CASE REPORT

Approach to rectal foreign body: an unusual presentation

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SUMMARY

Foreign bodies in the rectum are commonly confronted worldwide in the surgical emergency. Such a situation arises either accidentally or for autoerotic purposes. A wide variety of foreign objects have been reported in the literature and this usual object would add to the reports for its unusual location. We report a case of a 26-year-old young man with accidental insertion of hand shower in the rectum and no signs of any active bleed or peritonism. Extraction was done successfully in the operating room under general anaesthesia, with an uneventful postprocedure period and the patient was discharged after 48 hours of observation. Rectal foreign bodies can be of wide variety and can lead to life-threatening conditions. An orderly approach is required for diagnosis, management and evaluation in the postprocedure period.

BACKGROUND

Rectal foreign bodies are increasingly being reported in literature, with the earliest reports dating back to the 16th century.¹ A large variety of objects have been reported, including bottles, cans, glass bulbs, stones, small rods, fruits and vegetables, vibrators, dildos and toys.^{2–7} Insertion of objects for autoerotic purposes is the most common cause of rectal foreign bodies. Other common causes include accidents and assaults. The presentation is often delayed, and history is often improper. An orderly approach is required for retrieval and proper management of these cases.^{1,8} This case of a young patient presenting with accidental insertion of a hand shower in his rectum would add to the list of odd objects found in patients presenting with rectal foreign bodies. Approach to patients presenting with rectal foreign bodies is discussed thereafter.

CASE PRESENTATION

A 26-year-old unmarried man presented to the surgical emergency with a history of accidentally slipping in the toilet leading to insertion of hand shower in the rectum. He detached the other end of the connecting PVC (Polyvinyl Chloride) pipe and presented to us. There was no history of similar episode in the past or any psychiatric illness. He denied any voluntary attempts of transanal object insertion.

At presentation, his general condition and vitals were unremarkable. Abdominal examination was essentially normal. Perineal examination revealed a PVC connecting pipe entering the anus without

any evidence of bleeding in the region ([figure 1](#)). A gentle digital manipulation was attempted to look for any active bleed which was found to be absent.

INVESTIGATIONS

An abdominal and chest X-ray in erect posture and X-ray pelvis was obtained which showed a tubular air filled shadow with a metallic coil in the pelvis and no free intraperitoneal air ([figure 2](#)). Further, non-contrast CT of the abdomen and pelvis was done which showed the length and position of hand shower in the rectum ([figure 3](#)). Proximal end was not seen to extend beyond the rectosigmoid junction.

TREATMENT

As the proximal end of the hand shower was not palpated on digital rectal examination (DRE), retrieval under conscious sedation was not attempted. The patient was taken up for attempting extraction in the operation theatre under general anaesthesia to facilitate complete relaxation of the anal sphincters, or exploratory laparotomy, if required.

The patient was laid in lithotomy position. After induction, gentle anal stretching was performed. Thereafter, it was possible to negotiate fingers alongside the hand shower and palpate the most distal portion, where the shower spring which was in abducted position, was brought back to its adducted position and then gently extracted. The length of the inserted portion was approximately 15 cm ([figure 4](#)).

A postprocedure proctoscopy and sigmoidoscopy was done to rule out any active bleed or mucosal damage, and was found to be normal. Repeat abdominal X-ray done after 24 hours ruled out any intraperitoneal free gas.

OUTCOME AND FOLLOW-UP

Postextraction period was uneventful. The patient was allowed oral feeds after 12 hours and discharged after 48 hours. Psychiatric consultation was advised which was denied by the patient.

DISCUSSION

Insertion of foreign body in the rectum is a commonly encountered situation in clinical practice. These are mostly inserted through the rectum and occasionally, few orally ingested foreign bodies may get impacted in the rectum.

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Figure 1 Photograph depicting the PVC connecting pipe projecting externally from the anal opening.

Rectally inserted foreign bodies are classified as voluntary or involuntary.^{1,9} While insertion for autoerotic purposes or drug trafficking account for voluntary causes, sexual assault⁵ or therapeutic complications like retained thermometer and enema catheter tips are few of the involuntary causes.

A variety of objects have been reported in the literature.^{3,6} Two-thirds of the patients are males in their 30s or 40s, who use such objects for autoerotic purposes.¹ It is important to know the history of similar episodes and any psychosexual behaviour abnormalities in such individuals.¹⁰

It is important to know the type, material, size and number of objects before attempting removal or extraction.¹¹ Rectal foreign bodies are also classified as high lying or low lying, depending on their location above or below the rectosigmoid junction.^{6,10}

A proper history and examination is mandatory to look for signs and symptoms of perforation and infection, such as fever, severe abdominal pain and bleeding.¹¹ History is often ambiguous and incomplete due to a high level of embarrassment and social stigma attached to the condition.^{1,2,9} The same was seen in our case. Though the patient reported accidental insertion of

the shower head and denied voluntary insertion, there is a high suspicion of voluntary insertion for auto-erotic purpose.

