Rare disease

Small bowel evisceration through the anus – report of a case and review of literature

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An 84-year-old lady with a history of chronic recurrent rectal prolapse, presented to accident and emergency with a significant portion of small bowel and mesentery protruding out of her anus. The small bowel was not contained within peritoneum, nor was this a pararectal herniation. On examination of the rectum, a longitudinal tear was found in the anterior rectal wall, through which the small bowel had prolapsed. Hours after reducing the small bowel back into the anus, it prolapsed a second time. Due to multiple co-morbidities, this patient was not fit for surgery. The defect was temporarily repaired on the ward and the patient treated with aggressive antibiotic therapy. The patient continued to deteriorate, became septic, acidotic, hypotensive and died a day later.

BACKGROUND

Presentations of small bowel evisceration through the anus are rare. We present this case because of its dramatic nature and include a literary review of similar cases to discuss the acute management for a rare occurrence.

CASE PRESENTATION

An 84-year-old lady with dementia presented to accident and emergency (A&E) majors with a 60 min history of prolapsed small bowel per rectum. A collateral history from her son revealed that she had gone to pass stool when the prolapse occurred. Figure 1 shows a clinical photograph taken at the time of presentation.

A large volume of dark congealed blood was seen in the bowl. Minutes later, she had lower abdominal pain and started bringing up small amounts of clear vomitus.

The patients son reported that some bowel had prolapsed the previous night but had been reduced digitally. He also reported that the patients bowel had been

prolapsing for 6 months on a frequent basis. A rectal prolapse was suspected.

Her previous medical history included dementia, Parkinson's disease, a previous cerebrovascular accident, Type II diabetes mellitus and a cardiac pacemaker. She had no previous abdominal surgery except for a caesarean-section over 50 years ago. She did not have any relevant family history.

On examination, a significant portion of small bowel and mesentery had prolapsed out of the anus. The bowel was not contained within the peritoneum.

Figure 1 Clinical photograph at initial presentation.

Figure 2 A clinical photograph taken later that day, just before temporary repair of the defect in the anterior rectal wall. The tear in the anterior rectal wall is clearly seen. The small bowel has already been re-positioned back through the defect.

Table 1 Table summarising eight of the previously published cases of small bowel evisceration through the anus

Author	Patient		Cause	Management
	Age	Sex		
Shoab <i>et al</i> ⁶	90	F	Chronic recatal prolapse Defecation Tear in rectal wall	Thiersch repair of rectal prolapse Trepine sigmoid colostomy
Jeong <i>et al</i> ²	81	F	Rectal prolapse Second degree uterine prolapse Spontaneous rupture of rectosigmoid	Segmental resection of non-viable small intestine Primary repair of ruptured rectosigmoid colon Sigmoid loop colostomy
Papapolychroniadis <i>et al</i> ⁸	83	F	No sign of rectal prolapse 1 cm longitudinal tear in anterior aspect of rectosigmoid colon, adjacent to peritoneal fold	Laparotomy 180 cm length of necrotic small bowel resected (25 cm above ileocaecal junction) End to end two-layer jejuno-ileal anastomosis Two layer repair of rectum
Antony and Memon ⁵	82	F	No sign of rectal prolapse Defecation 4 cm longitudinal tear in anterior rectal wall just above pelvic peritoneal reflection	No colostomy Laparoscopic approach Patient in steep head down position Small bowel returned to abdominal cavity using pulsion-traction No tears sustained Rectal tear sutured laparoscopically with interrupted 2-0 vicryl
Sengar <i>et al</i> ⁷	4 Months	F	No history of rectal prolapse History of a bout of coughing for 4 h Rectum was prolapsed up to rectosigmoid junction with perforation at this level	Pfannenstiel incision made Reduction of ileum done by traction-pulsion 25 cm of small intestine resected Proximal and distal ends of the small bowel exteriorised as stomas
Wroblewski <i>et al</i> ³	57	M	No history of rectal prolapsed Straining on defecation 3.5 cm longitudinal tear of sigmoid colon, 5 cm above peritoneal reflection	Laparotomy Small bowel cleansed and reduced Sigmoid tear was closed in two layers
Wroblewski <i>et al</i> ³	81	F	History of rectal prolapse Occurred after passing stool	Laparotomy 42 cm segment of mid-ileum was resected Gastrostomy and sigmoid loop colostomy performed
Morris <i>et al</i> ¹	86	F	No history of rectal prolapsed Chronic constipation 3 cm transverse tear at low anterior rectum	70 cm of non-viable jejunum resected followed by end-end anastomosis Hartmans performed – torn rectum resected

INVESTIGATIONS

The patient died before any imaging could be performed to assess her abdomen and the pelvic floor.

TREATMENT

As a temporary measure in A&E, the bowel was reduced digitally by the surgical team. Dressings and strapping were used to prevent recurrence.

Following a second episode of evisceration on the ward, the small bowel was reduced once more and the defect in the anterior rectal wall was visualised by applying gentle traction to the prolapsed rectum. This enabled temporary repair of the defect to be performed externally. A stat dose of gentamicin was administered according to hospital policy. Figure 2 is a clinical photograph taken following reduction of the small bowel back through the rectal tear, before temporary repair.

