

Transanal Extraction of Retained Rectal Foreign Bodies: A Case Series

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Abstract

Case Series

Background: Rectal foreign bodies (RFBs) represent an uncommon but increasingly encountered proctological emergency. Management can be challenging, particularly in cases of delayed presentation or proximally located objects. The primary goal is safe extraction while minimizing morbidity and avoiding laparotomy. **Methods:** We conducted a retrospective descriptive study including four male patients presenting with rectal foreign bodies. Clinical, radiological, and therapeutic data were analyzed. Three patients underwent abdominopelvic computed tomography to exclude complications. A standardized transanal extraction under general anesthesia using a bimodal technique (abdominal pressure combined with transanal manipulation) was performed in all cases. **Results:** The mean age was 65 years (range 58–71). The delay of presentation ranged from 12 hours to 15 days. Objects included three plastic sex toys and one glass bottle measuring up to 24 cm. One patient presented with signs of bowel obstruction. In all cases, CT scan ruled out perforation. Transanal extraction under general anesthesia was successful in 100% of cases, including a delayed case with a large and fragile object. No intraoperative or postoperative complications were observed. The mean hospital stay was 24 hours. **Conclusion:** Transanal extraction under general anesthesia using a standardized bimodal technique is a safe and effective approach for the management of rectal foreign bodies, even in delayed or complex cases. This strategy may help avoid unnecessary laparotomy when no signs of perforation are present.

Keywords: Rectal foreign body, transanal extraction, computed tomography scan, general anesthesia.

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INTRODUCTION

The intentional insertion of rectal foreign bodies (RFBs) constitutes an uncommon yet notable proctological emergency. Its incidence appears to have been increasing in recent years, though it remains likely underestimated due to frequent underreporting driven by patient embarrassment and social stigma [1, 2]. While this condition can occur at any age, the literature demonstrates a distinct male predominance, with reported ratios reaching up to 28:1 [1, 3, 4].

The circumstances surrounding insertion are diverse, predominantly involving autoerotic practices, but also encompassing psychiatric disorders, physical assaults, or, more rarely, accidental impalement [5, 6]. The primary diagnostic and therapeutic challenge stems from delayed presentation, often secondary to repeated, unsuccessful self-extraction attempts at home. Such maneuvers may result in the proximal migration of the foreign body toward the rectosigmoid junction, complicating its retrieval and increasing the risk of

severe complications, including mucosal injury, bowel obstruction, or gastrointestinal perforation [7, 8].

Management relies on a rigorous clinical evaluation, incorporating a mandatory digital rectal examination (DRE), complemented by appropriate imaging. The abdominopelvic computed tomography (CT) scan has emerged as the gold standard imaging modality, simultaneously allowing for the precise localization of the object and the exclusion of digestive perforation [1, 9].

Therapeutically, the objective is the successful extraction of the foreign body with minimal morbidity, favoring a conservative approach whenever feasible. Current management algorithms strongly recommend attempting transanal extraction as a first-line intervention in the absence of peritonitis, reserving laparotomy for complicated cases or following the failure of conservative techniques [10, 11].

Within this context, we report a series of four adult patients presenting with RFBs, characterized by the

presence of large objects and variable presentation delays, including an exceptional case of prolonged retention. This study aims to describe our management strategy and discuss the key factors contributing to successful transanal extraction, even in potentially complex clinical scenarios.

PATIENTS ET METHODES

Study Design and Patient Population

We conducted a retrospective descriptive study including all patients admitted for a retained rectal foreign body (RFB) to the Department of General Surgery at the Victor Jousselin General Hospital (Dreux, France) over a three-year period from May 2023 to April 2026.

Inclusion criteria were: age ≥ 18 years, presence of a clinically and/or radiologically confirmed RFB, and definitive management within our department. Patients presenting with overt signs of peritonitis upon admission or those requiring emergent laparotomy without an initial transanal extraction attempt were excluded from the study.

Data Collection

Data were extracted from electronic medical records and included:

- Demographic characteristics (age, sex);
- Medical and psychiatric history;
- Time from insertion to clinical presentation;
- Nature, dimensions, and type of the foreign body;
- Clinical presentation upon admission (pelvic pain, obstructive symptoms, rectal bleeding);
- Proctological examination findings, notably the palpability of the object on digital rectal examination (DRE);
- Radiological findings;
- Therapeutic modalities and surgical approach;
- Postoperative course and occurrence of complications.

