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Huge rectovesical fistula due to long-term retention of a rectal foreign body: A case report and review of the literature

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ABSTRACT

INTRODUCTION: Most patients with foreign bodies in their rectums present to medical institutions within a few days. In this report, we describe a foreign body in the rectum in situ for 5 months that resulted in a huge rectovesical fistula 4 cm in diameter, requiring emergency laparotomy.
PRESENTATION OF CASE: A 59-year-old man, who had undergone rectal foreign body extraction via the anal canal without any complications 7 years previously, presented with abdominal pain and diarrhea. Computed tomography revealed a cup-shaped rectal foreign body and huge rectovesical fistula. We performed an emergency laparotomy. There was no contaminated ascites. The adhesion around the fistula was too stiff to be dissected. We incised the rectal wall, excised the ceramic cup-shaped foreign body, and detected a fistula approximately 4 cm in diameter. We performed sigmoid colostomy, and the incised rectal wall and the bladder wall were sutured, and the residual rectum was supposed to function as a part of the bladder. After the surgery, no severe complications occurred. The patient told us that he inserted the foreign body himself 5 months earlier, and urine had appeared in the stool in the previous month.
DISCUSSION: A long-term retained rectal foreign body is very rare and could create an abnormal huge fistula between the pelvic organs because of prolonged pressure on the walls of the pelvic organs.
CONCLUSION: In patients with a long-term retained rectal foreign body, we should prepare for surgical treatment of not only the rectum but also the other pelvic organs.

1. Introduction

Most patients with foreign bodies in their rectums present to medical institutions within a few days, and they sometimes have serious complications such as perforation [1]. In this report, we describe a foreign body in the rectum in situ for 5 months that finally resulted in a rectovesical fistula and required emergency laparotomy.

2. Case presentation

A 59-year-old man, who had undergone rectal foreign body extraction via the anal canal without any complications 7 years previously, presented to another hospital complaining of abdominal pain and diarrhea for 10 days. He was diagnosed with acute enteritis and dehydration and was hospitalized. On the next day, his percutaneous oxygen saturation dropped to 90%, and severe metabolic acidosis (pH 7.26) was noted. He was transferred to our emergency department. On arrival, he was in a state of semi-consciousness and had difficulty breathing. Physical examination revealed semiconsciousness, a body temperature of 97.5F (36.4 °C) degrees, a blood pressure of 107/91 mmHg, a heart rate of 104/min, a respiratory rate of 30/min, and a percutaneous oxygen saturation of 92% with 15 L/min oxygen administration. His abdomen was soft and flat. He had no abdominal pain, but a stiff foreign body was palpable in his pelvis. Rectal examination revealed a fistula in the anterior wall of the rectum 5 cm from the anal verge with tenderness around the fistula. His urine was contaminated with stool. Hematological and biochemical testing showed a white blood cell count of 16,500/μL and a C-reactive protein level of 18.0 mg/dL. An abdominal radiograph revealed a cup-shaped foreign body in the pelvis, approximately 8 cm in width and 10 cm in length (Fig. 1). Computed tomography revealed scattered infiltrative shadow throughout both his lungs, and it also revealed a foreign body in the rectum protruding into the bladder through a huge rectovesical fistula (Fig. 2).

He was diagnosed with a recto-vesical fistula due to the foreign body and secondary acute respiratory distress syndrome and sepsis. We performed an emergency laparotomy. There was no contaminated ascites. In his pelvis, the foreign body was palpable in the rectum, but it was not able to be mobilized. Part of the small intestine was adhered to the fistula on the anterior rectal wall, and the adhesion around the fistula was too stiff to be dissected. The

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Fig. 1. An abdominal radiograph revealed a cup-shaped foreign body stuck in the pelvis.

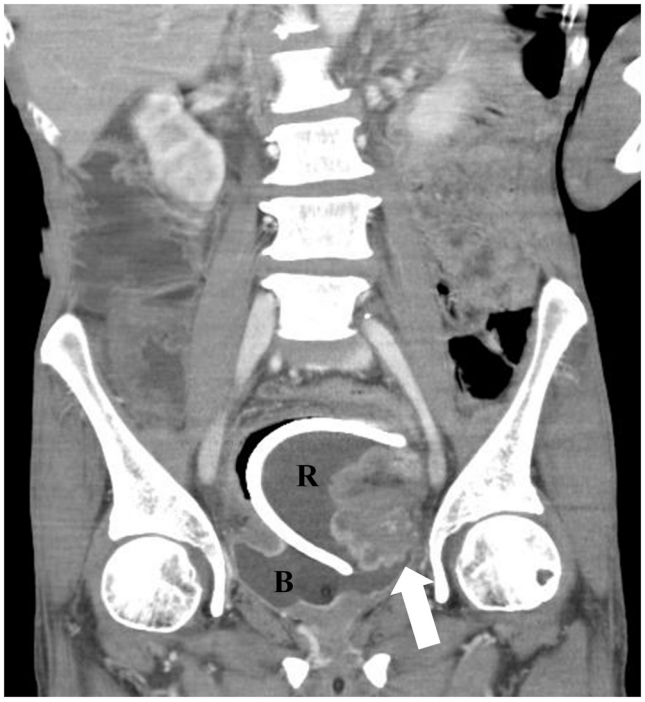

Fig. 2. A coronal section of abdominal computed tomography showed that a foreign body in the rectum protruded into the bladder through a huge rectovesical fistula. Irregular thickening of the wall of the fistula (white arrow) was pathologically diagnosed as being due to inflammation. R: rectum, B: bladder.

