

Extraperitoneal Rectal Laceration Secondary to Blunt Trauma: Successful Transanal Endoscopic Repair with Hemoclips

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Rectal injuries are caused by a variety of causes, such as stab wounds, gunshot injuries, blunt trauma, and foreign bodies. In particular, extraperitoneal rectal injury secondary to blunt trauma is very rare in the civilian setting and usually seen in association with comminuted fractures of the pelvis or sacrum and evidence of intraperitoneal injury.^[1] The management of extraperitoneal rectal injury is treated either surgically or conservatively depending on the level and extent of the injury.^[2] Currently, management of less severe extraperitoneal rectal injury is not standardized, but primary closure of the wound should be performed whenever possible. Therefore, we present a patient with a laceration of the midrectum secondary to blunt trauma who was successfully treated with endoscopic hemocliping.

A 65-year-old male admitted at our hospital 6 h for anal bleeding with abdominal pain after a 2-m height fall down. Abdominal pain was localized in the suprapubic area. There was no remarkable past medical history. His body temperature was 36.4°C, blood pressure 160/110 mmHg, and pulse rate 74 beats/min with a normal rhythm. Abdominal examination revealed mild tenderness in the lower abdomen without guarding, but no tenderness in both upper quadrants. Digital rectal examination revealed only small constant fresh blood in the rectum. Laboratory tests showed leukocytes, 9330/mm³; hemoglobin, 120 g/L; C-reactive protein, 0.5 mg/L; however, other routine blood test results were within the normal limit. Routine chest and simple abdomen X-rays were normal. Contrast-enhanced CT of the abdomen showed a marked thickening of the rectum

with extravasation of the contrast without extraluminal free air or abnormal fluid collection [Figure 1]. Sigmoidoscopy revealed bleeding from intraluminal wall laceration over a hematoma. The perforation site on the lateral rectal wall was identified 10 cm above the dentate line. The laceration was repaired endoscopically using 9 hemoclips (Olympus MD 59 HX-3L) [Figure 2]. After the procedure, the patient was treated with parenteral broad-spectrum antibiotics (cephalosporin and metronidazole) for 2 weeks. Three weeks after the procedure, sigmoidoscopy showed wound healing and scar formation at the laceration site [Figure 2]. The patient was discharged from the hospital uneventfully at 4 weeks.

Rectal injuries secondary to blunt trauma are still rare and more difficult to diagnose, and therefore have a potentially more terrible outcome.^[1] Moreover, because of the greater number and severity of associated injuries, morbidity and mortality are higher in blunt rectal trauma than in penetrating rectal trauma.^[1] Especially, extraperitoneal rectal injury secondary to blunt abdominal trauma is rarer and is usually seen in association with comminuted fractures of

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Figure 1: An abdominal CT scan shows a marked thickening of the rectum with extravasation of the contrast (white arrow) with hematoma (black arrow).

the pelvis or sacrum and evidence of peritoneal injury.^[3] Extraperitoneal rectal injury continues to be a source of significant morbidity and mortality, primarily because of lethal infectious complications. Reported mortality rates exceed 20%, and complication rates of 20–70% demonstrate the severity of extraperitoneal rectal injuries.^[3]

The management of extraperitoneal rectal injuries has evolved from both military and civilian trauma patients. The four components of treatment are fecal diversion, transperineal presacral drainage, primary rectal repair, and distal rectal washout.^[3] This was especially true of military-related projectile injuries. Although civilian trauma is relatively less severe, they remain a challenging problem for the surgeon. All intraperitoneal perforations of the rectum must be repaired, and a diverting colostomy is usually needed.^[2,3] On the other hand, extraperitoneal perforations or lacerations may or may not require primary closure, depending on the level and extent of the injury. Currently, the management of less severe extraperitoneal rectal injury is not standardized, but primary closure of the wound should be performed whenever possible. Levine *et al.*^[4] reported five selected patients with low rectal injuries who were successfully treated with only transanal primary repair combined with antibiotic treatment; diversion and drainage were not needed. Accessibility to expose the wound and to make suture closure is more difficult in lacerations of the middle third of the rectum transanally. Endoscopic hemoclips have been used to control gastrointestinal bleeding from peptic ulcer, postpolypectomy, and biopsy. They have also been used in nonhemostatic applications, such as repair of tissue defects, anastomotic leakage, and closure of colovesical fistula. Fang *et al.*^[5] showed a case of rectal perforation due to penetrating trauma successfully closed with disposable endoscopic clips. Sashiyama *et al.*^[6] reported an endoscopic clipping case, who was successfully treated for iatrogenic posterior rectal perforation in a length of 25 mm caused by endoscopic mucosal rectal adenoma resection in a size of 30 mm and managed with meticulous clipping with the margins to presacral tissue.

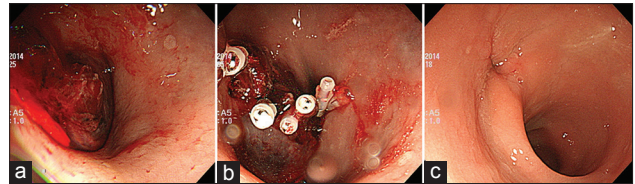


Figure 2: Endoscopic appearance of the rectal laceration site (a) and appearance of the rectal laceration site after endoscopic repair with hemoclips (b). Endoscopy shows the rectal perforation site (hole-like scar change) 3 weeks after the procedure (c).

We reported a case of extraperitoneal rectal laceration with hematoma that was successfully closed with endoscopic hemoclips. Complete closures of the wound edges can be achieved. The patient was closely observed for treatment failure and discharged from the hospital uneventfully. We did not use distal rectal washout or presacral drainage, and no septic complications were observed.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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