

Novel Approach to Rectal Foreign Body Extraction

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ABSTRACT

Introduction: The impacted rectal foreign body often poses a management challenge. Ideally, such objects are removed in the emergency department utilizing a combination of local anesthesia, sedation, minimal instrumentation, and manual extraction. In some instances, simple manual extraction is unsuccessful and general anesthesia may be necessary. We describe a novel approach to retrieval and removal of a rectal foreign body utilizing a SILS port.

Case Description: A 31-y-old male presented to the emergency department approximately 12 h after transanal insertion of a plastic cigar case. Abdominal examination revealed no evidence of peritonitis. On rectal examination, the tip of the cigar case was palpable. The foreign body, however, was unable to be removed manually in the emergency department. In the operating room, with the patient under general anesthesia, multiple attempts to remove the object were unsuccessful. A SILS port was inserted transanally. The rectum was then insufflated manually by attaching the diaphragm of the rigid sigmoidoscope to the SILS insufflation port. A 5-mm 0-degree laparoscope was placed through the SILS port. An atraumatic laparoscopic grasper was then placed through the port and used to grasp the visible end of the cigar case. The rectal foreign body was removed expeditiously. Direct visualization of the rectum revealed no evidence of

mucosal injury. The patient was discharged home shortly after the procedure.

Discussion: The SILS port allows minimally invasive extraction of rectal foreign bodies not amenable to simple manual extraction. It provides excellent visualization and eliminates the morbidity inherent in more invasive and traditional methods of retrieval.

Key Words: Minimally invasive, Sigmoidoscopy, Foreign body, Rectum.

INTRODUCTION

Although retained rectal foreign bodies are an uncommon problem, definitive management may often require surgical intervention. Objects range from enema tips and thermometers to fruits and vegetables to sexual toys. Most of these retained foreign bodies are the result of erotic behavior and can be a source of embarrassment to the patient.

The standard technique for removal of rectal foreign bodies involves a combination of pain medication, sedation, local anesthesia, and an attempt at manual extraction in the emergency department or in the operating room.^{1,2} The object can often be removed with the aid of atraumatic surgical instruments. However, repeated palpation of the object by multiple physicians can cause the object to migrate more proximally in the rectum, requiring more-invasive approaches to extraction. There have been numerous methods described in the literature, such as obstetrical suction devices or the use of uterine or Kocher clamps,^{1,3-5} laparoscopic, as well as manually assisted, “milking” of the large bowel,⁶ snare-wire extraction sigmoidoscopy,¹ as well as complete division of the anal sphincters. To our knowledge, there have been no previous reports on the transanal use of the SILS™ port (Covidien, Mansfield, MA, USA) for extraction of a foreign body. The use of a transanal SILS port has, however, been described as an alternative method for removal of low-stage rectal tumors. Herein, we describe the novel use of a SILS port for extraction of an impacted rectal foreign body.

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CASE REPORT

A 31-y-old male presented to the emergency department 12 h after he had inserted a plastic cigar case into his rectum. He was unable to remove it on his own. He denied abdominal pain, nausea, vomiting, fevers, or chills, but did complain of rectal discomfort. An obstruction series was obtained and revealed no evidence of free air. The rectangular, low-density object was visualized in the pelvis (**Figure 1**). Complete blood count and electrolytes were within normal limits. Abdominal examination was benign. On digital rectal examination, the end of the plastic case was palpated, approximately 6cm from the anal verge. Manual extraction in the emergency department was not successful, despite pain medication, sedation, manual pressure on the lower abdomen, position changes, and placement of a nasogastric tube transanally. Therefore, the decision was made to take the patient to the operating room for examination while he was sedated. It was explained to the patient that if transanal removal was not possible while he was anesthetized laparotomy and possible bowel resection might be necessary.

In the operating room, the patient was placed in the lithotomy position and a rigid sigmoidoscope was used to visualize the object. The distal aspect of the object was visualized at approximately 10cm from the anal verge. Multiple attempts to grasp the object with atraumatic clamps were unsuccessful, despite conversion to general endotracheal anesthesia and paralytics. A Foley catheter

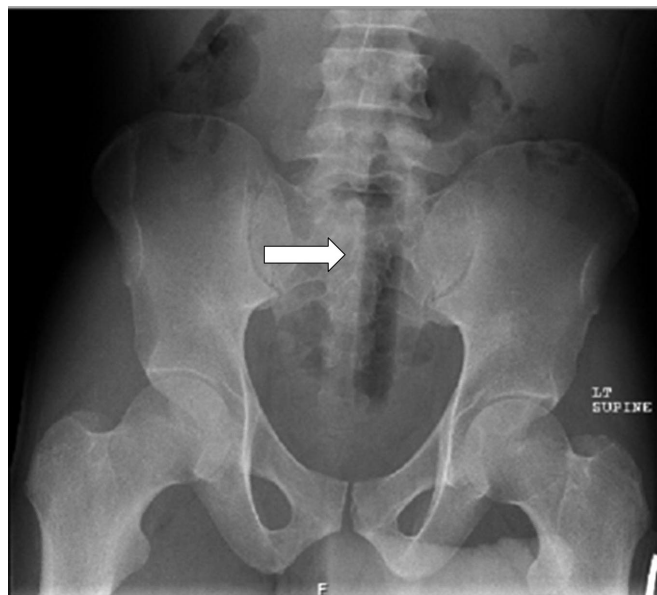


Figure 1. Abdominal radiograph of rectal foreign body (arrow).

was inserted past the object in an attempt to disrupt suction on the object. An attempt was made at utilizing laparoscopic graspers by the rigid sigmoidoscope, but adequate visualization of the rectal mucosa was not possible and concern for traumatizing the rectum precluded this approach.

