

## Perforation Due to a Rectal Foreign Body and Radiological Findings

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### Abstract

**Introduction:** Rectal foreign bodies have been increasingly seen and cause urgent surgical complications. Diagnosis and treatment of these cases in emergency departments may be difficult. The effective use of radiological imaging techniques can accelerate and facilitate this process.

**Case Presentation:** A 65-year-old male patient, who underwent computed tomography (CT) with the suspicion of a foreign body in the rectum, was admitted to the emergency outpatient clinic. The patient was a male with a psychiatric illness who later underwent emergency surgery. Since the patient had impaired consciousness during the examination, anamnesis could not be obtained, so the initial impression upon surgical consultation was perforation due to rectal tumoral thickening. In almost all cases, plain radiography is sufficient and can eliminate diagnostic difficulties. However, this is not possible for non-opaque objects. Therefore, the CT scan played an important role in the diagnosis of this patient. A 30 cm foreign body, identified as salami, was removed from the abdomen of the patient, who was later taken for emergency surgery.

**Conclusion:** The guiding role of radiological examinations in diagnosis and treatment was discussed, and it was emphasized that CT is a problem-solving tool for rectal foreign bodies.

**Keywords:** Rectal salami, Computed tomography, Emergency surgery, Foreign body

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### Introduction

Rectal foreign bodies have been increasingly seen in recent years and cause urgent surgical complications. Foreign bodies that are taken orally and remain in the rectum are seen in the elderly as well as people with a poor intellectual level or mental retardation, whereas foreign bodies inserted into the rectum through the anus for sexual stimulation are

mostly seen in middle-aged men. It is very rare for foreign bodies taken orally to cause injury to the rectum after passing the ileocecal valve (1, 2).

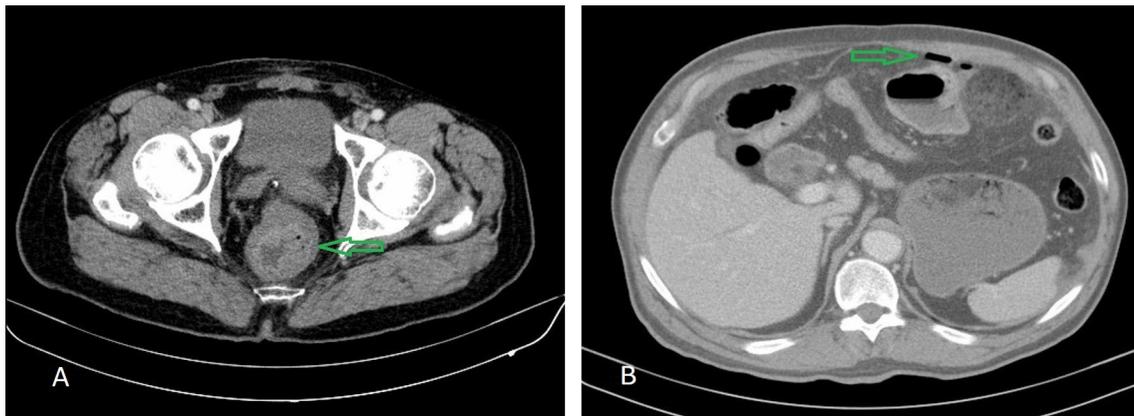
Rectal foreign bodies can potentially lead to management difficulties in emergency services. In almost all cases, plain radiography is sufficient and can eliminate diagnostic difficulties. However, this is not possible in non-opaque objects. We aimed to present the imaging findings of a patient who

inserted salami (30 cm in length) through the anus.

