International Surgery Journal
Srinithi S et al. Int Surg J. 2026 Aug;13(8):1524-1528
https://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20262483

Case Report

Small break, big threat: a rare case presentation of J-pouch ileal perforation

Srinithi S.*, Sureshkumar A., Sumathi P., Ayesha Reshma V. M. K.

Department of General Surgery, Government Mohan Kumaramangalam Medical College Hospital, Salem, Tamil Nadu, India

Received: 14 May 2026
Revised: 07 July 2026
Accepted: 17 July 2026

***Correspondence:**
Dr. Srinithi S.,
E-mail: srinithisudhakars@gmail.com

ABSTRACT

The ileal J pouch anal anastomosis (IPAA) is a common surgical option for patients undergoing restorative proctocolectomy for ulcerative colitis (UC). Perforation of the J pouch reservoir is a rare but serious complication. It can present with acute peritonitis and needs urgent surgical treatment. We report the case of a 30-year-old male with a history of UC who had previously undergone subtotal colectomy with IPAA along with diversion ileostomy and later ileostomy reversal. He came to the emergency department with sudden abdominal pain. On examination, he had generalised peritonitis and imaging showed pneumoperitoneum. An emergency exploratory laparotomy was performed. It showed a 1×1 cm perforation at the blind end of the J pouch loop along with one litre of toxic peritoneal fluid. Thorough peritoneal lavage done. The perforation was closed primarily and a proximal loop ileostomy was created. The patient recovered well after surgery and was discharged on postoperative day 12. This case shows the importance of early diagnosis and prompt surgical management of J pouch perforation in patients with a history of IPAA.

Keywords: J pouch perforation, Ileal pouch anal anastomosis, Ulcerative colitis, Peritonitis, Ileostomy, Laparotomy

INTRODUCTION

Restorative proctocolectomy with IPAA is the preferred surgical procedure for patients with UC with intractable symptoms. It allows the patient to maintain bowel continuity while removing the diseased colorectal mucosa.[1] This procedure is widely used because it has good functional results and an acceptable rate of complications.[2] IPAA has also been performed in selected patients with Crohn's colitis, although with a higher reported incidence of pouch-related complications and pouch failure compared with UC.[3,4]

However, IPAA is associated with several recognised complications, including pouchitis, anastomotic stricture, pouch fistula, and, in rare cases, pouch perforation, as documented across multiple clinically reported series.[2,5]

Perforation of the ileal J pouch is uncommon but can be life-threatening, and only a limited number of such cases have been reported in the literature.[6-9] It may happen due to ischaemia, technical errors during surgery, distal obstruction, or sometimes spontaneously when the pouch wall is weak or diseased, and is particularly reported at the blind end of the J pouch, a site prone to relative ischaemia and raised intraluminal pressure.[6,8] Patients usually present with symptoms of acute peritonitis such as abdominal pain, abdominal distension, and signs of sepsis.[1,6]

Management of J pouch perforation usually requires emergency surgery. The treatment depends on what is found during surgery and the patient's overall condition. Options include primary closure of the perforation with or without diversion, removal of the pouch (pouch

excision), or creation of a permanent ileostomy.[5,9] We present a case of J pouch perforation in a young male with a history of UC and IPAA, which was successfully treated with primary closure and loop ileostomy.

CASE REPORT

A 30-year-old male presented to the emergency department of GMKMCH, Salem, with complaints of sudden onset abdominal pain for 8 hours. He was apparently well before the onset of pain. The pain was dull aching in nature, gradually increasing in intensity, non-radiating, and had no clear aggravating or relieving factors. He also had abdominal distension. There was no history of vomiting, constipation, melena, burning micturition or yellowish discolouration of the skin and sclera.

Past history

The patient was a known case of UC. He had previously undergone subtotal colectomy with IPAA along with a covering loop ileostomy 10 years ago. Ileostomy reversal was done 8 months after the initial surgery. There was no history of co morbidities.

Personal history

The patient was a known alcoholic. He had his last binge (around 450 ml) 5 days back. He was a non-smoker and consumed a mixed diet.

Family history

Not significant.

Clinical examination

On examination, the patient was conscious and agitated. General examination was normal. Cardiovascular, respiratory and central nervous system examination were normal.

