International Surgery Journal
Ferreira MC et al. Int Surg J. 2026 Apr;13(4):624-629
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20260850

Case Report

Managing emergent irreducible rectal prolapse: pros and pitfalls of Altemeier procedure and review of perineal strategies

Marisa C. Ferreira*, Maria I. Coelho, Alexandra Rocha, Patrícia Bárbara, Vera Pedro, Miguel C. Dos Santos, Gilberto Figueiredo

Unidade Local de Saude Região de Leiria, Rua das Olhalvas, Pousos, Leiria, Portugal

Received: 31 December 2025
Revised: 04 February 2026
Accepted: 02 March 2026

***Correspondence:**
Dr. Marisa Correia Ferreira,
E-mail: marisacferreira23@gmail.com

ABSTRACT

Rectal prolapse is a debilitating condition predominantly affecting older adults and may be exacerbated by chronic constipation, frailty, or psychiatric comorbidities. Perineal approaches, including the Altemeier procedure, offer an effective treatment option for selected patients, particularly when abdominal surgery carries elevated risk. We report the case of a 62-year-old woman with schizophrenia, hemorrhoidal disease, and chronic constipation who presented with a large, irreducible full-thickness rectal prolapse of several years' duration and underwent emergency perineal rectosigmoidectomy. A 23-cm rectosigmoid segment was resected and a hand-sewn coloanal anastomosis performed. Histopathological examination showed mucosal hemorrhage, ulceration, and vascular congestion without dysplasia or malignancy. Postoperative recovery was uneventful, with restoration of bowel function by postoperative day 8 and discharge on day 9. Transient flatus incontinence resolved spontaneously. At two-year follow-up, the patient remained asymptomatic, without recurrence, constipation, or significant incontinence. However, recurrence of rectal prolapse was documented five years after surgery and additional post-recurrence evaluation will be performed. Rectal prolapse is an uncommon but debilitating condition, particularly in patients with comorbidities such as chronic constipation or psychiatric disorders. Incarcerated prolapse requires prompt surgical intervention; in this case, the Altemeier procedure was chosen due to irreducibility, chronicity, and patient frailty. Postoperative recovery was uneventful, with restoration of bowel function and good two-year functional outcomes. Although recurrence remains a concern—especially with large or long-standing prolapses—the procedure is a pragmatic and reproducible option for high-risk patients. The Altemeier procedure is an effective option for irreducible rectal prolapse, offering good functional outcomes in high-risk patients. Long-term recurrence remains possible, highlighting the need for individualized management and ongoing postoperative follow-up.

Keywords: Incarcerated rectal prolapse, Altemeier procedure, Perineal approach, Emergency surgery

INTRODUCTION

Rectal prolapse is a complex pelvic floor disorder characterized by full-thickness descent of the rectal wall, resulting from multiple anatomic and functional disturbances.[1] It is associated with several anatomic abnormalities, including levator ani diastasis, a deep cul-de-sac, redundant sigmoid colon, patulous anal sphincter, and attenuation of recto sacral attachments, with internal intussusception and solitary rectal ulcer occasionally implicated but unproven.[1,2] Its prevalence is approximately 0.5%, predominantly affecting older women, particularly those around 70 years, with multiparity contributing to nearly two-thirds of cases. In younger patients, prolapse is more frequently associated with autism, developmental delay syndromes, and

psychiatric comorbidities. Between 50% and 75% of patients experience fecal incontinence, often related to sphincter dilation, neuropathy, or disruption of the rectoanal inhibitory reflex, while 25% to 50% present with constipation, which may result from intussuscepting rectal tissue, pelvic floor dyssynergia, or colonic dysmotility.[1,2]

The primary goals of surgical management are elimination of the prolapse, correction of associated constipation or incontinence, and avoidance of new bowel dysfunction. Because fecal incontinence frequently improves after prolapse repair, correction of the prolapse is typically the first therapeutic step, whereas maneuvers that may worsen constipation (e.g., lateral ligament transection) must be used with caution. Non-operative measures do not correct the prolapse but can alleviate symptoms; pretreatment of incontinence or constipation may improve postoperative outcomes.[1]

A wide range of surgical procedures has been described, but current practice centers on a limited number of abdominal and perineal approaches, which may be posterior or ventral. Abdominal operations have historically shown superior functional outcomes compared to perineal repairs, though higher recurrence after perineal surgery may reflect selection bias toward older or frailer patients.[2,3]

Most of previous studies predominantly analyze patients who underwent elective surgery, usually elderly individuals with multiple comorbidities, but do not detail outcomes in emergency settings.

