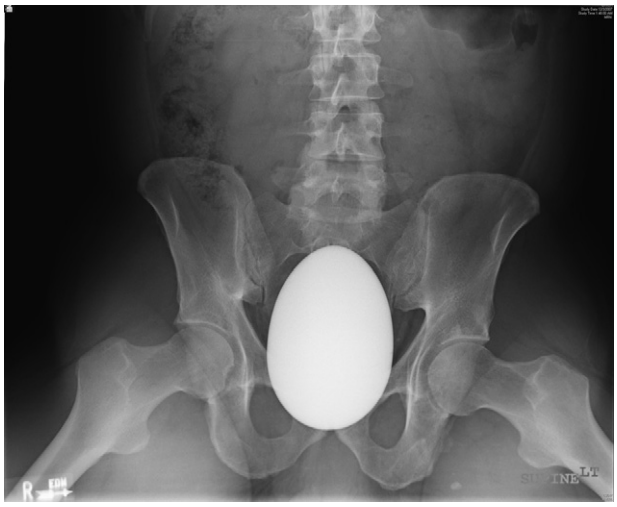

Fig. 1. Pelvic X-ray of the foreign body in situ.

Fig. 2. The extracted rectal foreign body.

with a rectal speculum. Mild mucosal hyperemia was noted, but there was no evidence of tears or ischemic compromise to the rectal mucosa. As the patient was very uncomfortable with our maneuvers, despite maximal intravenous analgesia, we elected to proceed with an examination under anesthesia and possibly surgical exploration.

After fluid resuscitation and preoperative intravenous antibiotics, the patient was brought to the operating room, where he was anesthetized and intubated, and placed in the lithotomy position. An attempt to remove the foreign body manually with lubrication and more aggressive manipulation was fruitless, as the foreign body's greatest diameter appeared to be wider than the patient's pelvic outlet. We attempted use of delivery forceps but were unsuccessful. A decision was made to proceed with laparotomy. We felt at attempt at laparoscopy would have been inadequate for extraction, given the size of the foreign item. An 8 cm midline incision was made infraumbilically and was deepened through the midline subcutaneous tissue and fascia with electrocautery, until the peritoneal cavity was entered. The distal sigmoid and rectum were identified and the foreign body was palpated below the pelvic brim, tightly wedged in the pelvis. It seemed that the marble was pushed into the rectum with force that transiently relaxed the pelvic ligaments and allowed its slightly wider diameter to pass through and wedge within the lesser pelvis. Unfortunately, due to the android shape of our patient's pelvis, we were unable to perform the same maneuver with downward force from the abdomen. As the proximal rectal wall was sliding over the apex of the foreign body, not allowing significant force to be applied uniformly onto it, and in order to prevent mucosal injury by compressing it against the foreign body with excessive pressure, an enterotomy was made through which the foreign object was again pushed downward toward the anus, again without results. An attempt at pushing the egg upward, from the rectum into the peritoneal cavity was similarly unsuccessful.

At this point we felt that it was the patient's pelvic anatomy that prevented us from retrieving the tightly wedged object and we consulted orthopedic surgery. A separate Pfannenstiel incision was made just over the superior edge of the pubis at the insertion of the rectus muscle. The incision was carried down through the subcutaneous tissue all the way down to the superior border of the symphysis. The dissection extended along the superior pubic rami in both directions laterally, the anterior and undersurface of the symphysis pubis anteriorly and posteriorly respectively, while care was taken to prevent bladder injury, transposing a protective wide malleable retractor between the urinary bladder and the pubic symphysis. The latter was divided longitudinally with an osteotome and stretched open to approximately 4 cm in width with a laminar spreader. Obstetric forceps were again used transanally to grasp the foreign body and pull it out, with the simultaneous application of downward manual pressure from the peritoneal cavity. The specimen, an egg-shaped, marble ornament measuring 12 cm × 8 cm × 8 cm, was sent to pathology for examination (Fig. 2).

Sigmoidoscopy was next undertaken and revealed minor mucosal bleeding over the areas that were compressed by the foreign body against the non-compliant bony pelvis. The enterotomy was closed with interrupted absorbable suture in two layers and checked with insufflation. After removal of the laminar spreader, a 1.5 cm gap remained at the symphysiotomy. No internal fixation implants were used due to contamination of our field from the enterotomy.

By this time, blood-tinged urine was noted in the Foley catheter, and bladder injury ruled out with intravesical irrigation followed with no evidence of extravasation, as the bladder was visualized through the opening in the symphysis pubis. The balloon of the urinary catheter was easily palpated and so was the prostate. Cystoscopy was deemed unnecessary due to absence of any obvious bladder injury on irrigation. No bleeding was noted from the venous plexus in the area and the Foley catheter was put to dependent drainage. Incisions were closed in layers.

The patient had an unremarkable recovery and was discharged on post-operative day 4 with some discomfort with ambulation.

3. Discussion

Rectal foreign bodies, even though rather infrequent, are no longer considered clinical oddities in urgent care facilities and emergency departments, and it appears that their incidence is increasing, specifically in urban populations.[1,3] Although the medical literature is replete with numerous case reports and case series of RFB in patients of all ages, genders and ethnicities,[1–21] the majority are male in their 3rd and 4th decades.[1–3] Foreign bodies can be inserted in the rectum for sexual gratification or non-sexual purposes – as is the case in body packing of illicit drugs[22] – and voluntarily or not. Numerous types of objects have been described in the literature (ranging from fruits and vegetables,[18–20] cosmetic containers,[4,5,14,15,18,23] cans or bottles,[12,15] batteries,[18] light bulbs[13,15] and children[9,17] or sex toys[5,15,18]) and all of them should be regarded as potentially hazardous of causing significant injury.

More often than not, patients who present to the emergency department with RFB have attempted to remove the object unsuccessfully prior to seeking medical care.[3] Pelvic or even abdominal pain, if perforation has occurred above the peritoneal reflection,