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Case Report

# Case Report: Rectal Perforation-Clinical Presentation, Management and Outcome

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**Abstract:** A 38-year-old male presented at pacific institute of medical sciences emergency department in July 2025 with chief complains of pain in abdomen which was associated with abdominal distension, vomiting and fever with chills. During laparotomy there was 4 x 2 cm rectal perforation with faecal peritonitis for which primary repair of rectal perforation with loop ileostomy was done.

**Keywords:** Rectal Perforation, Iatrogenic Perforation, Traumatic Rectal Injury, Gastrointestinal Perforation, Computed Tomography (CT), Peritonitis, Sepsis, Colorectal Surgery, Emergency Surgical Management.

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## INTRODUCTION

Rectal perforation with faecal peritonitis is a rare but life-threatening surgical emergency characterized by full-thickness rectal wall disruption and spillage of faecal content into the peritoneal cavity. It involves a full-thickness disruption of the rectal wall, leading to the extravasation of bowel contents into surrounding tissues, which can result in severe infection, peritonitis, and sepsis [1, 2]. The causes of rectal perforation are diverse and include iatrogenic injuries (such as those occurring during colonoscopy or rectal surgery), trauma (both blunt and penetrating), malignancy, inflammatory diseases, ischemia, and less commonly, foreign body insertion or spontaneous perforation [1-3]. Clinical presentation can range from mild rectal discomfort to acute abdomen with systemic signs of sepsis, depending on the location and extent of the perforation [3]. Diagnosis is often aided by imaging, particularly computed tomography (CT), which provides detailed information about the site and severity of the perforation and any associated complications such as abscess or free air [4]. Primary repair of the rectum is more difficult than primary repair of the colon, however, and most rectal injuries are associated with significant contamination. For that reason, the majority of rectal injuries should be treated with proximal faecal diversion. Distal washout (copious irrigation of the rectum) and presacral drains are not routinely recommended [6]. Small, clean rectal injuries may be closed primarily without fecal diversion in an otherwise stable patient. Intractable rectal bleeding may require angiographic embolization. Very rarely, haemorrhage or extensive tissue loss (especially if the anal sphincter is severely damaged) may require an emergent APR. However, this operation should be avoided, if at all possible, because of the morbidity associated with an extensive pelvic dissection in a severely injured patient [10].

## CASE REPORT

A 38-year-old male presented at pacific institute of medical sciences emergency department

in JULY 2025 with chief complains of pain in abdomen since 10 days which was acute in onset and generalized over whole abdomen severe in intensity, associated with abdominal distension, non radiating, non-shifting, no relieving factors. There was no history of trauma. His condition gradually worsened time to time. Patient also complained of 2 to 3 episodes of vomiting since 2 days which was associated with nausea, which was watery in consistency, non-projectile, non-bilious and non-blood stained and he also had history of fever with chills which was non-documented, low grade and continuous in nature. He had passed stool and flatus in morning. He had no history of jaundice and urinary complains. Patient had history of alcohol consumption, smoking and tobacco consumption which he stopped consuming 10 years back.

Patient visited local hospital for initial management and referred to PIMS for further management due to severe hypotension. Upon admission patient was cachexic and his blood pressure was 68/34 mm Hg, pulse rate was 138 beats per min and saturation was 96 % on room air. He was started on inotropes noradrenaline at 15 ml per hour. On abdominal examination abdomen is distended, tenderness present, guarding and rigidity present with absent bowel sounds There were no visible scars. On per rectal examination anal tone was decreased, ballooning was absent, faecal staining was present, blood staining was absent. On USG there was free intraperitoneal gas with moderate intraperitoneal fluid with internal echoes in abdomen and pelvis.




**Figure 1: X ray abdomen erect revealed free gas under right dome of diaphragm**

Laboratory findings revealed lactic acidosis with hyponatremia and WBC 1500 per cumm and widal was positive. Patient was initially resuscitated with IV Fluids and inotropes; his condition gradually worsened time to time and was taken for emergency exploratory laparotomy and intraoperatively he was on noradrenaline at 20 ml per hour which was tapered gradually, there was 4 x 2 cm approx. rectal perforation approximately 500 ml feculent peritoneal fluid collection (Figure 2).