Examination includes local examination of the perineum to look for active bleeding, wounds and lacerations, followed by a DRE, if possible. It is advisable to rule out the presence of sharp objects prior to DRE to avoid injury to the patient and doctor. Rectal foreign bodies may be palpated per abdominally in the lower right or left quadrant, and if high up, may not be palpated on DRE. It is also important to note the anal sphincter tone and document any internal or external sphincter injury or sphincteric spasm.^{1,8}

Next step is to get an abdominal and pelvic radiograph, which serves two purposes: characterisation of the foreign body and ruling out free intraperitoneal air which is a sign of perforation.⁴ CT scan of the pelvis and abdomen is done in cases presenting after 24 hours, in patients with signs of perforation^{1,9} and in patients which require a better characterisation of the foreign body.^{4,7} They may also detect extraperitoneal bowel perforation, as rectal perforation. Blood investigations though not essential, include a complete blood count to look for signs of perforation and sepsis.^{2,9}

Patients who are unstable or have signs of intraperitoneal rupture and peritonitis, or those with active per anal bleeding are directly taken up for surgical removal by laparotomy.¹

Stable patients with no signs of perforation or peritonitis are taken up for transanal removal.⁶ A non-sharp palpable object less than 10 cm from the anal verge may be considered for bedside removal. Sharp and fragile objects, uncooperative patients or severe abdominal pain are relative contraindications to bedside removal.¹² Transanal retrieval for distally palpable objects is initially tried under conscious sedation, or local anaesthesia.² Anal canal is dilated adequately, usually to three finger breadth. Grabbing the object with hand is attempted.¹ Objects with an edge are grabbed with a forceps and others are extracted with a variety of instruments depending on the object shape. For proximally located objects in stable patients, Valsalva⁶ Manoeuvre may be tried to push the object distally.² Some authors have reported the use of a three-way Foley's balloon,¹³ pneumatic dilatation balloon¹⁴ or endotracheal tube inflated beyond the object to apply downward traction on the object.⁷ Others have

Figure 2 (A) Erect X-ray chest shows no free air under diaphragm. (B) X-ray pelvis shows tubular-shaped radiolucency within the rectum (arrow). A metallic coil is seen in the proximal aspect of radiolucent shadow (asterisk), corresponding to the metallic spring in the shower head.

Figure 3 Sagittal (A) and coronal (B) reformatted non-contrast CT images of the pelvis show the hand shower within the rectal lumen (arrow). Metallic artefact is seen in the upper end of the shower (asterisk), corresponding to the metallic spring in the shower head. Upper end lies below the rectosigmoid junction. Rectal outline is smooth with no fat stranding in the perirectal area.

reported using obstetrical forceps or vacuum devices¹⁵ to aid in foreign body retrieval.

In cases where the sphincter tone is very high or the object is not able to pass down, transanal retrieval under general anaesthesia is done, which causes complete relaxation of the sphincter. Transabdominal downward pressure may be simultaneously applied.¹⁸ In our case, proximal aspect of the hand shower handle was in an abducted position and the proximal end was not palpated on DRE. Thus, retrieval under general anaesthesia was done in order to reach till the proximal aspect and remove the shower in adducted position of the handle to prevent rectal injuries.

Endoscopic removal by using a flexible or rigid colonoscopy is attempted by many surgeons if the above methods fail. It is also used for removal of proximally located objects in the sigmoid or descending colon,²⁹ and for careful removal of sharp objects.¹⁹ A novel approach has been described in literature by a few authors, where a SILS (single-incision laparoscopic surgery) port has been used for transanal removal foreign bodies not retrievable by conventional methods transanally.^{16–18} In this approach, the SILS port is inserted transanally and rectum is distended by air

insufflation. Foreign body is then removed by grasping forceps under direct vision using a laparoscope.

If transanal approach fails, transabdominal laparoscopic removal is tried next. This is usually needed in high lying or impacted foreign bodies. Initially, an attempt is made to milk the object downwards to facilitate transanal removal. If unsuccessful, a colotomy is done to remove the object followed by primary closure. Laparotomy is reserved for severe cases with perforation or if other methods fail. Colotomy or colostomy is done followed by object removal and repair of the perforation, if any. Primary or secondary colostomy closure is then done depending on the level of contamination.¹²⁹ Kasotakis *et al*² reported a case of a large impacted foreign body in an android pelvis, which was removed by laparotomy and pubic symphysiotomy to widen the pelvic outlet.

Stepwise approach to patients with rectal foreign bodies is shown in figure 5.

Early extraction is advisable in all cases, as delay may lead to complications like perforation, sepsis, mucosal injuries, obstruction or bleeding.

Figure 4 (A, B) Hand shower with the connecting pipe post successful transanal extraction.

Figure 5 Approach to patients with rectal foreign body. DRE, digital rectal examination; NCCT, non-contrast CT; GA, General Anaesthesia; OT, Operation Theatre; LA, Local Anaesthesia

Postextraction evaluation should include a thorough endoscopic examination by proctoscopy and colonoscopy or sigmoidoscopy to rule out any mucosal injury. Postremoval plain radiographs of the abdomen are also mandatory to rule out perforation. Post-treatment complications like rectal bleeding mucosal injuries or perforation can be life threatening if left undetected and untreated.¹²⁹

Learning points

- ▶ Rectal foreign bodies can lead to life-threatening complications if their treatment is delayed.
- ▶ An orderly approach is necessary to identify, diagnose and manage such cases.
- ▶ Proper history and examination are necessary to rule out bowel perforation and to know if the foreign body is high lying or low lying. X-ray abdomen in erect position with or without a CT scan of abdomen and pelvis is required.
- ▶ Depending on the location and type (sharp or non-sharp) of the foreign body and the presence or absence of bowel perforation, further treatment is done.
- ▶ Postextraction evaluation is also an important part of the management.

Psychiatric consultation should also be mandatory in patients with voluntary foreign body insertion.¹⁷

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