Diagnostic Protocol

The diagnosis was initially suspected during history-taking—though frequently delayed due to patient reluctance—and subsequently confirmed by physical examination, which systematically included a DRE.

An unenhanced abdominopelvic CT scan was routinely performed for all patients to:

- Determine the exact location, dimensions, and orientation of the foreign body;
- Evaluate its anatomical level relative to the rectosigmoid junction;
- Rule out severe complications, specifically gastrointestinal perforation (pneumoperitoneum) or proximal colonic dilation.

Therapeutic Strategy

In the absence of clinical or radiological signs of perforation or peritonitis, a transanal extraction attempt was systematically favored as the first-line approach.

All procedures were performed in the operating room under general anesthesia with neuromuscular blockade to achieve optimal anal sphincter relaxation.

The extraction technique was standardized and relied on a bimanual (bimodal) maneuver combining:

- Externally applied suprapubic abdominal pressure to milk and mobilize the foreign body distally;
- Digital or instrumental transanal extraction (utilizing Kocher or Museux forceps) guided by direct tactile feedback.

The utilization of general anesthesia aimed to maximize sphincter compliance and minimize the risk of iatrogenic mucosal trauma, particularly when dealing with large or fragile objects.

Post-Extraction Care and Follow-up

Following successful extraction, patients were monitored in a short-stay hospitalization unit, with a standard length of stay of 24 hours in the absence of complications.

CASE PRESENTATIONS

Four male patients, aged 58 to 71 years, were managed for retained RFBs. The clinical, radiological, and therapeutic characteristics are summarized in Table 1.

Case 1

A 60-year-old male presented to the emergency department following unsuccessful home extraction attempts of an anally inserted object. The foreign body was palpable on DRE but could not be safely retrieved in the emergency room setting. Transanal extraction performed under general anesthesia allowed for complete, atraumatic removal without subsequent complications (Figure 1).

Case 2

A 71-year-old male was admitted with a delayed presentation of 15 days, reporting significant abdominal pain and obstipation. The foreign body was not palpable on DRE and was radiologically localized at the rectosigmoid junction via CT scan. Despite a highly unfavorable clinical context—characterized by proximal migration, prolonged retention, and the fragile nature of the object (a glass bottle)—transanal extraction under general anesthesia was successfully achieved without complications (Figure 2).

Case 3

A 58-year-old male with a documented psychiatric history presented early after the anal insertion of an object. The foreign body was only partially accessible on DRE and could not be extracted under standard emergency conditions. Subsequent extraction under general anesthesia facilitated complete removal without difficulty (Figure 3).

Case 4

A 71-year-old male presented with acute pelvic pain following the anal insertion of an object. Although the object was partially palpable on DRE, definitive extraction was only feasible in the operating room. A bimanual technique under general anesthesia was employed, resulting in an uncomplicated postoperative course (Figure 4).

RESULTS

Four patients met the inclusion criteria. Their clinical, radiological, and therapeutic characteristics are summarized in Table 1.

The cohort consisted entirely of male patients, ranging in age from 58 to 71 years. The time to presentation varied significantly, from 12 hours to 15 days. The retrieved objects included three synthetic erotic devices and one glass bottle utilized for autoerotic purposes.

One patient presented with clinical signs of bowel obstruction. Preoperative CT scans successfully ruled out gastrointestinal perforation in all cases. Transanal extraction under general anesthesia was attempted and achieved a 100% success rate across the cohort. No intraoperative mucosal injuries or postoperative complications were observed. The mean length of hospital stay was 24 hours.