Posterior rectal dissection techniques

Posterior rectal dissection involves mobilizing the rectum within the plane between the mesorectal fascia and the presacral fascia, typically beginning at the sacral promontory and extending to the levator muscles. This approach may be performed alone or in combination with an anterior resection.[1]

Studies demonstrated that posterior rectal mobilization alone (without rectopexy) does not improve long-term rectal prolapse control. Actually, it is associated with higher recurrence and complication rates.[4,5] Furthermore, low pelvic anastomoses in patients with borderline continence may lead to additional loss of function. Given these limitations and availability of more effective options with less risks, low anterior resection or posterior rectal mobilization are not recommended.

Posterior suture rectopexy with and without sigmoid resection

Rectopexy consists of anchoring the rectum to the sacral promontory to prevent recurrent telescoping of the redundant bowel. When combined with posterior dissection, additional fibrosis contributes to further rectal fixation. Reported recurrence rates for suture rectopexy range from 3% to 29%.[6,7]

However, posterior mobilization with suture rectopexy can induce or worsen constipation.[8] For patients with rectal prolapse and severe constipation, addition of a sigmoid resection is recommended. Sigmoidectomy combined with rectopexy has been shown to reduce recurrence and improve functional outcomes with only minimal added morbidity.[9]

Alternative surgical options include ventral rectopexy and perineal repairs.

Posterior mesh rectopexy

Mesh rectopexy results in significant improvement in fecal incontinence in 20% to 60% of patients.[10] Original Ripstein repair - posterior mobilization of rectum with mesh fixation of the anterior rectal wall to the sacral promontory - can be used to treat prolapse but is associated with higher morbidity.[10] McMahan and Ripstein later modified the technique to include posterior fixation of the mesh to the sacrum with attachment of the ends of the mesh to the rectum laterally. This modification yielded similar recurrence rates (2%-5%) with a 20% postoperative morbidity rate, the majority of complications being minor.[11,12]

Anterior rectal dissection and ventral rectopexy

Ventral mesh rectopexy, developed by D'Hoore and Penninck, is unique in using limited anterior rectal mobilization without posterior dissection. The rectum is separated from the vagina or prostate down to the perineal body, and the anterior rectal wall is affixed to the sacral promontory using a synthetic or biologic mesh.[13]

This approach provides effective prolapse repair with comparable recurrence rates, improved postoperative constipation, and no new-onset constipation.[13] It is widely adopted in Europe and is recommended by international consensus for patients with pre-existing constipation or anterior compartment abnormalities such as enterocele.[14]

Perineal procedures

Perineal rectopexy with resection

Altemeier's operation: Perineal rectosigmoidectomy, Altemeier procedure, involves transanal full-thickness resection of the prolapsed rectum with a coloanal anastomosis.[3] The operation can be performed without general anesthesia and results in shorter hospitalization stay and lower perioperative morbidity compared with transabdominal procedures. However, recurrence rates remain high, ranging from 16% to 30% within two years and may increase with follow-up time.[4,15,16] Preoperative incontinence might be mitigated with the association of levatorplasty to the rectopexy.[17,18]

Rectopexy without resection

Delorme operation: The Delorme operation, typically used for shorter-segment prolapse, includes circumferential mucosal resection of the prolapsed rectum, followed by plication of the exposed muscularis propria, and subsequent mucosal anastomosis.[17] The addition of sphincteroplasty or pelvic floor repair may further improve continence and reduce recurrence in selected cases.[18] This approach is particularly indicated for patients who are elderly, frail, or have significant comorbidities precluding abdominal procedures. It can be performed under general, regional, or local anesthesia, and is associated with low morbidity, short hospital stays.[18,19]

CASE REPORT

A narrative review of the literature on surgical techniques for the treatment of rectal prolapse was conducted, with emphasis on perineal approaches applicable in both elective and emergency settings. The literature search was performed in PubMed/MEDLINE, Scopus, and the Cochrane Library, including articles published between 1990 and 2024.

