



Antegrade impalement of the rectum by a foreign body: a case report of a successful transanal extraction using the transanal single port (TAMIS) technique

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Introduction

Patients with retained rectal foreign bodies (RFB's) are not an uncommon occurrence in most emergency departments, and can sometimes constitute a considerable clinical challenge. Many simple and/or complex manoeuvres have been described for removing such RFB's. A technique that is sometimes mentioned, but rarely described in the literature is the use of a transanal minimally invasive surgery (TAMIS) procedure. We describe the case of a patient that inserted a punch tool, that required a TAMIS to be safely removed.

Case report

A 70-year-old male with a history of schizophrenia presented to the emergency department after rectal insertion of a punch tool he used to relieve his constipation. He was in no apparent distress, abdominal examination was unremarkable. Hemodynamic parameters were normal. At digital rectal examination the foreign body was not palpable. A plain abdominal X-ray showed a punch tool, projecting obliquely, cranial over the sacral bone (Fig. 1). Rigid rectoscopy was performed at the bedside, confirming the presence of the tool. It was fixed in place by antegrade perforation of the dorsal rectal wall approximately 10 cm proximal of the anal sphincter. The patient was taken to the operating room and general anesthesia was administered. After positioning in lithotomy position, a TAMIS trocart (GelPOINT Path, Applied Medical[®]) was inserted into the anus, and a pneumorectum established. Using regular laparoscopic

instruments the object could be displaced cranially until it was dislodged from the dorsal rectal wall (Figs. 2, 3, 4). It could then be removed without further problems (Fig. 5). The site of perforation was visualised afterwards, but as there was no perforation into the abdominal cavity, no additional treatment was attempted or indicated. The patient was discharged on the second postoperative day. He returned to a scheduled follow-up appointment in the outpatient clinic, and reported an uneventful recovery and good bowel/sphincter function.

Discussion

Many techniques have been described for removal when simple digital manipulation is not successful [1]. The simplest adjunct is proctoscopy with the use of various clamps, and can be performed in the emergency department. More complex manoeuvres include the use of bladder catheters, myectomy screws, or plaster of Paris [2]. A technique has been proposed using an intraoperative navigation system to accurately identify the position of a foreign body in the pelvis [3]. It is noteworthy that often application of mild manual abdominal pressure can be useful. Depending on the nature of the object, and location upwards from the anal sphincter, rigid and/or flexible endoscopy with the use of biopsy forceps and/or snares can be useful [2]. All of these techniques can be combined with spinal and/or general anesthesia to achieve pelvic floor relaxation. Unfortunately, all of these techniques share the limitation that cephalad displacement of the object is impossible. Despite these different strategies, sometimes laparotomy may still be required. While the use of TAMIS for retained RFB has been mentioned as an option in literature reviews, only one case report is available of its actual use [4]. This concerned a RFB, complex because of its round, smooth shape, and a vacuum effect with the colonic wall. A TAMIS case series briefly mentions two

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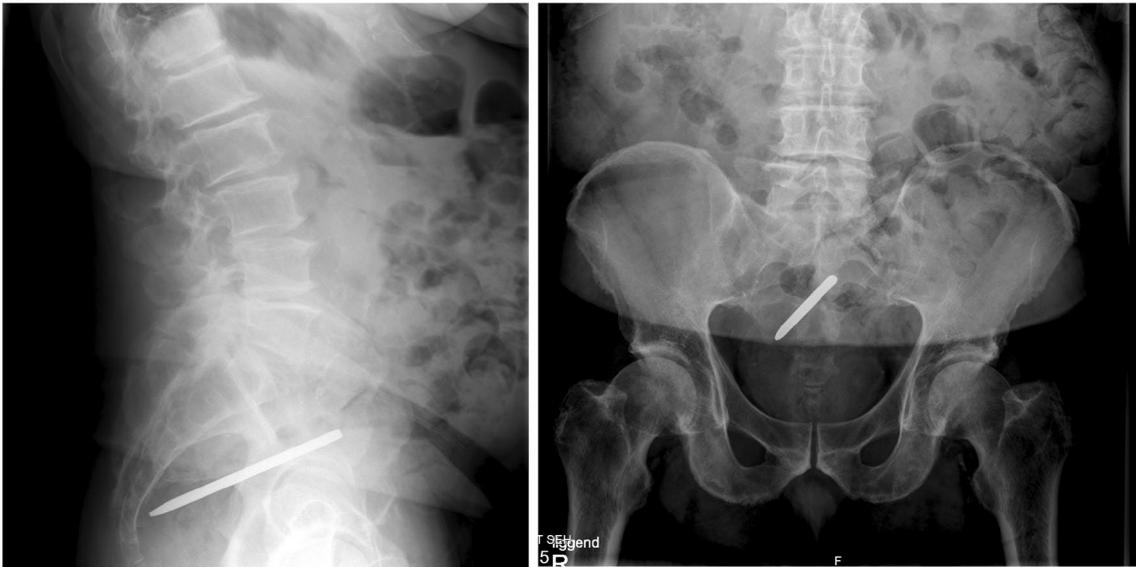


Fig. 1 Pelvic x-ray showing the position of the retained foreign body



Fig. 2 Preoperative view of the retained foreign body prior to extraction



Fig. 3 Tip of the foreign body after dislodgement from the dorsal rectal wall using regular laparoscopic graspers

cases of foreign body retrieval without specifying why a TAMIS procedure was used [5]. The present case confirms the applicability of this technique for this specific indication. It can be reasoned that the use of TAMIS is relatively expensive. The use of a glove port as an interface can be a

good alternative that has proven to be a cost-effective, and also provides wide working angles [6, 7].