Vital signs

Blood pressure: 110/70 mmHg; pulse rate: 120 beats per minute; SpO_2: 97% on room air.

Systemic examination of abdomen

On inspection, the abdomen was distended and the umbilicus was centrally placed. All quadrants moved equally with respiration. There was no visible gastric peristalsis, intestinal peristalsis, or pulsations. No dilated veins or sinuses were seen. A midline laparotomy scar and a transverse ileostomy scar over the right iliac fossa were noted. Both flanks appeared full, and the bilateral hernial orifices were normal. External genitalia appeared normal.

On palpation, the findings on inspection were confirmed. There was diffuse tenderness over the abdomen, more pronounced in the right iliac fossa, hypogastrium, and umbilical region. Rigidity was present, no palpable mass, and no organomegaly. Both flanks full and renal angles were free, and the bilateral hernial orifices were normal.

On percussion, liver dullness was obliterated. On auscultation, bowel sounds were absent. On per rectal examination, sphincter tone was normal and fecal staining was present

Investigations

Haematological investigations

The complete blood count showed a total white blood cell count of 3,600 cells/mm³, which is at the lower end of normal. Haemoglobin was 14.5 g/dL and platelet count was 2.02 lakhs/mm³, both within normal limits. Renal function tests showed a serum urea of 16 mg/dL and serum creatinine of 1.2 mg/dL, which are within the normal range. Liver function tests and pancreatic enzymes were within normal. Serum lactate dehydrogenase (LDH) was mildly elevated. Special serology test was negative.

Radiological investigations

X-ray chest and abdomen (Erect)

Air under the diaphragm suggestive of hollow viscous perforation.

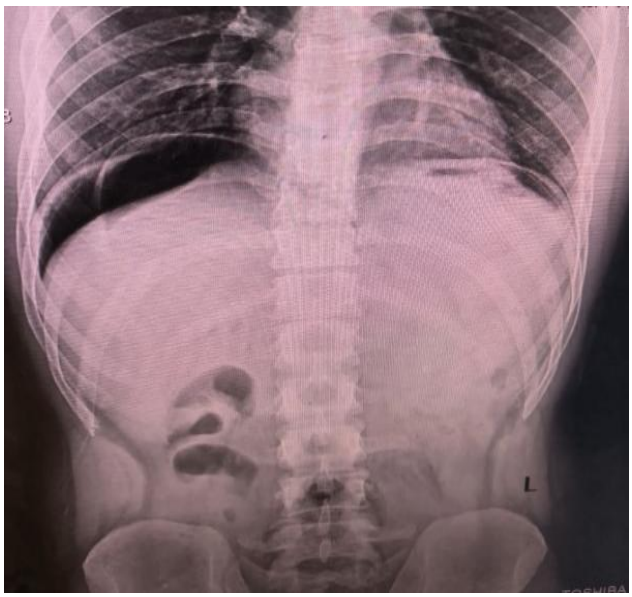

Figure 1: X-ray chest and abdomen.

CT abdomen

Finding suggestive of pneumoperitoneum noted which is consistent with hollow viscus perforation.

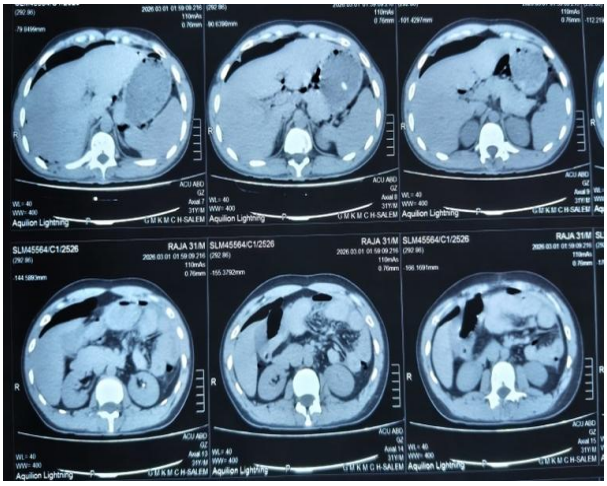

Figure 2: CT abdomen.

Operative management

Based on clinical examination and radiological findings, the pre-operative diagnosis was hollow viscus perforation in a patient with status post subtotal colectomy and IPAA.

