



AN UNUSUAL CASE OF ACCIDENTAL RECTAL FOREIGN BODY IMPACTION: A METALLIC JET SPRAY RESULTING IN SIGMOID COLON PERFORATION AND REVIEW OF MANAGEMENT STRATEGIES

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ABSTRACT

Background: Rectal foreign body (RFB) insertion is an uncommon clinical presentation that poses significant diagnostic, therapeutic, and psychological challenges. While the vast majority of cases involve voluntary insertion for autoerotic purposes or psychiatric conditions, accidental or bizarre presentations occur and are rarely documented. **Case Presentation:** We report an unusual case of a 48-year-old male presenting to the emergency department with severe abdominal pain and shock secondary to an accidental rectal foreign body impaction. The patient reported that while using a washroom jet spray for personal cleansing, he became overwhelmed, resulting in the inadvertent lodging and retention of the metallic jet spray mechanism deep within his rectum. Clinical examination revealed signs of peritonitis and systemic shock. An emergency exploratory laparotomy demonstrated a 1 cm × 1 cm perforation of the descending-sigmoid junction. The foreign body (18 cm from the anal verge) was extracted via an extended colonic incision, followed by primary repair of the perforation, creation of a proximal loop sigmoidostomy, peritoneal lavage, and pelvic drain placement. The postoperative course was uneventful, supported by psychiatric evaluation, subsequent successful stoma reversal at 6 weeks, and complete recovery. **Conclusions:** Accidental high-lying RFBs can lead to catastrophic intra-abdominal complications like hollow viscus perforation and septic shock. Management mandates a balanced approach emphasizing immediate resuscitation, prompt surgical exploration when perforation or peritonitis is suspected, and comprehensive multidisciplinary psychiatric care to prevent recurrence.

KEYWORDS :

INTRODUCTION

Rectal foreign body (RFB) insertion remains a fascinating yet formidable clinical entity encountered sporadically in emergency departments worldwide. Although a vast spectrum of retained objects has been described—ranging from routine household containers, glass bottles, and vegetables to vibrators and tools—presenting circumstances are frequently shrouded in patient embarrassment, social stigma, and misleading historical accounts.

The anatomical configuration of the colorectum, particularly the rectosigmoid junction and physiological angulations, predisposes impacted objects to lodge in proximal segments, making transanal retrieval technically difficult or unsafe. Delayed presentations frequently compound initial injuries, leading to severe mucosal edema, pressure necrosis, rectal bleeding, localized sepsis, and catastrophic generalized peritonitis.

While small, low-lying, smooth objects can often be safely manipulated and extracted under sedation or regional anesthesia in an emergency setting, high-lying sharp or rigid objects complicated by signs of peritonitis require immediate exploratory laparotomy. This article presents an unusual case of an accidental impaction of a metallic bathroom jet spray resulting in sigmoid colon perforation, detailing the operative management, multidisciplinary care pathway, and an extensive review of contemporary literature.

CASE PRESENTATION

Patient History and Clinical Presentation

A 48-year-old male from Uttar Pradesh presented to the emergency department complaining of severe abdominal pain originating early in the morning, accompanied by localized lower abdominal discomfort and a visible metallic object protruding from his anal orifice.

Upon detailed clinical interviewing after initial stabilization, the patient disclosed an unusual mechanism of injury: while

utilizing a washroom jet spray for personal cleansing, he experienced an episode of acute sensory overload, losing track of the device's positioning, which resulted in the metallic body becoming fully lodged within his rectum. Subsequent desperate self-extraction attempts failed, aggravating his symptoms and prompting emergency presentation. He reported no prior history of psychiatric illness, chronic medical comorbidities, or substance abuse.

Clinical and Laboratory Findings

Upon presentation, the patient manifested signs of systemic hypovolemic and septic shock, though his Glasgow Coma Scale (GCS) score remained optimal at 15/15. Abdominal examination revealed significant tenderness localized primarily to the hypogastric and lower quadrants, accompanied by guarding and rigidity indicative of peritoneal irritation.

Local inspection with the patient placed in the knee-elbow position confirmed a metallic pipe-like apparatus protruding directly from the anal verge. Initial routine baseline laboratory investigations (complete blood counts, renal function tests, and serum electrolytes) were surprisingly within normal limits, showing no severe electrolyte derangements despite acute distress.

