CASE REPORT

Severe retroperitoneal and intra-abdominal bleeding after stapling procedure for prolapsed haemorrhoids (PPH); diagnosis, treatment and 6-year follow-up of the case

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SUMMARY

Procedure for prolapsed haemorrhoids (PPH) is a popular treatment of haemorrhoids. PPH has the advantages of a shorter operation time, minor degree of postoperative pain, shorter hospital stay and quicker recovery but may be followed by several postoperative complications. Rectal bleeding, acute pain, chronic pain, rectovaginal fistula, complete rectal obliteration, rectal stenosis, rectal pocket, tenesmus, faecal urgency, faecal incontinence, rectal perforation, pelvic sepsis and rectal haematoma have all been reported as postoperative complications of PPH. Additionally, one rare complication of the procedure is intra-abdominal bleeding. There are a few case reports describing intra-abdominal bleeding after the procedure. We report a case of a 26-year-old man who developed severe intra-abdominal and retroperitoneal haemorrhage after PPH. The diagnosis was made on the second postoperative day by CT of the abdomen and pelvis. The patient was treated conservatively and had an uneventful recovery.

BACKGROUND

Procedure for prolapsed haemorrhoids (PPH) has been a widely accepted surgical option for the treatment of haemorrhoids in the past few years. The procedure is safe and effective. Several advantages of PPH have been reported including a shorter operative time, shorter hospital stay, less discomfort and pain, and earlier return to usual activity.¹ However, several publications describe severe complications requiring reoperation and even colostomy in the case of pelvic sepsis or intra-abdominal rectal perforation.²⁻³ A systematic review found that 20.2% had postoperative complications after PPH.¹ Rectal bleeding, acute pain, chronic pain, rectovaginal fistula, complete rectal obliteration, rectal stenosis, rectal pocket, tenesmus, faecal urgency, faecal incontinence, rectal perforation, pelvic sepsis and rectal haematoma have all been reported as complications of PPH.⁴⁻⁷ We report a case of retroperitoneal and intra-abdominal haemorrhage, which presented on the second postoperative day after PPH. The patient was successfully managed non-operatively. We report this case to alert the surgical community to this complication and to emphasise that non-operative management can be successful in selected cases.

CASE PRESENTATION

A 26-year-old healthy man was operated on because of grade 3 internal haemorrhoids. PPH was performed with enforcement of the staple line with Vicryl suture due to bleeding. The course of the operation was unremarkable. On the second postoperative day, the patient developed acute abdominal pain, abdominal distension with clinical signs of peritoneal irritation and a drop in haemoglobin (Hb) to 8.9 mg/dL, but remained afebrile. He developed a leucocytosis of 14 600 with 75.6% neutrophils. Haemodynamically he was stable with a blood pressure of 125/77 and a pulse of 110. A CT of the abdomen and pelvis revealed intra-abdominal fluid (figure 1), and a retroperitoneal (figure 2) and perirectal (figure 3) haematoma. The patient was treated conservatively with intravenous fluids, antibiotics and analgesia. He received 2 units of blood. His Hb level subsequently remained stable, ranging between 9.5 and 9.8 mg/dL. An improvement in his clinical situation was observed daily, the abdominal pain improved remarkably, bowel movement was normal with oil paraffin and no fever was observed during or after hospitalisation. Before discharge, a second CT scan was performed which showed improvement and partial resolution of the haematomas (figures 4 and 5). The patient was discharged 12 days after the operation for ambulatory follow-up.

OUTCOME AND FOLLOW-UP

Following discharge, the patient suffered from abdominal pain for 2 months, but gradually the abdominal pain subsided. He had normal bowel

Figure 1 Intra-abdominal fluid.

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Figure 2 Retroperitoneal haematoma.

movements with oil paraffin twice daily for 1 month after surgery. He did not suffer from perianal pain after the first day following surgery. Two years later, he suffered from a relapse of previous symptoms with a prolapse and bleeding but did not seek medical attention until 5.5 years after the surgery. Rubber ligation of internal haemorrhoids was performed without control over the symptoms. Three months later, he was operated on again and Milligan Morgan technique was performed. Now, 10 months after the second operation, he is feeling well without rectal bleeding, prolapse or other symptoms.

DISCUSSION

Few cases of intra-abdominal haemorrhage after PPH have been reported. Wang *et al*³ reported a patient with severe intra-abdominal haemorrhage after PPH and bleeding from anterior rectal wall defect at repeat operation. A double-barrelled colostomy with one abdominal drain was placed in the peritoneal cavity and a transanal abdominal drain and anal drain were placed. Al-Haddad⁸ reported a case of intra-abdominal haemorrhage with perforation of the sigmoid colon due to a dissecting haematoma. The perforation was closed and a de-functioning loop ileostomy was created. Aumann *et al*⁹ reported a case with third degree haemorrhoids who was treated with PPH. The patient suffered symptoms of outlet obstruction, although defecography showed no serious disease. One day after the procedure he developed intra-abdominal haemorrhage

Figure 4 Partial resolution of intra-abdominal fluid.

and underwent laparotomy, which revealed a deep enterocele that reached down to the level of the sphincteric muscle. The ventral part of the stapled ring was placed intraperitoneally, and a longitudinal defect of the rectal serosa was observed. The defect was sutured and a diverting colostomy was constructed. Blouhos *et al*¹⁰ reported a case of intra-abdominal haemorrhage that required anterior resection due to devitalised oedematous rectum to control the bleeding. In our case report, the patient developed intra-abdominal and retroperitoneal haemorrhage, which was diagnosed by CT scan, and we successfully managed the case with close observation and conservative treatment without any surgical intervention.

Possible mechanisms of bleeding include ring dehiscence, overly high stapled ring in the anal canal with an intra-abdominal position, overly high placement of the purse-string suture and the presence of pelvic floor descent.^{3 9 11} Several actions can be taken to minimise the risk, such as increased scrutiny in selection of the patient and a more detailed medical history to rule out defecation symptoms and, if suspected, a defecography including small bowel and bladder staining is suggested.⁹ Wang *et al*³ suggested four manoeuvres that may help to minimise the risk of bleeding: manual overstretching of the staple line, use of the PPH-03 gun with a smaller staple closure, tightening the gun to the absolute limit and the use of a postoperative endoanal sponge. The experience of the surgeon influences the outcome of the procedure. Al-Haddad⁸ reported a decrease in bleeding after PPH from 12.9% to 4.4% with increasing experience of the surgeon.

Figure 3 Perirectal haematoma.

Figure 5 Partial resolution of perirectal haematoma.

Learning points

- ▶ Procedure for prolapsed haemorrhoids (PPH) is an effective treatment of prolapse of haemorrhoids with several advantages and several possible complications.
- ▶ Abdominal pain following PPH must be given serious attention and work up.
- ▶ CT of the abdomen and pelvis is an accurate diagnostic tool to detect intra-abdominal bleeding, retroperitoneal bleeding and rectal perforation.
- ▶ Early diagnosis of the complications and appropriate treatment is critical.

Competing interests None.

Patient consent Obtained.

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