adhered part of the small intestine was resected, and the cut ends of the intestine were connected afterward. We incised the rectal wall, excised a ceramic cup-shaped foreign body (Fig. 3), and identified the fistula, which was approximately 4 cm in diameter (Fig. 4). We made a decision to perform sigmoid colostomy. The sigmoid colon and the rectum were dissected, and a single-barrel sigmoid stoma was created from the oral end. The rectovesical fistula was considered to be too large to close. The incised rectal wall and the bladder wall were sutured, and the rectum and the bladder together were supposed to function as the bladder (Fig. 5). After the surgery, he recovered without any severe complications.

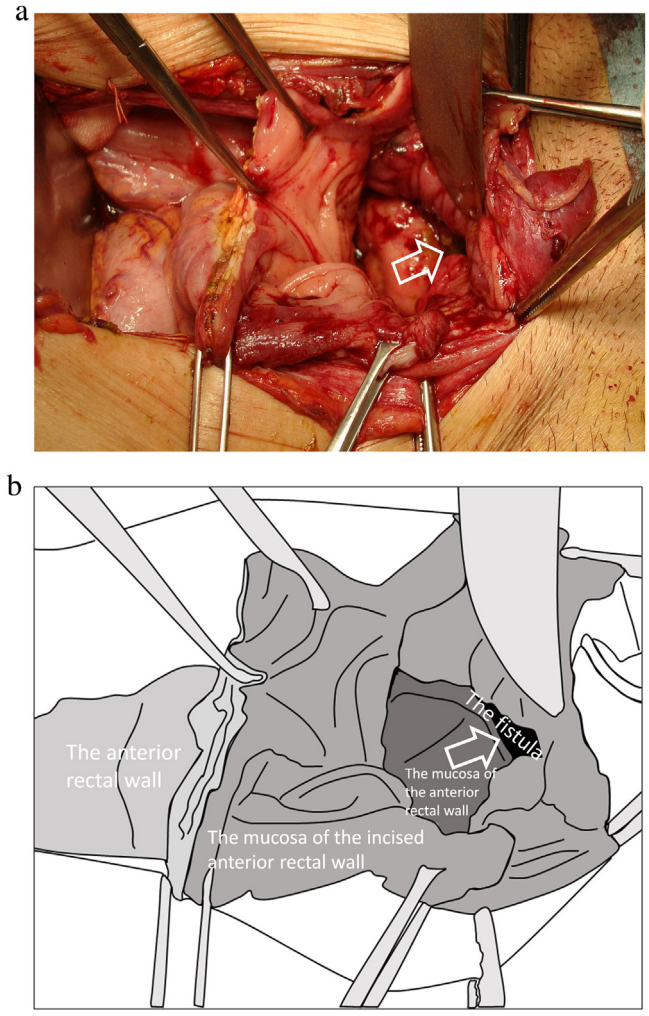

Fig. 3. Surgical findings (a) and schematic drawing (b) of the operation. Through the incised anterior rectal wall, a 4 cm fistula between the anterior rectal wall and the posterior bladder above the peritoneal reflection was detected (white arrow).

In the interview afterward, he told us that he inserted the foreign body by himself 5 months earlier and had not been able to extract it, but he had not visited any medical institutions. He had diarrhea and abdominal pain two months prior to presentation, and urine appeared in the stool in the previous month.

He was discharged on the 17th day after the surgery. However, he did not return for outpatient follow-up postoperatively.

3. Discussion

Major complications of rectal foreign bodies are rectal wall injuries due to the foreign bodies themselves or manipulations intended to extract them [1]. In case they are not able to be extracted through the anus or perforations are revealed, laparotomy is performed, and in cases of severe inflammation, sigmoidectomy is performed [1].

Rectovesical fistula or rectovaginal fistula may occur because of malignant tumors, chronic inflammation such as diverticulitis, sexual intercourse, obstetric origins, medical malpractice, or neglected foreign bodies [2].

The main etiology of this 4 cm fistula between the anterior rectal wall and the posterior bladder just above the peritoneal reflection was presumed to be due to prolonged residence of a rigid object in the rectum, which by chance did not result in complete rectal obstruction. Compared to urogenital foreign bodies,