



Case report

Management of unusual rectal foreign body – Case report and literature review

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ABSTRACT

Introduction: Retained rectal objects represent a rare complaint in the emergency room, affecting mainly males between 20 and 40 years, with most objects of a sexual nature, but the examiner must be aware of objects of an unusual nature.

Presentation of case: A 54-year-old male patient arrives at the surgical emergency department, with a report of an accident with the insertion of an object via the rectum, a gym dumbbell. Initially opted for transrectal object removal, but with difficulties due to its position.

Discussion: Retained rectal objects are a rare complaint in the emergency department, but with an increasingly important occurrence in recent years. Physical examination should include an assessment of the abdomen and digital rectal examination. Imaging tests are mandatory for diagnosis, with abdominal and pelvis radiography being the most requested. Although there is no consensus on the most appropriate removal technique, less invasive initial approaches are recommended, with transanal removal with a 60–75% success rate under local anesthesia. The follow-up after the procedure depends on several factors, and in general, the patient should be kept under observation and attention should be paid to significant changes in the evolution and alterations in the imaging tests.

Conclusion: The clinical history in these cases can be confusing, due to the patient's fear of reporting the complaints. Radiography is the best initial test, and CT is reserved for cases of suspected complications. Whenever possible, perform the extraction rectally.

1. Introduction

Insertion of foreign bodies via the rectum is a rare scenario in emergency care, with the sexual practice being a common cause within the cases. Patient assessment is usually difficult due to the patient's fear during the history, as he tends not to report what happened objectively [1]. Attention should be paid to unusual objects as they can cause complications, such as in cases of perforation by glass objects, even though within the total cases, complications are rare [2] Below, we present a case of management of a retained foreign body via the rectum. This case follows 2020 SCARE guidelines for reporting cases in surgery

[3].

2. Presentation of case

A 54-year-old male patient arrives by his means at the surgical emergency department of an emergency care hospital, with an initial complaint of cramping abdominal pain in the hypogastrium, right and left iliac fossae starting 24 h before. He refers to nausea, vomiting in small volume, and stopping of evacuation for approximately 2 days. He denies weight loss, dysphagia, anorexia, unusual food intake, haematochezia or other symptoms. She denies previous comorbidities or

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chronic use of medications, nor drug allergy. On physical examination, the patient was clinically stable, but with a distended abdomen, with mild pain on diffuse palpation, especially in the left iliac fossa and hypogastrum, with no signs of peritoneal irritation or palpable masses. Digital rectal examination was performed without evidence of palpable masses, blood, or other findings, the patient was uncooperative during the examination. Vital signs within the normal range (BP 130 × 90; FC 98; Sat 98%). Blood count and biochemical study were requested, as well as radiography for acute abdomen.

On chest and abdominal radiography, absence of pneumoperitoneum, mild distension of the descending, transverse, and ascending colon loops, and evidence of the presence of a foreign body in the shape of an exercise dumbbell in an approximate location in the rectosigmoid transition (Figs. 1 and 2). Due to the patient's stable clinical condition, with no signs of perforation, an initial rectal approach was chosen.

The patient was referred to the operating room, anesthesia was performed with an initial spinal block and an initial anoscopy was performed, with partial visualization of the foreign body, but without the possibility of extracting the object using grasping instruments. Opted for manual extraction of the object without tweezers, with difficulties, but with complete removal of the same (Fig. 3). On procedure site review, no active bleeding, mucosal lesions, or other complications.

The patient remained in post-anesthetic recovery for 4 h and was referred to the general surgery ward. A control abdomen radiograph was performed, without signs of pneumoperitoneum after 12 h of the procedure. He remained hospitalized for 3 days, without changes in hematimetric values or other complications, with a medical discharge on the 4th postoperative day.

3. Discussion

Retained rectal objects are a rare complaint in the emergency department, but an increasingly important occurrence in recent years. A Caribbean study conducted in hospitals over 5 years revealed an incidence of approximately 0.15 cases per 100,000 population/year, but exact frequency data is not known [4]. Despite being a problem that affects both genders, in the literature consulted there is a predominance of males, at a ratio of 28:1 to females, more specifically white men between 20 and 40 years old, having practices of sexual gratification as the greatest motivation [5,6]. A huge variety of rectal objects have been described, with a greater predominance of those of a sexual nature, followed by glass objects, which should be handled with greater care due to their fragility and risk of injury if broken [1]. The case in question draws attention due to the particular nature of the object, a metallic



Fig. 1. Pelvic radiography (antero posterior view) showing a foreign body (dumbbell) approximately in rectosigmoid transition.



Fig. 2. Pelvic radiograph (lateral view) showing a foreign body (dumbbell).

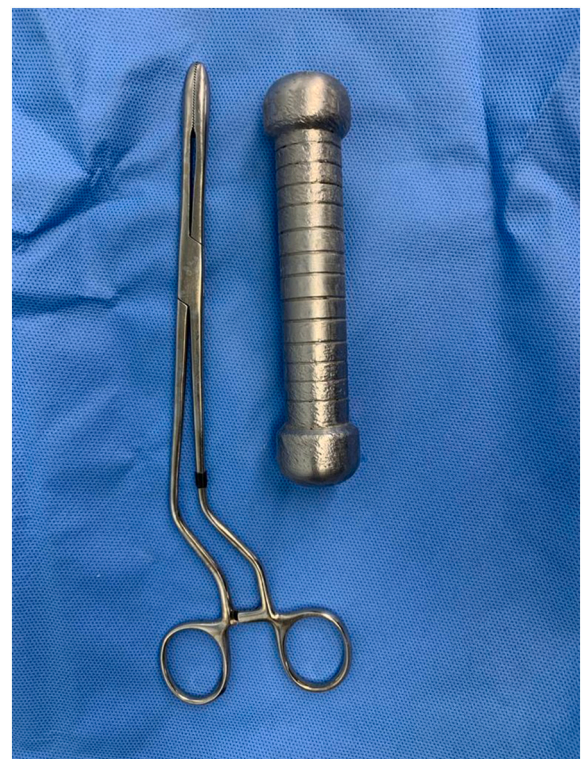


Fig. 3. Dumbbell removed from the rectum compared to a chenron forceps 24 cm.

dumbbell of about 20 cm and approximately 2 k or 4,4 pounds.