Table 1: Clinical, Radiological, and Therapeutic Characteristics of the Patients

Variable	Case 1	Case 2	Case 3	Case 4
Age (years)	60	71	58	71
Past medical history	None	None	HIV, Depression	HIV
Time to presentation	24 h	15 days	12 h	16 h
Presenting symptoms	Pelvic pain	Pain and obstipation	Pelvic pain	Pelvic pain
Object type	Sex toy (plastic)	Bottle (glass, 75 cL)	Sex toy (plastic)	Sex toy (plastic)
Length (mm)	220	240	200	130
Location	Rectosigmoid	Rectosigmoid	Rectosigmoid	Rectosigmoid
DRE: palpable object	Yes	No	Yes (distal tip)	Yes (partially)
Rectal bleeding	No	Yes	No	No
Imaging	Plain abdominal X-ray	CT scan	CT scan	CT scan
Complications on imaging	None	Colonic dilation	None	None
Anesthesia	General	General	General	General
Extraction technique	Bimanual + Kocher forceps	Bimanual	Bimanual + Museux forceps	Bimanual + Museux forceps
Successful extraction	Yes	Yes	Yes	Yes
Postoperative complications	None	None	None	None
Length of hospital stay	24 h	24 h	24 h	24 h

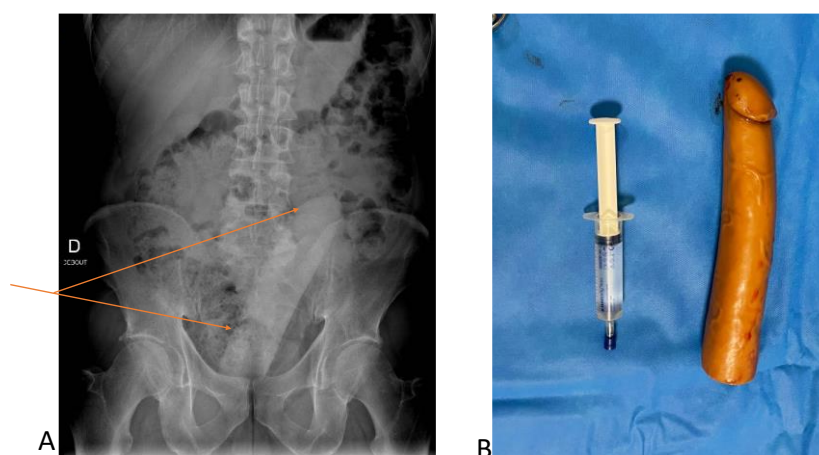


Figure 1: (Case 1) Radiographic evaluation and macroscopic outcome of a retained radiopaque rectal foreign body. (A) Upright anteroposterior plain abdominal radiograph demonstrating a vertically oriented radiopaque structure projecting over the rectosigmoid region (arrows). (B) Macroscopic appearance of the intact synthetic device following successful transanal extraction in the operating room.