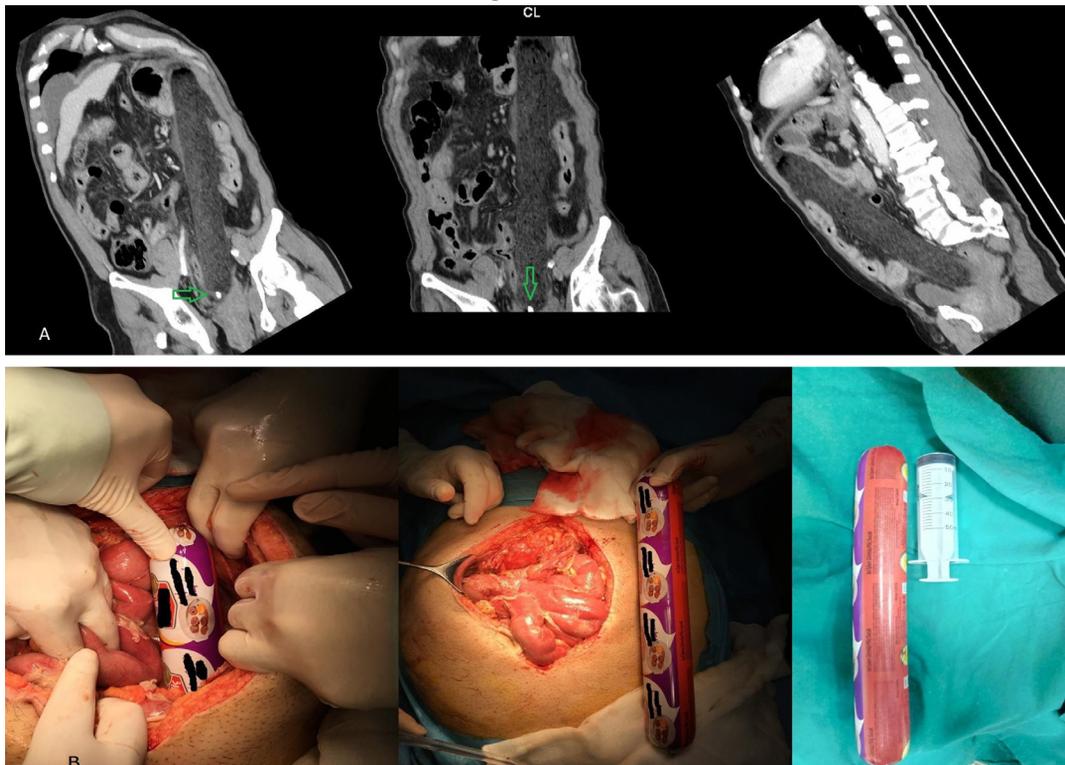
### Case Presentation

A 65-year-old male patient was admitted to the emergency department with severe abdominal pain and ileus. The patient had blurred consciousness and did not mention a history of a foreign body insertion. The patient's past medical history could not be clarified due to the lack of cooperation. The symptoms started about one week before the admission. Physical examination revealed abdominal tenderness in the lower quadrant, and a mass was palpated in the left middle quadrant. During the digital rectal examination, a solid mass with a smooth surface was palpated 6-7 cm proximal to the anal verge. At this point, the patient declared that he had inserted salami through his anus. The plain radiograph revealed a millimeter-sized radiopaque clip in the pelvic region.

Due to suspicion of perforation, a contrast-enhanced computed tomography (CECT) scan was performed to evaluate the relationship of the foreign body with surrounding tissues and possible complications. On CECT examination, an edematous wall thickness increase (up to 20 mm) with contour irregularities was observed in the rectum wall (Figure 1A). Free air values were observed in the anterior circumference of intestinal loops (Figure 1B). A foreign body with a hyperdense clip from the proximal end of the rectum extending to the left upper-middle quadrant measuring 5×5×30 cm in size and containing areas with fat density was observed (Figure 2A). Since the foreign body was large and perforation occurred, laparotomy was decided. The patient underwent emergency surgery; intraabdominal foreign body and rectal perforation were detected during the operation. The intraoperative appearance of the foreign body was observed as salami (Figure 2B).



**Figure 1:** (A) Edema, wall thickness, and contour irregularities were observed in the rectum wall (arrow), (B) Free air values (arrow) were observed in the anterior circumference of intestinal loops.



**Figure 2:** (A) Reformatted CT images: A foreign body with a hyperdense clip (arrow) extending from the proximal end of the rectum to the left upper-middle quadrant was observed. (B) The intraoperative appearance of the foreign body, revealing a salami.

## Discussion

The diagnosis and treatment of patients with rectal foreign bodies who are admitted to the emergency department with unknown full-time history are both clinically and radiologically difficult. In the present case, a foreign body was inserted into the rectum of the patient for sexual satisfaction secondary to a psychiatric disorder. The object used can be things like bottles, sex toys, vegetables, broomstick, ax handle, curtain rod, bulb/fluorescent tube, toothbrush, medicine packs, deodorant container, wood, or other household items (3). Most of the time objects can be removed by the patient, but 20% of cases are removed by endoscopic-colonoscopy interventions. Only 1% of cases require surgical intervention, as seen in our case (4).