After initial resuscitation with intravenous fluids, the patient was taken up for emergency exploratory laparotomy under general anaesthesia (ETGA) in the supine position.

Intraoperative findings

Approximately 1 litre of toxic peritoneal fluid was drained from the peritoneal cavity. A perforation measuring 1×1 cm was noted at the blind end of the J loop reservoir (Figure 3). The ileal pouch anal anastomosis appeared healthy, and rest of small bowel was normal. Solid organs appeared normal. Thorough peritoneal lavage given and the primary closure of perforation done with 2 layers using 2-0 vicryl and 2-0 silk (Figure 4 A). Drain placed in pelvis and fixed to skin. Approximately 30 cm proximal to perforation site, a loop of ileum was brought out as a loop ileostomy and fixed to rectus and skin (Figure 4 B) and wound closed in layers.

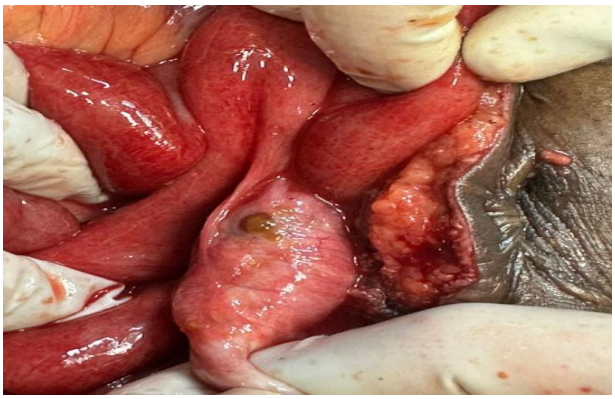

Figure 3: Intraop picture of J pouch perforation.

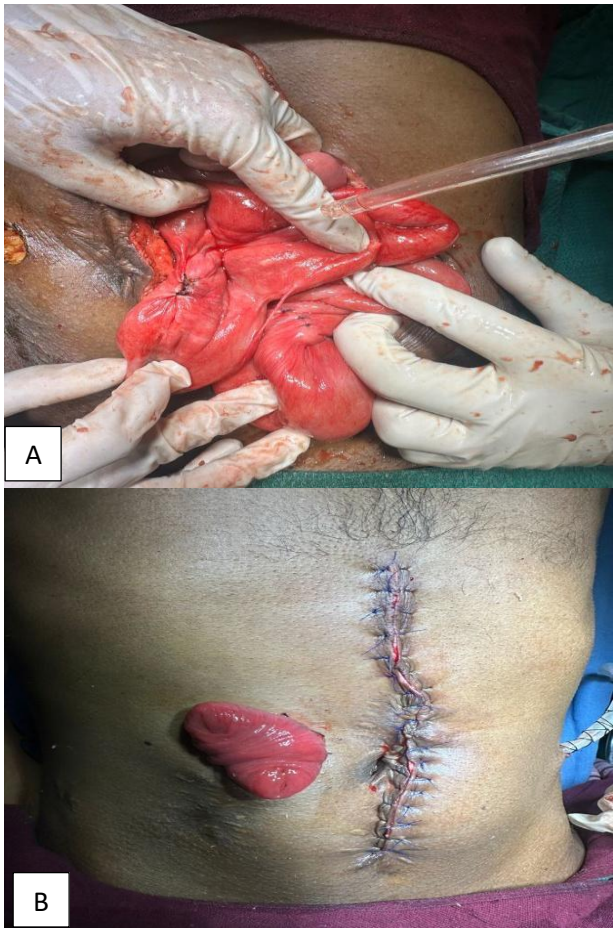

Figure 4 (A and B): Primary closure of perforation and proximal covering ileostomy.

Post-operative management

Post-operative management included keeping the patient nil per oral (NPO) for 2 days, administration of intravenous fluids, and continuous ryles tube aspiration.Higher iv antibiotics and adequate analgesia provided. Vitals monitoring done regularly. Chest physiotherapy and incentive spirometry was given.

Post-operative course

The patient's post-operative period was uneventful. Vital signs remained stable, with blood pressure of 110/70 mmHg, pulse rate of 86/min, and SpO_2 of 97%under room air. Oral feeds were started on postoperative day 2 (POD 2) and gradually increased. The surgical wound remained healthy. Drain removed on POD 8 and the patient was discharged on postoperative day 12 in a stable condition.