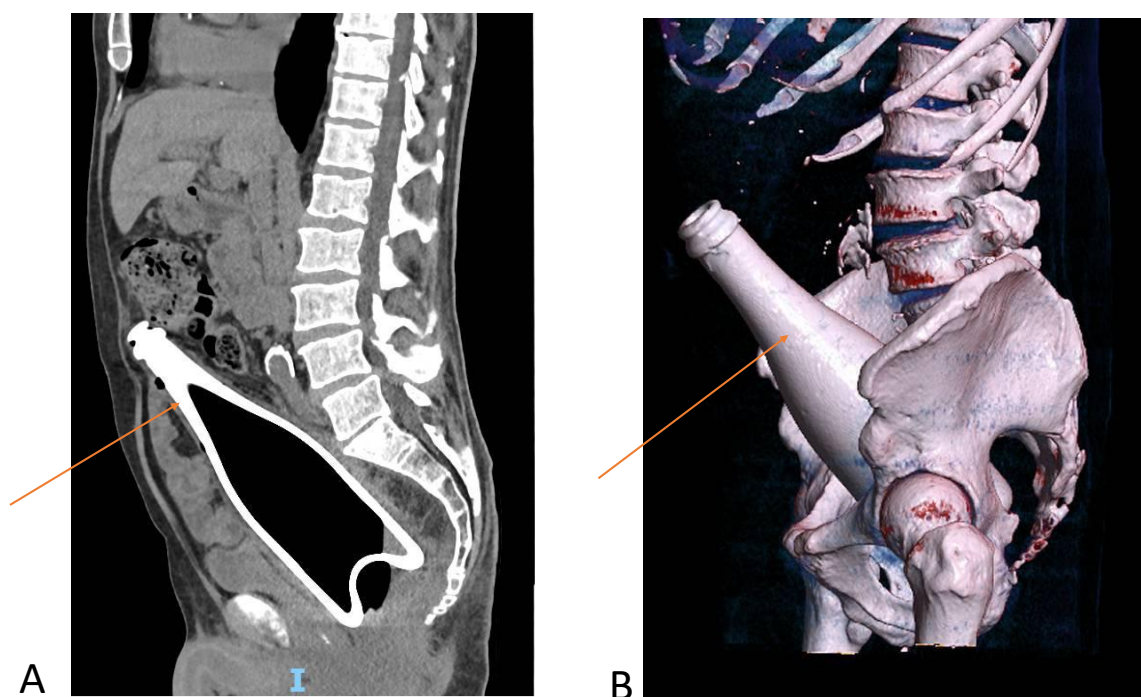


Figure 2: (Case 2) Computed tomography (CT) assessment of a proximally migrated glass bottle. (A) Sagittal unenhanced CT image revealing a hyperdense, bottle-shaped structure with predominantly aerated content lodged at the rectosigmoid junction (arrows). (B) Multiplanar reconstruction (MPR) detailing the precise anatomical lie and proximal extension of the object within the pelvic cavity

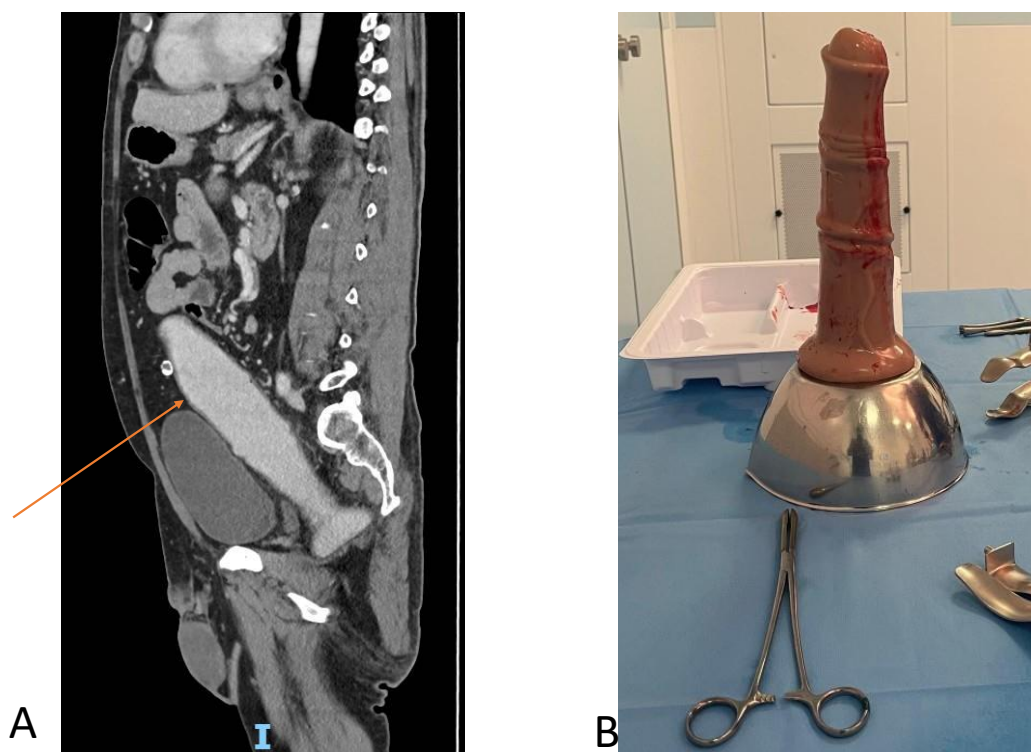


Figure 3: (Case 2) Preoperative imaging and gross specimen of an impacted rectosigmoid foreign body. (A) Sagittal CT scan demonstrating a hyperdense foreign object accommodated within the rectosigmoid colon (arrow). (B) The corresponding macroscopic specimen successfully retrieved under general anesthesia without structural damage