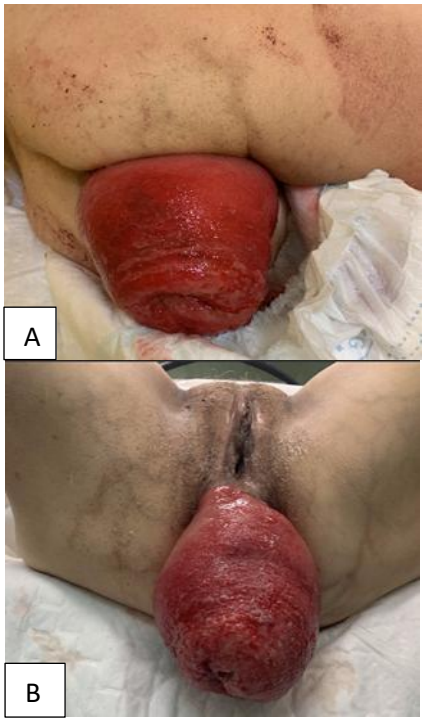

Figure 1 (A and B): Patient at emergency department, with large irreducible prolapse.

The following terms were used: rectal prolapse, full-thickness prolapse, Altemeier, Delorme, perineal rectosigmoidectomy, rectopexy, posterior mesh rectopexy, ventral mesh rectopexy, emergency surgery, among others. Reference lists of the included studies were also reviewed. Studies describing surgical techniques, functional outcomes, morbidity and mortality, recurrence, or specific indications were considered, including clinical trials, observational studies, case series, and relevant reviews. Pediatric studies, isolated case reports without technical relevance, and articles not available in English were excluded. Data were organized according to major groups of techniques—abdominal and perineal approaches—with particular attention to indications, advantages, limitations, and recurrence rates. A formal quality assessment and meta-analysis were not performed due to heterogeneity across studies. We present the case of a 62-year-old woman with a history of schizophrenia, hemorrhoidal disease, and chronic constipation. She presented to the emergency department with a large rectal mass that had been progressively enlarging over several years but had never been evaluated or treated (Figure 1). The prolapse was associated with intermittent rectal bleeding. Physical examination revealed an exuberant, irreducible full-thickness rectal prolapse (Figure 1). The patient underwent an emergency Altemeier procedure (perineal rectosigmoidectomy with coloanal anastomosis).

Operative technique (Altemeier procedure)

The patient was placed in the lithotomy position. The prolapsed rectum was fully exteriorized, and its apex was grasped with clamps. A circumferential full-thickness incision was made approximately 1 cm proximal to the mucocutaneous junction. After completing the incision, clamps were applied to the distal rectal edge, allowing the prolapse to be delivered as a single loop of exteriorized bowel.

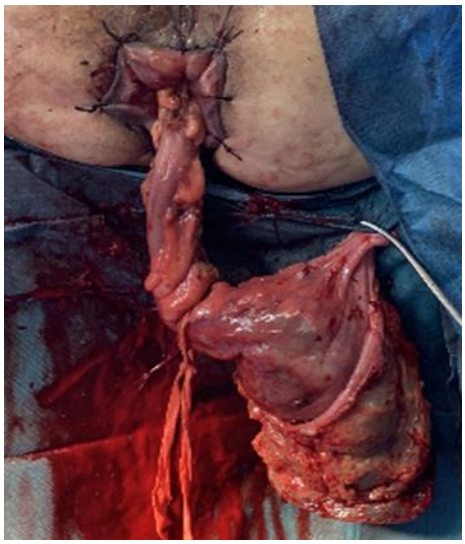

Figure 2: Altemeier procedure.

The anterior peritoneum was incised, permitting entry into the peritoneal cavity, and the redundant sigmoid colon was delivered through the defect. The peritoneum was then closed and anchored to the bowel wall using a continuous suture. The redundant sigmoid colon was divided circumferentially along the planned resection

line. The bowel was transected progressively in an oblique fashion. A hand-sewn coloanal anastomosis was performed using interrupted sutures between the anal canal and the internal sphincter and the full thickness of the proximal colon (Figure 2 and 3).

Figure 3: Prolapse reduction after the surgery.

A 23-cm segment of distal rectum and sigmoid colon was excised and sent for histopathologic evaluation (Figure 4). Examination revealed mucosal hemorrhagic foci, prominent ulceration, and marked vascular congestion involving the entire bowel wall, most pronounced in the submucosa and muscularis propria. No dysplastic or neoplastic lesions were identified.