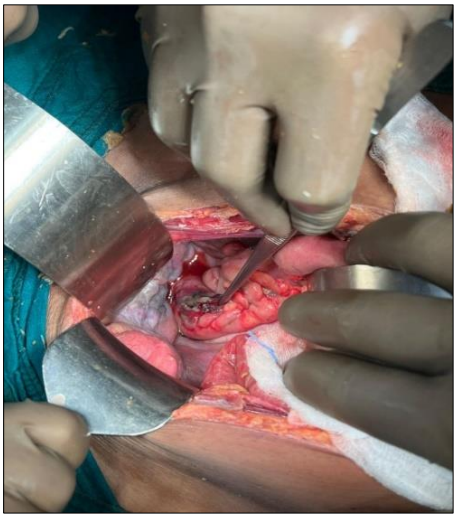


**Figure 2: Intraoperative image showing approx 4x 2 cm perforation in rectum**

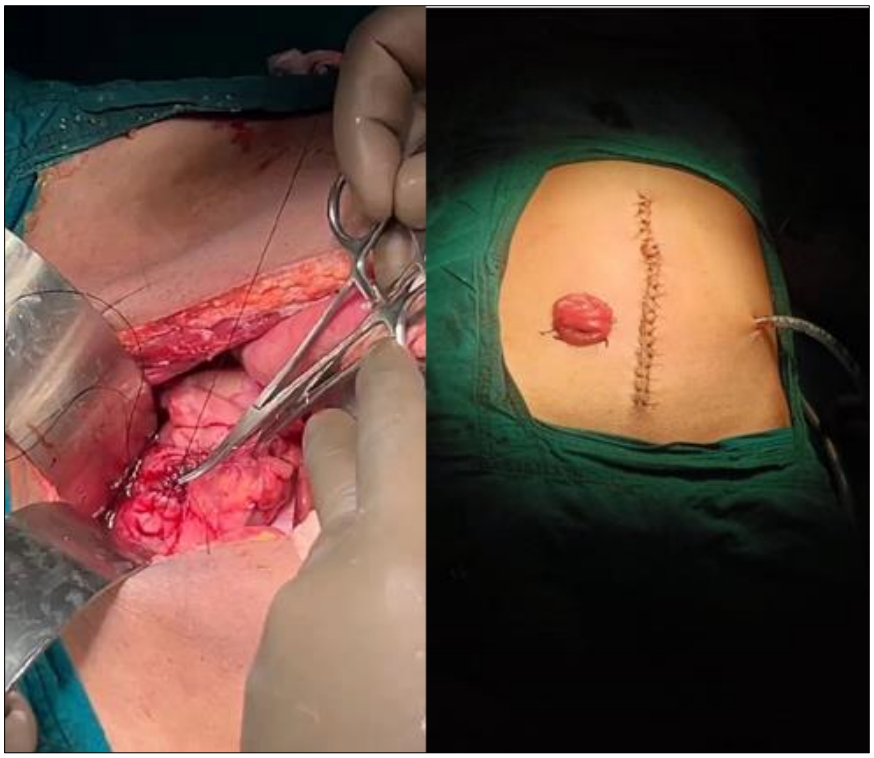


**Figure 3 and 4: Primary repair of rectal perforation with loop ileostomy**

Defect was closed with two-layer closure (primary repair) of rectal perforation with loop ileostomy was created 20 cm proximal from ileocecal junction was done (Figure 3 And 4).

Postoperative recovery was uneventful. Histopathological report was suggestive of perforation peritonitis.

## DISCUSSION

Rectal perforation, though rare, represents a surgical emergency with high morbidity and potential mortality, particularly when diagnosis or intervention is delayed. The condition involves full-thickness disruption of the rectal wall, allowing bowel contents to escape into surrounding tissues, which can lead to localized or generalized peritonitis, sepsis, and multi-organ failure [1, 2].

The causes of rectal perforation are diverse. Iatrogenic injuries, particularly during procedures like colonoscopy, transrectal ultrasound-guided biopsy, or barium enema, are among the most common [3, 4]. Blunt and penetrating trauma, malignancy (especially obstructing rectal tumours), inflammatory bowel diseases (Crohn's disease and ulcerative colitis), ischemic colitis, radiation proctitis, and foreign body insertion are also well-documented causes [2-5].

Intraperitoneal perforations typically result in diffuse peritonitis and rapid clinical deterioration, while extraperitoneal perforations may present with localized pain, perirectal abscess, or subcutaneous emphysema in the perineum or thighs [1-7].

Timely diagnosis is critical for optimal outcomes. Computed tomography (CT) is the imaging modality of choice, with reported sensitivity and specificity exceeding 95% [4-8]. CT findings may include extraluminal air, retroperitoneal gas, fluid collections, perirectal fat stranding, and evidence of the perforation site [9].

Options include primary repair, resection with or without diversion (e.g., Hartmann's procedure), or faecal diversion alone [4-10].

Outcomes largely depend on the aetiology and timeliness of treatment. Early intervention, especially in iatrogenic or localized cases, is associated with favourable prognoses. However, perforations related to malignancy or severe trauma carry higher risks of postoperative complications, including wound infection, intra-abdominal abscess, ileus, and thromboembolism. Restoration of bowel continuity may be achieved in selected patients once sepsis and inflammation have resolved, but in some cases, permanent diversion may be necessary [2-7].

## CONCLUSION

Rectal perforation is a rare but serious clinical entity that demands prompt recognition and appropriate intervention to minimize morbidity and

mortality. Its causes are varied, ranging from iatrogenic injuries and trauma to malignancy and inflammatory conditions. Clinical presentation may be subtle or severe, emphasizing the need for a high index of suspicion, particularly in at-risk patients. Computed tomography remains the gold standard for diagnosis, providing critical information about the location and extent of injury.

Management should be tailored based on the patient's stability, the cause and severity of the perforation, and the presence of sepsis or peritonitis. While conservative treatment may be effective in select, stable cases, surgical intervention remains the cornerstone of therapy in unstable or complicated presentations. Early diagnosis, timely surgical decision-making, and multidisciplinary care are essential to improving outcomes in patients with rectal perforation.

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