Next, the SILS port was inserted transanally (**Figure 2**). The hand insufflator pump from the rigid sigmoidoscope was used to distend the rectum. A 5-mm, 0-degree laparoscope was inserted through one port, and an atraumatic laparoscopic grasper was inserted through the other. Visualization of the rectal mucosa and foreign body was excellent (**Figure 3**). The cigar case was easily grasped and removed. The laparoscope was then used to visualize the surrounding mucosa to inspect for injury. The SILS port was removed, and the patient was extubated in the operating room. Recovery was uneventful in the postanesthesia care unit (PACU). He was discharged home from the PACU shortly thereafter.

DISCUSSION

Removal of rectal foreign bodies can be a frustrating task. Depending on the size and shape of the object, different methods may be utilized, and the surgeon should be familiar with multiple options. Obstetric forceps and suction devices have been used, especially for glass or fragile objects.^{1,4,5,7} Direct visualization and the option of snares are benefits provided by the use of endoscopy.⁸⁻¹² However, if the object has smooth sides, it is often impossible to grasp in this manner. Myomectomy screws have been used to impale rubber objects or food items.¹³ Foley catheters have been utilized in different configurations to both

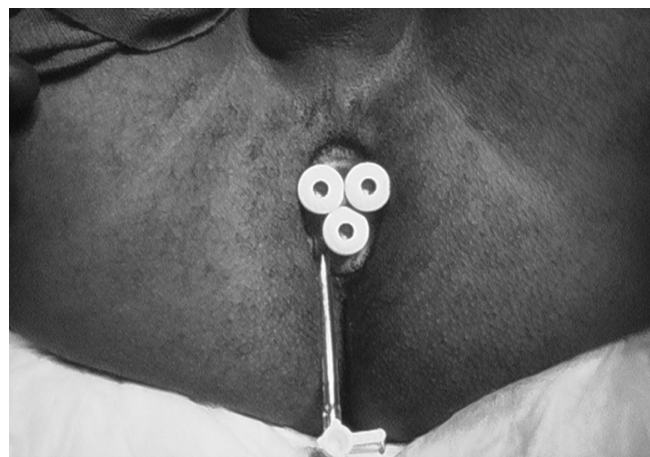


Figure 2. Transanal placement of SILS port with patient in the lithotomy position.

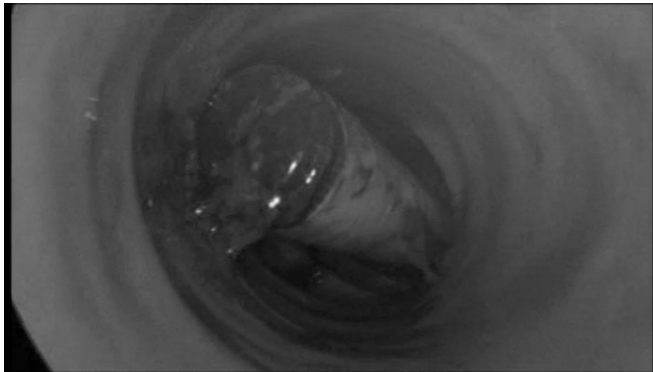


Figure 3. Visualization of distal aspect of rectal foreign body with 5-mm, 0-degree laparoscopic through SILS port.

manipulate objects and relieve suction.^{8–10} The more proximal the retained object, the higher likelihood that operative intervention will be necessary for successful retrieval.¹⁴

A laparoscopic-assisted approach has been described for situations in which the object is too proximal for transanal extraction methods.¹⁵ Two or 3 intraabdominal ports are used, through which instruments are used to “milk” the object distally into the rectum to permit for manual extraction.⁶ Laparotomy may also be required to remove foreign bodies, either by colotomy with extraction and primary closure, resection and primary anastomosis, or resection and colostomy creation. Any injury to the rectum or colon caused by the object must be repaired. Depending on the extent of the rectal injury, presacral drainage or colostomy, or both of these, may be necessary.¹

The transanal use of a SILS port has been reported for excision of rectal tumors as an alternative to transanal endoscopic microsurgery.¹⁶ Various investigators have claimed advantages of better visualization, cost savings, and improved operating room time when using the SILS port for performing transanal excisions of rectal tumors.^{17,18} The method we present here allows for excellent visualization and extraction of many different types and shapes of rectal foreign bodies when simple manual extraction is neither feasible nor successful. Anything that can be grasped with laparoscopic instruments should be able to be successfully removed with the SILS port placed transanally. This method also avoids the potential morbidity associated with laparoscopy and laparotomy, including intraabdominal organ injury, bleeding, and adhesion formation. Direct visualization of the rectum allows for immediate inspection for injury, without the need for further examination with rigid or flexible endoscopy. Compared

to more-invasive means of rectal foreign body extraction, transanal use of the SILS port offers the potential for less postoperative pain. In addition, hospital admission can likely be avoided, ultimately resulting in lower overall hospital costs.

CONCLUSION

Transanal use of the SILS port with laparoscopic equipment is a safe, effective way to remove impacted rectal foreign bodies. It avoids the inherent complications associated with transabdominal laparoscopy or laparotomy and should be among one of the first options in the surgeon’s armamentarium when faced with difficult removal of foreign rectal bodies.

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