

# Rupture of the Rectosigmoid Colon with Evisceration of the Small Bowel through the Anus

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## Abstract

Spontaneous rupture of the rectosigmoid colon and herniation of the small intestine through the rupture site and eventual evisceration through the anus is a very rare event. In the literature, only 42 cases have been reported. The majority of them occurred in patients with rectal prolapse and one case was reported in association with a third-degree uterine prolapse. We experienced an 81-year-old female patient with rectal prolapse and second-degree uterine prolapse complicated by spontaneous perforation of the rectosigmoid colon and anal evisceration of the small intestine. Segmental resection of the nonviable small intestine, primary repair of the ruptured rectosigmoid colon, and sigmoid loop colostomy were performed, and the patient recovered well. In our patient, both rectal and uterine prolapses cooperatively damaged the anterior wall of the rectosigmoid colon and resulted in perforation. So, rectal and uterine prolapses should be treated before the complication develops. In this patient, uterine prolapse should be treated because of the recurrence of this rare episode.

**Key Words:** Rupture, rectosigmoid colon, small bowel evisceration

## INTRODUCTION

Spontaneous rupture of the colon or rectum is a rare event. Moreover, small bowel herniation through the ruptured site of the rectosigmoid colon and eventual anal evisceration is extremely rare. We experienced an 81-year-old female patient with rectal prolapse, second-degree uterine prolapse complicated by spontaneous perforation of the rectosigmoid colon and anal evisceration of the small intestine. In a review of the literature, we found only one case report of spontaneous rupture of the rectosigmoid colon with anal evisceration of the small intestine accompanied by third-degree uterine prolapse.<sup>1</sup> We report this patient as the second case in the literature with brief discussion.

## CASE REPORT

An 81-year-old female was admitted to the Surgery Department of Yongdong Severance Hospital, Yonsei University College of Medicine in June, 1999, with the small intestine extruded through her anus and with second-degree uterine prolapse (Fig. 1). Her family stated that she had been in good health generally and had worked in a store until the day before admission. On the morning of her admission, she awoke complaining of abdominal pain and was taken to the emergency room of our hospital. For about 2 years prior, the patient and her family had known about the uterine prolapse, as well as rectal prolapse, but she didn't want any treatment. There were no complaints of constipation, diarrhea, rectal bleeding, or other colorectal problems.

In the emergency room, the patient's blood pressure was 115/90 mmHg, pulse rate was 80/minute, respiration rate was 22/minute, and body temperature was 36.6°C. She was in severe distress and she looked acutely ill. The abdomen was slightly depressed and bowel sound was not heard on auscultation. Multiple small bowel loops were noted in the perineal area and the cervix was noted in the vaginal orifice. On careful examination, the exteriorized small bowel was her-

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niated through the anus and was incarcerated. Some of the loops were necrotized and perforated.

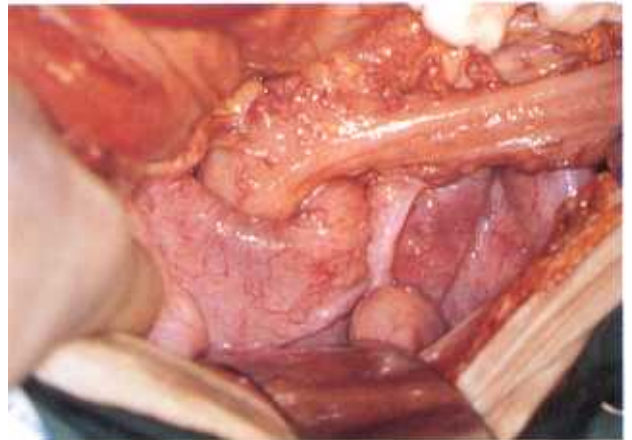
Preoperative laboratory findings were normal and atrial fibrillation with rapid ventricular response on the electrocardiogram was noted. Fluid and electrolyte

resuscitation was started and the patient was taken to the operating room.

The peritoneal cavity was opened through a low midline skin incision. There was no fecal soilage in the peritoneal cavity. The small bowel was reduced