Generally, most patients, because of embarrassment, only present for medical attention after several unsuccessful attempts to remove the object alone, resulting in an average calculated delay of 1.4 days to seek help [4]. Many of them have nonspecific complaints of lower abdominal pain, anorectal pain, constipation, or bleeding, so it is up to the examiner to maintain high suspicion and take a careful approach to reach the diagnosis. A good history should evaluate the nature of the inserted

object, as well as the way of insertion, to decide the best way of removal, taking into account the material, size, and location of the object [6]. Physical examination should include inspection, palpation, and abdominal auscultation to evaluate transabdominal palpable objects and rule out signs of peritonitis. Although the digital rectal examination is essential for diagnosis, as it provides data on the presence, size, and location of the object, in addition to assessing the state of the anal sphincter, an abdominal radiograph should be performed before its performance to rule out the presence of sharps or glass objects in the rectum, thus avoiding secondary injuries to the patient and the examiner [7,8].

Imaging tests are mandatory to confirm the diagnosis, with anteroposterior and lateral radiographs of the abdomen and pelvis being the most commonly requested to confirm the presence, number, and location of rectal objects, in addition to checking for the presence of free air. Chest X-ray should be considered in the initial evaluation to exclude pneumoperitoneum. Other imaging tests such as non-contrast computed tomography are important in the evaluation of non-opaque rectal objects, as well as assisting in suspected cases of intestinal perforation [5]. Laboratory tests are not essential in the initial evaluation unless there are signs of peritonitis and preoperative preparation is required [8]. In radiographic examinations performed in our patient, findings of distention of the descending, transverse, and ascending colon loops, with the presence of a radiopaque dumbbell-shaped foreign body in the rectosigmoid transition, but without signs of pneumoperitoneum or perforation.

Although there is no consensus regarding the most appropriate removal technique, less invasive initial approaches are recommended. Studies suggest a 60–75% success rate for transanal extractions under local anesthesia [9,10]. Several techniques can be used if the patient is stable, with a bimanual extraction attempt being initially performed with the patient in the lithotomy position, and if the patient is calm, collaborative, and tolerates the procedure without the need for sedation, there is an advantage in asking to be performing the Valsalva maneuver actively at the correct time, other techniques include the use of forceps and finally endoscopic assistance [11,12]. Emergency surgical approach through laparotomy or exploratory laparoscopy should be reserved for cases of failure or for patients presenting with instability, fever, severe pain, or signs of peritoneal irritation that may indicate perforation [6,9,13]. In the case of the patient, despite the location of the object being considered high, manual transanal extraction was chosen, inserting the surgeon's forearm with some difficulty, without post-extraction complications.

Postoperative follow-up depends on several factors, from the patient's clinical condition, associated comorbidities, presence or absence of problems due to delay in seeking care, and possible trauma-related to removal [7,14]. Serial imaging tests for control should be ordered to evaluate signs of peritonitis and perforation, when available, request endoscopic exams such as colonoscopy or rectosigmoidoscopy to rule out mucosal injuries, as well as evaluate anal sphincter injuries that could lead to certain degrees of fecal incontinence, with subsequent need for outpatient follow-up. The patient should be kept under observation and attention should be paid to significant changes in the evolution, such as the occurrence of fever, vomiting, and changes in imaging tests, and surgical evaluation should be considered in cases of need [7,15,16]. In the case presented, the patient underwent imaging without signs of pneumoperitoneum in the first 12 h, remained hospitalized for 3 days, and progressed without complications, being discharged on the 4th postoperative day.

4. Conclusion

Despite being a rare complaint in the routine of emergency and having no defined incidence, cases of rectal foreign bodies have increasing numbers, mainly due to auto-erotic causes. The clinical history can be confusing, due to the patient's fear of reporting the

complaints. Physical examination should be the standard for an obstructive acute abdomen, but pay attention to cases of piercing objects that could injure the examiner. Radiography is the best initial test, and CT is reserved for cases of suspected complications. Whenever possible, perform rectal extraction, except when there is suspicion of perforation or impossibility of rectal evaluation.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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Research registration

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Guarantor

Ana Elisa de Landa Moraes Teixeira Grossi.

Ethical approval

As the manuscript is not a research study, we only have the patient consent for writing and others forms of publication. Also, the ethical approval for this case reports has been exempted by our institution.

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CRediT authorship contribution statement

Ana Elisa, Juan Rodriguez and Alexia Aina contributions to conception, design, collected the patient details and wrote the paper. Ana Elisa, Danielle Barbosa and Frank Pinheiro made contributions to patient management. Victor Lins, Ana Elisa and Danielle Barbosa critically revised the article. All authors read and approved the final manuscript.

Declaration of competing interest

This report does not present conflicts of interest by the authors.

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