DISCUSSION

Restorative proctocolectomy with IPAA is the gold standard procedure for patients with medically refractory UC who require colectomy. It removes all diseased large bowel mucosa while preserving bowel continuity and

faecal continence.[1] Despite its advantages, IPAA has a complication rate of about 25-30% including anastomotic leaks, pouchitis, stricture, fistula, and pouch failure.[2,5]

Perforation of the J pouch reservoir is a rare but life-threatening complication, with only isolated cases reported in the literature to date.[6-9] It can occur suddenly due to barotrauma, ischaemia, technical factors, or in the setting of recurrent pouchitis and inflammation. Pouchitis, the most common complication following IPAA, is thought to arise from a combination of genetic susceptibility, a dysregulated mucosal immune response, and alterations in the pouch microbiome, and the resulting chronic inflammation may weaken the pouch wall and predispose it to perforation.[10] In this case, the perforation was located at the blind end of the J loop, a region consistently identified in previous reports as being prone to relative ischaemia and increased luminal pressure.[6,8] Takahashi et al described a similar blind-end perforation in a 34-year-old woman 8 years after IPAA, occurring in association with a remarkably enlarged blind end and coexistent pouchitis, while Dogan et al. reported a comparable 2-mm blind-end perforation 5 years after IPAA in a 34-year-old man with familial adenomatous polyposis.[6,7] Shibata et al further demonstrated that the blind end can perforate repeatedly, even 6 and 18 years after the index surgery, when anastomotic stricture and luminal overdistension are not adequately addressed, underscoring the long-term vulnerability of this segment.[8] Unlike the blunt-trauma mechanism described by Drober et al in a patient with a prior IPAA who sustained a motor vehicle injury, no history of trauma was elicited in our patient, favouring a spontaneous aetiology similar to that reported in the other case series.[9] The patient's history of chronic alcohol use may also have contributed to poor tissue perfusion and delayed healing of the pouch wall; alcohol consumption has been identified as a significant risk factor for anastomotic leakage in a recent systematic review and meta-analysis of colorectal surgery patients.[11]

The clinical presentation of J pouch perforation in our patient, comprising acute abdominal pain, generalised peritonitis, air under the diaphragm on erect chest X-ray, and pneumoperitoneum with free fluid on CT abdomen, closely mirrors that described in previously reported cases.[6-9] A key point in diagnosis, as emphasised in these reports, is a history of prior IPAA, which should raise suspicion for a pouch-related complication rather than a de novo perforation elsewhere in the gastrointestinal tract.[7,9]

Emergency surgical intervention is required in cases of J pouch perforation with peritonitis. The choice between primary repair with proximal diversion and pouch excision with end ileostomy depends on the patient's general condition, intraoperative findings and the degree of contamination.[5,9] Objective severity-scoring systems, such as the Mannheim Peritonitis Index, have been shown to reliably predict morbidity and mortality in patients with peritonitis secondary to hollow viscus perforation and may help guide the choice between primary repair and more radical surgery in borderline cases.[12] In the previously reported cases, primary closure with a proximal diverting ileostomy was favoured whenever the perforation was small and the surrounding pouch tissue remained healthy, and all of these patients achieved an uneventful recovery with this approach.[6-9] In this case, the perforation was small (1x1 cm), the anastomosis was healthy, and the surrounding tissue was in good condition. Therefore, primary closure with proximal loop ileostomy was performed successfully, an outcome consistent with those described in the comparable cases discussed above.[6-9]

Post-operative care, including broad-spectrum antibiotics, nutritional support, and close monitoring of vital signs, helped in the patient's smooth recovery and uneventful discharge, comparable to the outcomes reported after similar primary repairs in the literature.[6-8] Long-term endoscopic surveillance of the pouch is also recommended following IPAA, as late complications, including dysplasia of the anal transitional zone and recurrent perforation, have been reported even years after the index surgery.[8,13] In a large retrospective series of patients with familial adenomatous polyposis and IPAA, endoscopic pouchitis was significantly associated with eventual pouch excision, reinforcing the value of regular endoscopic follow-up in this population.[14] This case highlights the importance of having a high index of suspicion for pouch-related complications in patients with a history of IPAA who present with acute abdomen, and the need for timely surgical intervention to achieve a good outcome.[1,2,8]