Intraoperative Findings and Surgical Management

Given the clinical signs of generalized peritonitis, deep impaction, and worsening shock, the patient was immediately rushed to the operating suite for an emergency exploratory laparotomy under general anesthesia.

Intraoperatively, exploratory findings included:

- A clean peritoneal cavity with minimal free fluid, but marked inflammation localized to the pelvic and lower abdominal gutters.
- Normal macroscopic appearance of the stomach, liver, spleen, and entire small bowel loops.
- An intact ascending and transverse colon.

- A distinct perforation measuring approximately 1 cm × 1 cm identified on the descending-sigmoid colon, located roughly 10 cm proximal to the rectosigmoid junction.



Figure 1: Intraoperative view showing the sigmoid colon perforation and surrounding surgical field.

Through the site of the bowel perforation, the metallic foreign body was visualized. To prevent tearing adjacent delicate tissues and safely retrieve the rigid device, the antimesenteric border perforation was deliberately extended. A heavy, rigid metallic bathroom jet spray measuring 18 cm in length was successfully extracted from the proximal rectosigmoid space.



Figure 2: Intraoperative extraction of the metallic jet spray from the perforated sigmoid colon.

The perforated segment of the sigmoid colon underwent primary layered closure of the distal defect, accompanied by the creation of a proximal loop colostomy (loop sigmoidostomy) to divert fecal stream pressures and protect the repair site. Intraoperative resuscitation was aggressively supported using balanced crystalloids, synthetic colloids, and targeted blood transfusions. Thorough warm saline peritoneal lavage was executed, and a right pelvic closed-suction drain was positioned. The extracted specimen was photographed, shown to family members for verification, and disposed of according to hospital protocol.

Postoperative Recovery and Follow-Up

The patient's immediate postoperative recovery phase was smooth and uneventful. Pelvic drains were progressively mobilized and removed on postoperative day 4, and the patient achieved unassisted ambulation, tolerating a liquid-to-soft diet by postoperative day 5.

In accordance with institutional guidelines for unusual rectal foreign body presentations, a formal psychiatric consultation was requested during the hospital admission. The consulting psychiatrist evaluated the patient, confirming an accidental event precipitated by acute situational vulnerability, and cleared him for discharge with scheduled outpatient psychiatric surveillance.

At the outpatient follow-up milestones, the patient maintained adherence to regular counseling sessions and supportive

regimens. Six weeks post-index procedure, after confirming complete distal mucosal healing via contrast studies and clinical evaluation, the patient successfully underwent elective surgical reversal of his loop colostomy. At subsequent follow-up visits, he reported a return to optimal health, full resumption of normal day-to-day activities, and stable psychological well-being.

DISCUSSION

Etiology, Demographics, and Behavioral Spectrum

Retained rectal foreign bodies (RFBs) represent a fascinating, high-stress scenario for acute care surgeons. Historically and statistically, the demographic most frequently implicated comprises adult males aged between 20 and 40 years. The overwhelming majority of these occurrences stem from voluntary insertion aimed at achieving autoerotic sexual stimulation, capitalizing on the rich sensory innervation of the anorectum and pelvic floor.

Alternative etiologies well-documented in clinical literature include:

- Criminal acts or sexual assault
- Accidental ingestion or insertion (such as during ablution, misdirected hygiene routines, or sitting on unshielded objects)
- Intoxication-related disinhibition or substance abuse behaviors
- Underlying psychiatric illnesses, including severe depression, schizophrenia, cognitive decline, or obsessive-compulsive disorders

The present case highlights a rare presentation: an entirely accidental insertion during routine bathroom hygiene using a high-pressure jet spray, complicated by sensory panic and subsequent entrapment.

The Diversity of Retrieved Objects and Pathophysiology

The inventory of items extracted from human rectums spans an astonishingly wide spectrum, categorized into everyday household articles (bottles, cups, cans, jars), professional tools (screwdrivers, wrenches, metallic pipes), and dynamic devices (vibrators, lightbulbs, vegetables). High-risk items—specifically glass objects, sharp instruments, or complex metallic machinery equipped with triggers, nozzles, or threads—pose an exponentially higher threat profile for localized mucosal shearing, pressure ischemia, transmural necrosis, and free perforation.