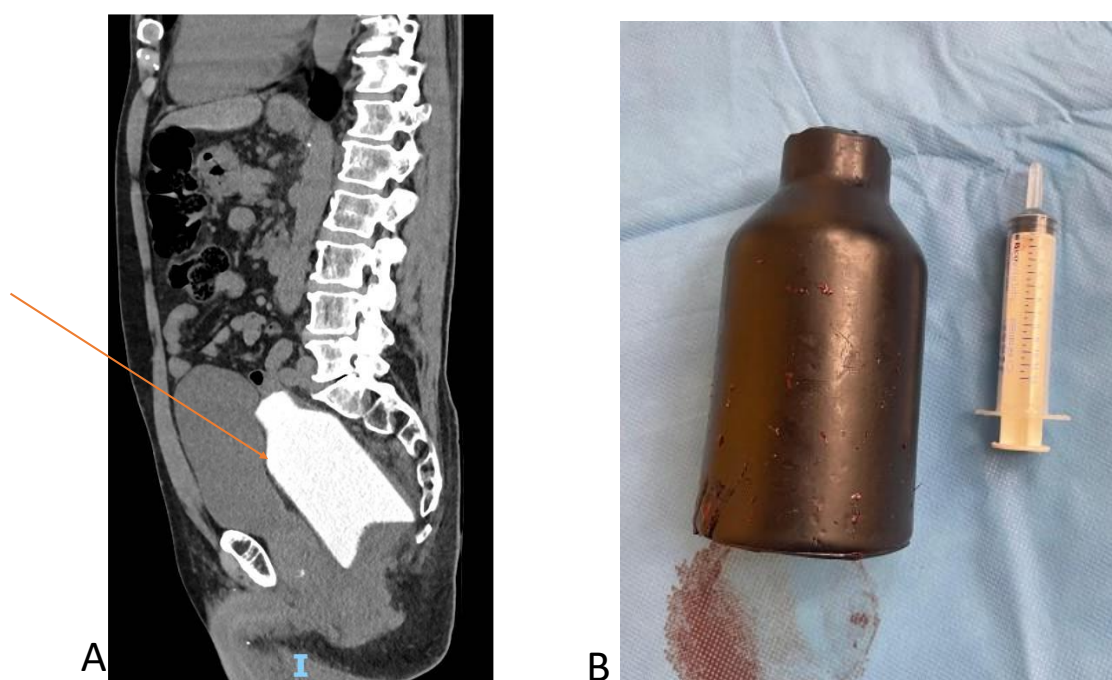


Figure 4: (Case 2) Radiological staging and postoperative retrieval of a pelvic foreign body. (A) Sagittal CT image displaying a well-defined hyperdense structure retained within the rectosigmoid vault (arrow). (B) The intact synthetic specimen, safely extracted utilizing the standardized bimanual transanal approach

DISCUSSION

The management of retained rectal foreign bodies (RFBs) represents a clinical challenge encompassing both technical and behavioral dimensions. Although limited by its small sample size, our series highlights several key factors determining the success of a conservative strategy and aligns with current literature data.

Epidemiology and Patient Profiles

The distinct male predominance observed in our series is consistent with the literature, where high male-to-female ratios are widely reported [1, 4, 11]. Although RFBs are classically described in younger demographics, our observations involve an older population (58–71 years). This finding echoes recent data suggesting that these practices occur across all age groups [2, 12].

Furthermore, the presence of psychiatric comorbidities in one of our patients underscores the importance of this factor in certain clinical scenarios, particularly in non-strictly autoerotic contexts [6, 13]. This dimension should prompt a comprehensive management approach, incorporate specialized psychiatric evaluation when warranted.

Delayed Presentation: A Key Factor

The time elapsed before clinical presentation constitutes a major determinant of management complexity. As extensively described, patient embarrassment and subsequent home extraction attempts

frequently lead to diagnostic delays [7, 8]. Such maneuvers promote the proximal migration of the object and exacerbate the risk of mucosal injury, bowel obstruction, and frank perforation [7, 14].