Due to the patients numerous co-morbidities a discussion took place between the surgical team, anaesthetic team and the next of kin. A decision was made not to operate.

Definitive treatment would have been re-considered following an improvement in the patients condition. A decision was made not to escalate care if the patient's condition deteriorated and not to resuscitate in the event of cardiopulmonary arrest. A Do Not Attempt Resuscitation (DNAR) form was signed.

OUTCOME AND FOLLOW-UP

Over the next 24 h, the patient's condition deteriorated. She became hypotensive and tachycardic, her urine output reduced and her oxygen saturation dropped.

A full blood count showed leucopaenia, and urea and electrolytes showed signs of acute renal failure.

On the second day of admission, the patient went in to cardiopulmonary arrest. The DNAR form was respected and the patient passed away.

DISCUSSION

Cases of small bowel evisceration through the anus are rare. It is difficult to ascertain exactly how many cases have been reported since Brodie first described

the condition in 1827. The last thorough literary review by Morris *et al*, in 2003, state 53 cases including their own.¹

On reviewing the literature, it seems the link between rectal prolapse and perforation is poorly understood. We report this case in an effort to better understand the mechanism by which small bowel evisceration occurs and to highlight the fact that this case resulted in a fatal outcome.

Importantly, the majority of cases result from rupture of the distal sigmoid or rectum.² A review by Wroblewski *et al*, later supported by Czerniak *et al*, observed that two key factors predispose patients to this unusual occurrence: one is the presence of a rectal prolapse and the other, a sudden increase in intra-abdominal pressure through physiologic manoeuvres such as coughing and straining.^{3 4}

In a review by Jeong *et al*, the most likely mechanism of rectal prolapse is via a sliding hernia, in which the contained viscera and the Pouch of Douglas form the hernia sac. The anterior wall of the rectum is then weakened following an invagination of the anterior rectal wall by the hernia sac in to the rectal lumen.²

A review by Antony and Memon propose that this mechanism leads to local friction, varicosities and intramural bleeding. A weakness of the antimesenteric wall subsequently occurs as a result of separation of the rectal layers.⁵

Other reported causes include blunt abdominal trauma, incision of thrombosed piles, strangulated ileum with a low pouch of Douglas which pushes the anterior rectal wall causing perforation and subsequent prolapse, and forcible reduction of a rectal prolapse. A minority of cases also claim to be spontaneous in nature. This phenomenon has been reported in both paediatric and geriatric cases (table 1).^{5–8}

A review by Shoab *et al* proposes a standard mode of treatment. This involves an exploratory laparotomy in which abdominal cavity must first be thoroughly irrigated and cleansed followed by re-positioning the small bowel. The tear in the rectal wall must be sutured transanally. If a rectal prolapse is also seen, a Thiersch repair is a viable option, along with a sigmoid colostomy to protect the suture line. They proposed that this is a particularly good option for patients who are frail and not amenable for laparotomy.⁶

A report by Antony and Memon describes a laparoscopic approach to repair a spontaneous rectosigmoid rupture. They managed to return the small bowel in to the abdomen with relative ease. By hitching the uterus to the anterior abdominal wall, they provided good visualisation with which to repair the defect in the anterior rectal wall. Excellent postoperative recovery was reported.⁵

Table 1 demonstrates that the majority of patients presenting with this condition are both female and older.^{1–8} They require aggressive fluid resuscitation, antimicrobial cover and ITU support if not fit for surgery.

We believe that initial, emergency management of these patients, should attempt to temporarily reduce

the small bowel in an effort to prevent bowel ischaemia, perforation and further fluid loss. Treatment of the rectal prolapse should involve trans-anal amputation of and anastomosis, with a defunctioning stoma and appropriate antibiotic cover.

As Wroblewski *et al* stresses in his review of the literature in 1979, small bowel evisceration through the anus is a serious, albeit rare condition.³ In a more recent review by Morris *et al*, seventy per cent of the 53 cases reported since Brodie first described the condition had a history of rectal prolapse. Of those 53 cases, sixty six per cent of patients were female and 22 out of the 53 patients died.¹

This report serves to highlight that patients with rectal prolapse are at risk of suffering this potentially fatal complication. It is widely accepted that complications of rectal prolapse include ulceration, haemorrhage and gangrene.³ We provide an additional reason to ensure that patients presenting with rectal prolapse are treated early.

Learning points

- ▶ Small bowel evisceration is incredibly rare.
- ▶ Patients with chronic rectal prolapse and/or increased intra-abdominal pressure are at greater risk.
- ▶ There is a high risk of bowel ischaemia and sepsis.
- ▶ Aggressive resuscitation, temporary reduction of the eviscerating small bowel to prevent bowel ischaemia, perforation, fluid loss and desiccation are important steps in the early management of these patients.
- ▶ There are a number of options for repair though this depends on the patient's condition at presentation as well as any other co-morbidities.

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Competing interests None.

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