When an object breaches the rectosigmoid junction, it encounters the natural anatomical curves of the large bowel. The fixed retroperitoneal reflection of the rectosigmoid colon acts as a natural fulcrum where rigid objects exert maximum focal pressure, leading rapidly to ischemic necrosis of the bowel wall, microperforation, and gross fecal peritonitis.

Clinical Presentation and Diagnostic Evaluation

A major hurdle in managing RFB cases is delayed presentation. Patients frequently defer medical evaluation for hours or days due to profound personal embarrassment, fear of social stigma, or exhaustive, unsafe attempts at self-removal at home. When they finally present, history-taking can be misleading or untruthful, hiding the true nature of the object and complicating risk stratification.

Initial evaluation mandates careful abdominal inspection for signs of peritonitis, combined with a gentle digital rectal examination (DRE) performed with extreme caution if sharp, jagged, or fragile objects are suspected. Plain abdominal radiographs (anteroposterior and upright views) form the cornerstone of diagnostic confirmation, helping identify radiopaque foreign bodies, assess their orientation, and detect free subdiaphragmatic air indicative of visceral

perforation. In complex or radiolucent cases (such as plastics or wood) or when clinical signs suggest complications without clear radiographic proof, contrast-enhanced computed tomography (CECT) of the abdomen and pelvis provides superior anatomical detail and dictates precise surgical planning.

Therapeutic Management Algorithm

Treatment strategies depend on object characteristics, proximal migration height, duration of retention, and the presence or absence of peritoneal signs:

Clinical Scenario	Object Characteristics	Management Approach
Uncomplicated Cases	Low-lying, smooth, non-sharp objects, no peritonitis	Transanal manual or endoscopic extraction in the emergency department or operating theater under sedation/anesthesia to relax the anal sphincter.
Complex Cases	High-lying, impacted, sharp, or large objects; signs of perforation or peritonitis	Emergency surgical intervention (transabdominal extraction via laparotomy or laparoscopy, segmental bowel resection, and proximal fecal diversion).

Transanal vs. Transabdominal Approaches

Attempting blind transanal extraction in the emergency department without adequate anesthesia for a high-lying, locked object is strongly discouraged, as it frequently worsens mucosal lacerations and pushes the object deeper into the peritoneal reflection. A wide array of transanal retrieval devices have been documented in literature, including obstetrical forceps, vacuum extractors, Foley catheter-assisted balloon traction, and flexible or rigid endoscopic snares.

However, once peritoneal signs, free air, or hemodynamic instability manifest—as observed in our patient—surgical exploration via laparotomy becomes mandatory. Management goals focus on safe extraction of the foreign body without causing secondary trauma, thorough assessment of bowel viability, execution of appropriate bowel control measures (primary repair with proximal defunctioning stoma), and extensive warm saline peritoneal lavage.

Postoperative Care and Psychiatric Interventions

The multidisciplinary continuum of care does not terminate in the operating room. Postoperative proctoscopic or sigmoidoscopic evaluations are strongly recommended prior to discharge to confirm mucosal integrity and exclude retained fragments or overlooked secondary tears.

Given the psychological distress, underlying vulnerability, or social stigma tied to these presentations, incorporating a formal psychiatric consultation is essential. Empathetic, nonjudgmental clinical communication establishes trust, improves patient compliance, ensures successful long-term outcomes, and helps prevent recurrence. In our case, structured psychiatric support paired with a planned staged stoma reversal at 6 weeks secured an optimal functional and psychological recovery.

CONCLUSIONS

Rectal foreign body impactions represent complex clinical challenges requiring prompt recognition, careful multi-modal evaluation, and individualized surgical management. Accidental high-lying impactions, such as the metallic jet spray described in this case, carry a high risk of colonic perforation and septic shock, necessitating emergent exploratory laparotomy and fecal diversion. Achieving long-term success relies on a synchronized tripartite approach: timely surgical intervention, rigorous postoperative care, and empathetic psychiatric evaluation and follow-up to address

underlying psychosocial or situational factors and prevent recurrence.

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