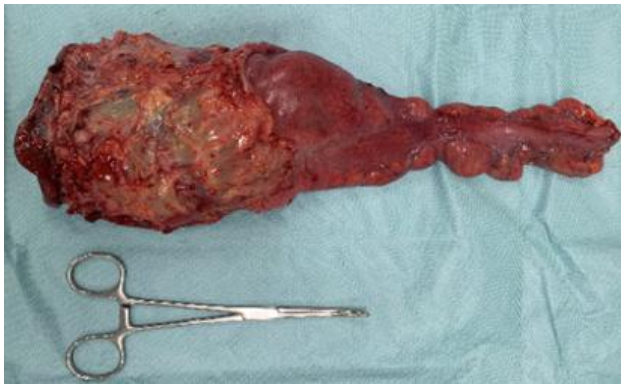

Figure 4: Postoperative resection specimen.

The postoperative course was uneventful. Bowel function returned on postoperative day 8, and the patient was discharged on postoperative day 9. During the first months after surgery, she reported occasional flatus incontinence, but no episodes of fecal incontinence or soiling (Wexner score: 2). Three-month postoperative colonoscopy was normal. Digital rectal examination demonstrated normal sphincter tone and an intact, well-healed anastomosis.

At two years of follow-up, the patient remained asymptomatic, with no recurrence, no sphincter abnormalities, and no symptoms of constipation or incontinence.

Figure 5: Rectal prolapse recurrence 6 years after emergent Altemeier operation.

However, six years after surgery, the prolapse recurred (Figure 5). The patient presented several times to the emergency department with a reducible yet persistent prolapse. It was also documented that she routinely performed digital manipulation of the rectum prior to defecation. Additional investigations will be performed to evaluate the post-recurrence status, and therapeutic options will be determined following multidisciplinary team discussion. Meanwhile, close outpatient surveillance was recommended, with particular attention to alarm signs that could warrant urgent surgical intervention.

DISCUSSION

Rectal prolapse is an uncommon but debilitating condition, primarily affecting elderly women, often associated with chronic constipation, multiparity, functional or psychiatric disorders, which may contribute to neglect in seeking timely medical care. In this case, the prolapse was extensive and progressed over years, ultimately requiring emergency surgical intervention. The patient's comorbidities—including schizophrenia and longstanding constipation—are recognized contributors which may exacerbate the development and chronicity of rectal prolapse.[20]

The Altemeier procedure, or perineal proctosigmoidectomy, among all the alternatives, is a well-established surgical option for full-thickness rectal prolapse, especially in elderly or frail patients, as it avoids the morbidity associated with abdominal procedures.[10] The appeal of the resection rectopexy procedure, includes the lack of artificial mesh, ease and time of operation, and the resection of a redundant sigmoid colon when it is present. Sigmoidectomy, when added to posterior suture rectopexy, reduces postoperative constipation rate, but offers lower resolution of preexisting incontinence, comparing to rectopexy alone.[3,9,16] In fact, some experts argue that sigmoid resection should not be offered to patients with manometry reduced anal pressures or severe incontinence

which was not present in the reported case.[14] Care must be taken to avoid narrowing the rectum.[14]

The patient's postoperative recovery was uneventful, with early restoration of bowel function. Gas incontinence reported in the early postoperative period is a recognized transient complication of the Altemeier procedure, likely due to transient sphincter dysfunction or local inflammation, and typically resolves over time.[21-23] This patient's low Wexner score and preserved anal tone at follow-up affirm good functional outcomes.

The favourable two-year results may be attributable, at least in part, to the adequate length of the resected segment (23 cm) and a secure coloanal handsewn anastomosis.[1] Even though some studies concluded the length of resection and type of anastomosis were not related to surgical outcomes, Kim et al showed for the first time that short resected specimen (<7 cm) and stapled (instead of handsewn) anastomosis can represent risk factors to prolapse relapse.[1-25] The two-year outcome without constipation or significant incontinence supports the feasibility and reproducibility of this technique for incarcerated rectal prolapse. In this case, the choice of the Altemeier procedure was appropriate given the irreducibility and chronicity of the prolapse, as well as the need for urgent surgical correction.