In this case, the foreign body was complex due to its proximal location and impalement of the rectal wall. The proximal position of the object made the use of more simple transanal instrumentation using proctoscopy impossible. The

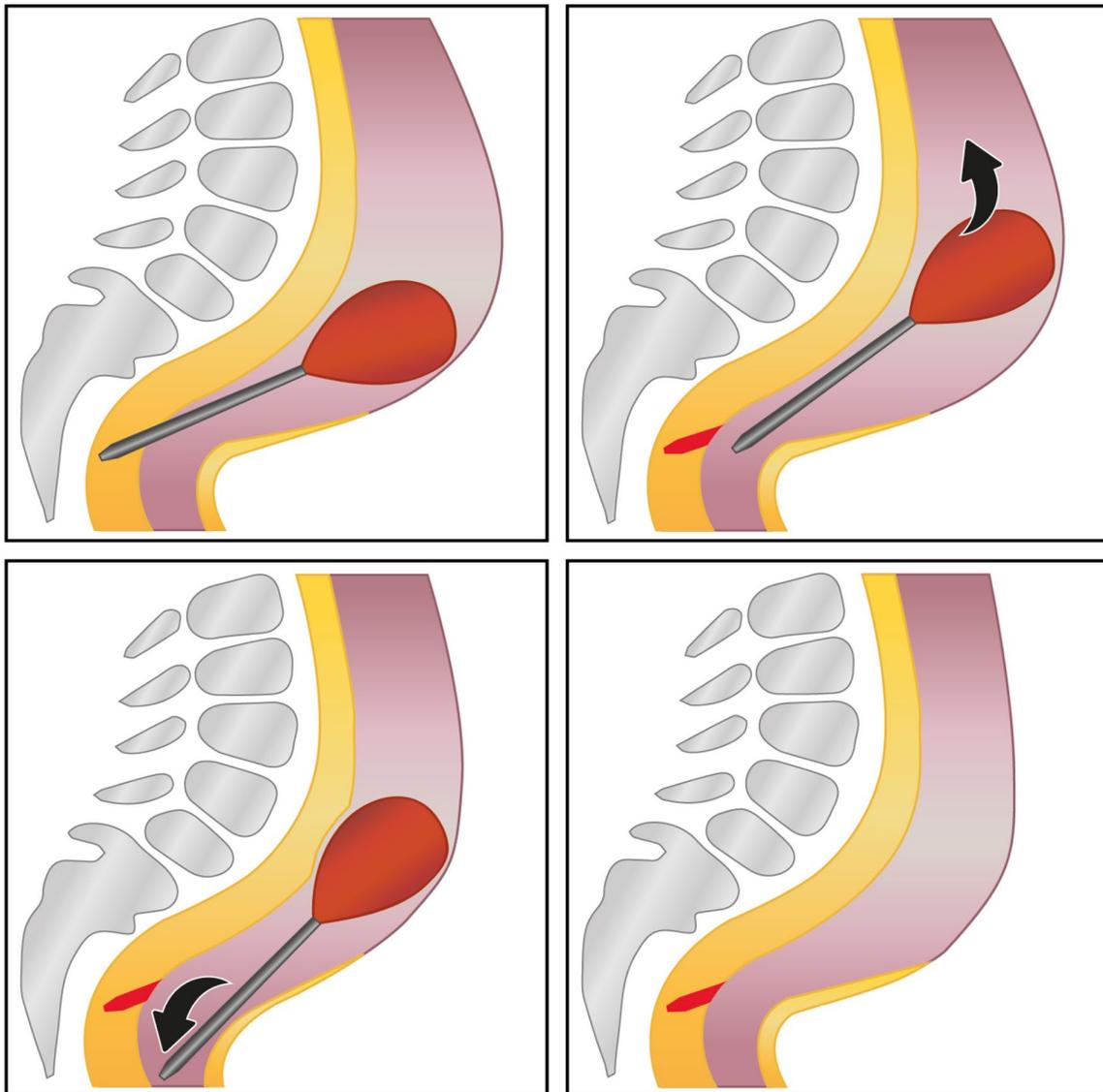


Fig. 4 Schematic view of the required manipulation of the foreign body to allow extraction

impement of the dorsal rectal wall would have made a traditional rigid and/or flexible endoscopy unlikely to be successful. TAMIS allowed the use of rigid instruments under direct vision, facilitating the upward displacement of the punch tool required to overcome the impalement of the rectal wall. Without TAMIS this case would have likely required open abdominal exploration, possibly even colotomy with associated morbidity. Lastly, TAMIS facilitated careful inspection of the remaining defect, and if required would have allowed for surgical closure.

Conclusions

Especially for complex RFBs (for instance: rounded, smooth objects, or fixation to the surrounding rectum) TAMIS can be a valuable technique between proctoscopic or endoscopic removal, and laparoscopic and/or open abdominal exploration.

Fig. 5 Foreign body after removal



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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This study contains only retrospective data, and is in full compliance with local laws and guidelines. No formal ethical review was required.

Informed consent Written informed consent was obtained from the patient for publication of this Case Report and all accompanying images. A copy of the written consent is available for review by the Editors-in-Chief of this journal.

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