CONCLUSION

J pouch ileal perforation is a rare but potentially life-threatening complication of ileal pouch anal anastomosis. Early recognition through clinical assessment, prompt radiological evaluation, and timely surgical intervention are crucial for a good outcome. Emergency laparotomy with primary closure of the perforation with proximal loop ileostomy and thorough peritoneal lavage is a safe and effective treatment when the pouch and anastomosis are otherwise healthy. This case contributes to the limited literature on acute complications of IPAA and emphasizes the importance of vigilance in patients with a history of restorative proctocolectomy.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Fazio VW, Ziv Y, Church JM, Oakley JR, Lavery IC, Milsom JW, et al. Ileal pouch-anal anastomoses complications and function in 1005 patients. Ann Surg. 1995;222(2):120-7.

2. Hueting WE, Buskens E, van der Tweel I, Gooszen HG, van Laarhoven CJ. Results and complications after ileal pouch anal anastomosis: a meta-analysis of 43 observational studies comprising 9,317 patients. Dig Surg. 2005;22(1-2):69-79.
3. Sagar PM, Dozois RR, Wolff BG. Long-term results of ileal pouch-anal anastomosis in patients with Crohn's disease. Dis Colon Rectum. 1996;39(8):893-8.
4. Panis Y, Poupard B, Nemeth J, Lavergne A, Hautefeuille P, Valleur P. Ileal pouch/anal anastomosis for Crohn's disease. Lancet. 1996;347(9005):854-7.
5. Tulchinsky H, Hawley PR, Nicholls J. Long-term failure after restorative proctocolectomy for ulcerative colitis. Ann Surg. 2003;238(2):229-34.
6. Takahashi K, Funayama Y, Fukushima K, Shibata C, Ogawa H, Sasaki I. Ileal J-pouch perforation at the blind end: report of a case. Surg Today. 2009;39(12):1080-2.
7. Dogan U, Dogan B, Habibi M, Erol MK, Mayir B, Aslaner A, et al. Ileal J-pouch perforation: case report. Chirurgia (Bucur). 2015;110(3):291-3.
8. Shibata K, Ebinuma S, Sakamoto S, Suzuki A, Terasaki Y, Taketomi A. Two-time perforation of the ileal J-pouch 6 and 18 years after restorative proctocolectomy and ileal pouch-anal anastomosis for familial adenomatous polyposis: a case report. Surg Case Rep. 2022;8(1):2.
9. Drober L, Hochstein D, Bahouth H. Traumatic J-pouch perforation following a blunt abdominal injury. Case Rep Surg. 2021;2021:6686964.
10. Thomsen L, Jacobsen S, Tøttrup A. Pouchitis. Ugeskr Laeger. 2025;187(27):V01250033.
11. Dias VE, Castro PASV, Padilha HT, Pillar LV, Godinho LBR, Tinoco ACA, et al. Preoperative risk factors associated with anastomotic leakage after colectomy for colorectal cancer: a systematic review and meta-analysis. Rev Col Bras Cir. 2022;49:e20223363.
12. Gaurav K, Kumar K, Kumar K, Kamal AK, Mehta MK, Soy H, et al. Effectiveness of Mannheim's peritonitis index in patients with peritonitis secondary to hollow viscus perforation in a tertiary care hospital in Jharkhand, India. Cureus. 2024;16(5):e59631.
13. Remzi FH, Fazio VW, Delaney CP. Dysplasia of the anal transitional zone after ileal pouch-anal anastomosis: results of prospective evaluation after a minimum of ten years. Dis Colon Rectum. 2003;46(1):6-13.
14. Blake I, Aslam H, Ahmed S, Javed MA, Collins P. Pouch excision, dysplasia and polypectomy in familial adenomatous polyposis ileal pouch anal anastomosis: a retrospective analysis. BMJ Open Gastroenterol. 2025;12(1):e001758.

Cite this article as: Srinithi S, Sureshkumar A, Sumathi P, Ayesha Reshma VMK. Small break, big threat: a rare case presentation of J-pouch ileal perforation. Int Surg J 2026;13:1524-8.