However, long-term recurrence after Altemeier Procedure is not neglectable. Current literature reports recurrence rates varying from 5% to 38% Ris et al reported a 14% recurrence rate at 4 years.[19-24] Perineal proctosigmoidectomy, patient comorbidities, connective tissue disorders, duration of prolapse and time since surgery were identified as significant recurrence risk factors.[21-24]

Prolapse length >5 cm also was described as a significant risk factor for recurrence, with increasing length associated with progressively higher odds of failure.[28] Accordingly, this patient's 10 cm prolapse at presentation represented a pre-existing disadvantage. Furthermore, although there is limited evidence correlating psychiatric disorders with recurrence after Altemeier, this population experiences altered toileting and self-care. They suffer from more severe antipsychotic-induced constipation, resorting more often to digital evacuation and enemas after surgery.[25-28]

Overall, the Altemeier procedure remains a pragmatic option for high-risk populations with incarcerated rectal prolapse, and According to WSES-AAST guidelines, the decision between abdominal and perineal procedures depends on the specific patient's characteristics and on surgeon's expertise (weak recommendation based on moderate quality evidence, 2B).[29] Given that, a clinically stable patient with acceptable operative risk could be submitted to a more durable abdominal repair such as a transabdominal rectopexy, but that requires a differentiated team.

The interval procedure after recurrence also should be individualized based on patient stability, comorbidities, tissue quality, and associated bowel dysfunction.[3-6]

CONCLUSION

This case highlights the effectiveness of the Altemeier procedure as an emergent treatment for irreducible rectal prolapse, even in patients with a complex psychosocial history. The patient's favorable early and mid-term outcomes demonstrate that timely perineal rectosigmoidectomy can provide durable anatomical correction with satisfactory functional results, despite the presence of chronic constipation and psychiatric comorbidities. Nevertheless, the eventual long-term recurrence underscores the well-recognized limitations of perineal approaches and the importance of structured postoperative surveillance, particularly in individuals whose psychiatric conditions or toileting behaviors may predispose them to recurrent prolapse. This case further reinforces the need for individualized management strategies that integrate functional, surgical, behavioral, and psychosocial considerations in order to optimize long-term outcomes. Continued follow-up remains crucial to early identification of recurrence and timely intervention.

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

REFERENCES

1. Bordeianou L, Paquette I, Johnson E, Holubar SD, Gaertner W, Feingold DL, et al. Clinical Practice Guidelines for the Treatment of Rectal Prolapse. Dis Colon Rectum. 2017;60(11):1121-31.
2. Deen KI, Grant E, Billingham C, Keighley MR. Abdominal resection rectopexy with pelvic floor repair versus perineal rectosigmoidectomy and pelvic floor repair for full-thickness rectal prolapse. Br J Surg. 1994;81(2):302-4.
3. Tou S, Brown SR, Nelson RL. Surgery for complete (full-thickness) rectal prolapse in adults. Cochrane Database Syst Rev. 2015;2015(11):CD001758.
4. Karas JR, Uranues S, Altomare DF, Binda GA, De Nardi P, Hurschler C, et al. Rectal Prolapse Recurrence Study Group. No rectopexy versus rectopexy following rectal mobilization for full-thickness rectal prolapse: a randomized controlled trial. Dis Colon Rectum. 2011;54(1):29-34.
5. Cirocco WC, Brown AC. Anterior resection for the treatment of rectal prolapse: a 20-year experience. Am Surg. 1993;59(4):265-9.
6. Novell JR, Osborne MJ, Winslet MC, Lewis AA. Prospective randomized trial of Ivalon sponge versus sutured rectopexy for full-thickness rectal prolapse. Br J Surg. 1994;81(6):904-6.
7. Raftopoulos Y, Senagore AJ, Di Giuro G, Bergamaschi R. Rectal Prolapse Recurrence Study