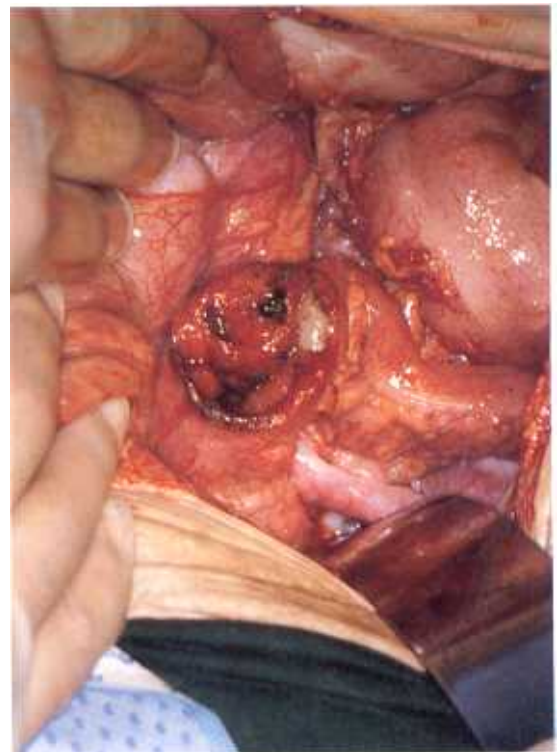
*Fig. 1. Inspection of the perineal area disclosed the second-degree uterine prolapse and eviscerated small intestine. Uterine cervix is noted in the vaginal orifice (arrow) and some loops of extruded small intestine show necrotic change.*



*Fig. 3. After reduction of the small intestine, rectal intussusception is noted.*



*Fig. 2. Following laparotomy, extruded small intestine is being reduced.*



*Fig. 4. Following reduction of the sigmoid colon, the sharp margin of the rectosigmoid perforation is depicted.*

to the peritoneal cavity by traction-pulsion maneuver and nearly the entire small intestine was eviscerated: from the jejunum 50 cm below the Treitz ligament to the ileum 10 cm proximal to the ileocecal valve (Fig. 2). When the small bowel was reduced, rectal intussusception was noted (Fig. 3). The rectosigmoid colon was reduced and a free perforation of about 4cm in size was discovered on the anterior side of the rectosigmoid colon (Fig. 4). The perforation site showed a sharp and clear margin. There was no evidence of necrotic tissue, tumor or hematoma in the perforated area. Marked laxity was observed in the broad ligament and the uterosacral ligament.

We planned to resect the nonviable small bowel and the perforated rectosigmoid colon, and to perform sigmoid end colostomy with Hartmann's pouch. But during the operation, the patient's pulse slowed down, blood pressure went down and resuscitation was started. So, we couldn't perform the planned operation, and resection of the small bowel and primary closure of the perforated rectosigmoid colon and sigmoid loop colostomy were performed. After operation, the patient was transferred to the intensive care unit and then to the general ward on postoperative day 6. The uterine prolapse was corrected by a pessary. During the postoperative course, BUN/Cr was elevated and findings of acute renal failure were noted, but the patient recovered well and was discharged on postoperative day 18 in relatively good condition.

## DISCUSSION

Prolapse of the small bowel through the anus is very rare. Hovey et al reported a case of incarcerated rectal prolapse, rupture, and ileal evisceration after failed reduction with a review of all reported cases of transanal ileal herniation.<sup>2</sup> Since Brodie first described this condition in 1827,<sup>3</sup> 42 cases of small bowel herniation through the anus have been reported. Average age was 60 years and 31 patients (73.8%) had known rectal prolapse. The majority of cases were either the result of increased intra-abdominal pressure during physiologic maneuvers: defecation, emesis, micturition, heavy lifting or blunt abdominal trauma. Wroblewski et al.<sup>3</sup> presumed that two factors predisposed patients to this unusual complication: one was the sudden increase in intraabdominal pressure

and the other was the presence of rectal prolapse.

The relationship between rectal prolapse and perforation has not been well understood. Most authors believe that the primary mechanism of rectal prolapse is a sliding hernia in which the pouch of Douglas and the contained viscera form the hernia sac.<sup>4</sup> The hernia sac invaginates the anterior wall of the rectum into the rectal lumen. This may result in weakening of the anterior rectal wall.

In a review of the literature, only one case of a patient with third-degree chronic uterine prolapse complicated by spontaneous upper rectal laceration and anal expulsion of the small intestine was reported.<sup>1</sup> The patient had no history of constipation, trauma, or rectal prolapse. In this report, the authors assumed that traction on the anterior rectosigmoid wall by the chronically-prolapsed uterus produced tearing stress which ultimately ruptured the anterior bowel wall.

Our patient had both rectal and uterine prolapses. Both of them were not severe and were neglected without treatment for a long time. We do not know the leading cause of the perforation in our patient but consider that these two precipitating events should cooperatively cause damage to the anterior wall of the rectosigmoid colon and eventual perforation by the mechanisms mentioned above.

The treatment of this condition follows the basic principles. The extruded small intestine should be reduced, after cleansing and examination for viability. If the reduced bowel is nonviable, it should be resected and if viable, resection is not necessary. The tear in the large bowel may be repaired or resected, depending on the degree of contamination and the patient's condition. Proximal colostomy following suture repair or resection has been used successfully.

This rare condition can be prevented by elimination of the precipitating events. So, rectal prolapse should be treated, especially in aging patients, and also uterine prolapse should be treated before the development of complications. In our patient, uterine prolapse was supported by a pessary. It must be treated because it may induce the recurrence of this rare condition.

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