Our observation of an extreme delay of 15 days illustrates this issue. Despite the presence of a clinical bowel obstruction, the absence of radiological signs of perforation allowed for the maintenance of a conservative strategy. This finding is consistent with recent series suggesting that a non-operative approach remains viable in the absence of peritonitis, even in cases of significantly delayed presentation [8, 15].

The Pivotal Role of Imaging

Imaging plays an essential role in the clinical decision-making process. The abdominopelvic CT scan is considered the gold standard modality, enabling the precise evaluation of the foreign body's location, size, and orientation, while concurrently screening for severe complications [1, 9].

In our series, the systematic use of CT imaging successfully ruled out gastrointestinal perforation in all cases—an absolute prerequisite prior to any transanal extraction attempt. Furthermore, it identified potential difficulty factors, notably the rectosigmoid localization and the substantial dimensions of certain objects. These data corroborate recent radiological analyses highlighting the crucial role of CT scans in therapeutic planning [9, 16].

Therapeutic Strategy: The Value of General Anesthesia

The primary therapeutic objective is the successful extraction of the foreign body with minimal morbidity, averting laparotomy whenever possible [17, 18]. Current management algorithms strongly recommend attempting transanal extraction as a first-line intervention in uncomplicated cases [10, 11].

In our experience, the systematic use of general anesthesia combined with neuromuscular blockade was a determining factor for procedural success. Unlike attempts performed under procedural sedation in the emergency department, general anesthesia achieves complete anal sphincter and abdominal wall relaxation, facilitating object mobilization and mitigating the risk of iatrogenic trauma [4, 10].

The bimodal technique, combining externally applied suprapubic abdominal pressure with transanal extraction, proved effective across all cases, including those involving large, fragile objects or proximal rectosigmoid locations. Our results thus corroborate the literature, which reports high success rates for well-executed conservative approaches [11, 17].

Factors Influencing Extraction Difficulty and Clinical Message

Our series identifies several variables that may influence the complexity of the extraction:

- The anatomical level of the foreign body (especially proximal to the distal rectum);
- Its size and morphological shape;
- Its material nature (rigid versus fragile);
- The delay in clinical presentation.

The case involving a large glass bottle, retained for 15 days and successfully extracted without complications, illustrates that a tailored strategy, executed under optimal conditions, can avert invasive surgery even in highly unfavorable scenarios.

These findings reinforce the consensus that a standardized management approach performed in the operating room should be prioritized over repeated, often futile extraction attempts in the emergency setting.

The Role of Surgery

Abdominal surgery must be considered in cases of overt perforation, peritonitis, or following the definitive failure of transanal extraction attempts [11, 18]. In our cohort, no patient required a laparotomy, underscoring the feasibility of a conservative approach in strictly selected patients.

Study Limitations

This study has several limitations, notably its retrospective design, small cohort size, and single-center nature, which inherently limit the generalizability of the results. Additionally, the lack of long-term follow-up

precludes the evaluation of potential delayed functional complications.

However, the detailed case descriptions and the homogeneity of the therapeutic management provide valuable clinical insights, offering a safe and reproducible approach.

Practical Implications

Based on these outcomes, a management strategy relying on a rigorous clinical assessment, routine preoperative CT imaging, and standardized extraction under general anesthesia in the operating room emerges as a safe and highly effective approach. This strategy optimizes success rates while significantly minimizing the need for surgical intervention.

CONCLUSION

The management of retained rectal foreign bodies should favor a conservative approach whenever clinically feasible. Our experience demonstrates that transanal extraction under general anesthesia, utilizing a standardized bimodal technique, yields a high success rate, even in complex clinical scenarios characterized by delayed presentation, proximal localization, or the presence of large and fragile objects.

The routine use of preoperative CT scanning to rule out gastrointestinal perforation, coupled with definitive management in the operating room, appears decisive in ensuring the safety of this strategy and effectively limiting the need for open surgery.

HIGHLIGHTS

- Rectal foreign bodies are increasingly encountered and often associated with delayed presentation.
- CT scan is essential to assess location and rule out perforation before extraction.
- General anesthesia allows optimal sphincter relaxation and facilitates safe removal.
- A standardized bimodal technique enables successful transanal extraction, even for large or proximal objects. Conservative management can avoid laparotomy in selected patients.

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