Group. Recurrence rates after abdominal surgery for complete rectal prolapse: a multicenter pooled analysis of 643 individual patient data. Dis Colon Rectum. 2005;48(6):1200-6.
8. Aitola PT, Hiltunen KM, Matikainen MJ. Functional results of operative treatment of rectal prolapse over an 11-year period: emphasis on transabdominal approach. Dis Colon Rectum. 1999;42(6):655-60.
9. Luukkonen P, Mikkonen U, Järvinen H. Abdominal rectopexy with sigmoidectomy vs. rectopexy alone for rectal prolapse: a prospective, randomized study. Int J Colorectal Dis. 1992;7(4):219-22.
10. Madiba TE, Baig MK, Wexner SD. Surgical management of rectal prolapse. Arch Surg. 2005;140(1):63-73.
11. Ripstein CB, Lanter B. Etiology and surgical therapy of massive prolapse of the rectum. Ann Surg. 1963;157(2):259-64.
12. McMahan JD, Ripstein CB. Rectal prolapse: an update on the rectal sling procedure. Am Surg. 1987;53(1):37-40.
13. D'Hoore A, Penninckx F. Laparoscopic ventral recto(colpo)pexy for rectal prolapse: surgical technique and outcome for 109 patients. Surg Endosc. 2006;20(12):1919-23.
14. Bordeianou L, Hicks CW, Kaiser AM, Alavi K, Sudan R, Wise PE. Rectal prolapse: an overview of clinical features, diagnosis, and patient-specific management strategies. J Gastrointest Surg. 2014;18(6):1059-69.
15. Boons P, Collinson R, Cunningham C, Lindsey I. Laparoscopic ventral rectopexy for external rectal prolapse improves constipation and avoids de novo constipation. Colorectal Dis. 2010;12(6):526-32.
16. McKee RF, Lauder JC, Poon FW, Aitchison MA, Finlay IG. A prospective randomized study of abdominal rectopexy with and without sigmoidectomy in rectal prolapse. Surg Gynecol Obstet. 1992;174(2):145-8.
17. Lonne MLR, Sakata S, Papas CP, Stevenson ARL. How to Do a Delorme's Sleeve Mucosectomy and Muscular Plication for Full-Thickness Rectal Prolapse. ANZ J Surg. 2023;93(6):1694-6.
18. Chun SW, Pikarsky AJ , You SY, Choi HS, Kim NK, Sohn SK. Perineal rectosigmoidectomy for rectal prolapse: role of levatorplasty. Tech Coloproctol. 2004;8(1):3-8.
19. Wijffels NA, Collinson R, Cunningham C, Lindsey I. What is the best surgical option for full-thickness rectal prolapse?. Dis Colon Rectum. 2011;54(5):648-53.
20. Madoff RD, Mellgren A. One hundred years of surgery for rectal prolapse: lessons learned. Dis Colon Rectum. 1999;42(3):351-62.
21. Glasgow SC, Birnbaum EH, Kodner IJ, Fleshman JW, Dietz DW. Recurrence and quality of life following perineal proctectomy for rectal prolapse. J Gastrointest Surg. 2008;12(8):1446-51.
22. Altomare DF, Binda G, Ganio E, De Nardi P, Giamundo P, Pescatori M. Rectal Prolapse Study Group. Long-term outcome of Altemeier's procedure for rectal prolapse. Dis Colon Rectum. 2009;52(4):698-703.
23. Ris F, Colin JF, Chilcott M, Remue C, Jamart J, Kartheuser A. Altemeier's procedure for rectal prolapse: analysis of long-term outcome in 60 patients. Colorectal Dis. 2012;14(9):1106-11.
24. Schabl L, Hull TL, Ban KA, Steele SR, Spivak AR. Recurrence Rates and Risk Factors in the Altemeier Procedure for Rectal Prolapse: A Multicenter Study. Dis Colon Rectum. 2024;67(11):1465-74.
25. Boccasanta P, Venturi M, Barbieri S, Roviaro G. Impact of new technologies on the clinical and functional outcome of Altemeier's procedure: a randomized, controlled trial. Dis Colon Rectum. 2006;49(5):652-60.
26. Kim M, Reibetanz J, Schlegel N, Krajinovic K, Köstler H, Germer CT, et al. Recurrence after perineal rectosigmoidectomy: when and why?. Colorectal Dis. 2014;16(11):920-4.
27. Nugent E, Spivak A, Gurland BH, Shawki S, Hull TL, Zutshi M. Does the Length of the Prolapsed Rectum Impact Outcome of Surgical Repair?. Dis Colon Rectum. 2021;64(5):601-8.
28. Marceau C, Parc Y, Debroux E, Tiret E, Parc R. Complete rectal prolapse in young patients: psychiatric disease a risk factor of poor outcome. Colorectal Dis. 2005;7(4):360-5.
29. Tarasconi A, Perrone G, Davies J, Coimbra R, Moore E, Azzaroli F, et al. Anorectal emergencies: WSES-AAST guidelines. World J Emerg Surg. 2021;16(1):48.

Cite this article as: Ferreira MC, Coelho MI, Rocha A, Bárbara P, Pedro V, Santos MCD, et al. Managing emergent irreducible rectal prolapse: pros and pitfalls of Altemeier procedure and review of perineal strategies. Int Surg J 2026;13:624-9.