Information from the patient is important in the diagnosis of the foreign body. Although patients do not accurately tell how the foreign body is inserted into the rectum, they usually inform the physician of the nature of the foreign body. In our case, it was not said correctly how the event occurred, but accurate information was given about the nature of the foreign body during the digital rectal examination.

Although there were many foreign rectal body reports in the literature, no salami cases have previously been reported to cause rectal perforation requiring urgent laparotomy. Salami is a vacuum-packed food made with meat from diverse animals, mainly beef. In a single-institution serial study, Lake et al. divided rectal foreign bodies into two groups as larger than 10 cm and smaller than 10 cm. They reported that objects larger than 10 cm, retained longer than 2 days, and those located in the proximal rectum are more likely to require surgical intervention (5). In our case, the foreign object had a length of 30 cm, was retained for 7 days, and caused perforation.

Management of patients with rectal foreign body diagnoses may be difficult. A systematic approach is important to avoid other pitfalls that are confused

with the foreign body. Most of the time, imaging methods are the key to solve the problem. Various imaging methods such as plain radiographs, CT, ultrasonography (US), and magnetic resonance imaging (MRI) are used to detect foreign bodies. Conventional plain radiography is the first preferred imaging method for detecting foreign bodies. However, it is insufficient in non-opaque objects and may require an additional examination to show the exact localization of the foreign body and its relationship with surrounding tissues. Ultrasonography can be used to detect superficial foreign bodies; however, it may not be suitable for deeply located objects due to intestinal gases. If the composition of a foreign body is unknown, MRI can not be used as the first diagnostic tool, especially in metallic foreign bodies, where displacement due to the influence of the magnetic field can damage vital structures (6, 7).

A CT scan is the most successful imaging method for the detection of foreign bodies in the abdominal cavity as it correctly shows the shape and dimensions of the object. It also gives an idea about the densities of the substances contained in the object. With these findings, CT can help us predict what the foreign body is. In our case, the cylindrical shape of salami, low-density areas due to the fat content in salami, and proteinous areas that are isodense with muscle tissue were clearly seen. CT is an effective guide in identifying the foreign body and its exact location, as well as detecting possible complications and choosing the appropriate surgical technique to remove the foreign body (6, 7).

In conclusion, radiological imaging methods should be used when puzzling clinical presentations are encountered in emergency departments, and a foreign body should be kept in mind by radiologists. In addition, these patients should be referred to the psychiatry outpatient clinic for the treatment of underlying problems.

**Conflicts of interests:** None declared.

## References

1. Oruç C, Uğur M, Akkücüük S, Çelikel A, Kılıç E, Ortanca İ. Rektumda İnorganik Yabancı Cisim: Olgu Sunumu. *Int J Basic Clin Med* 2015;3:131-4.
2. Atila K, Sökmen S, Astarcioglu H, Canda E. Rektumda yabancı cisim: Dört olgu sunumu. *Ulusal Travma Derg* 2004;10:253-6.
3. Cologne KG, Ault GT. Rectal foreign bodies: what is the current standard? *Clin Colon Rectal Surg* 2012;25:214-18.
4. Anderson KL, Dean AJ. Foreign bodies in the gastrointestinal tract and anorectal emergencies. *Emerg Med Clin North Am* 2011;29:369-400.
5. Lake JP, Essani R, Petrone P, Kaiser AM, Asensio J, Beart RW Jr. Management of retained colorectal foreign bodies: predictors of operative intervention. *Dis Colon Rectum* 2004;47:1694-8.
6. Popa F, Grigoriou M, Georgescu ME. Intrarectal Foreign Body Detected at CT Scanner Investigating an Abdominal Syndrome. *Case Rep Surg* 2019;10:9134735.
7. Aras MH, Miloglu O, Barutcuğil C, Kantarci M, Özcan E, Harorli A. Comparison of the sensitivity for detecting foreign bodies among conventional plain radiography, computed tomography and ultrasonography. *Dentomaxillofac Radiol* 2010;39:72-8.