Section: General Surgery

Case Series

DELORME'S PROCEDURE FOR RECTAL PROLAPSE: A CASE SERIES

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ABSTRACT

Full-thickness rectal prolapse is a distressing condition, especially in elderly or comorbid patients. Delorme's procedure—a perineal approach involving mucosal sleeve resection with muscular plication—offers a minimally invasive solution for short-segment prolapse. It is particularly suitable for patients unfit for abdominal surgery due to its lower physiological impact. This case series presents three patients with full-thickness rectal prolapse treated with Delorme's procedure at our tertiary care center. One patient had significant comorbidities (ASA II) and underwent the standard technique of circumferential mucosal resection followed by rectal muscle plication. Postoperative outcomes were favorable: all patients had uneventful recoveries, resumed oral intake early, and were discharged within 3-4 days. No operative complications, recurrence, or new functional impairments were observed during 1-3 years of follow-up. One patient reported subjective improvement in fecal incontinence. None developed anal stenosis, fecal impaction, or sexual dysfunction. These findings support the role of Delorme's procedure as a safe and effective surgical option for short-segment rectal prolapse in elderly or high-risk patients. Our experience aligns with existing literature highlighting its durability, minimal morbidity, and suitability when abdominal approaches are contraindicated. Proper patient selection and surgical technique are key to achieving optimal outcomes.

Keywords: Rectal prolapse, Delorme's procedure, Perineal surgery, Full-thickness prolapse, Fecal incontinence

INTRODUCTION

Full-thickness rectal prolapse (procidentia) is an infrequent but debilitating condition in which the entire rectal wall protrudes through the anal canal.[1] Patients often suffer from bleeding, mucus discharge, and combined fecal incontinence and constipation. Surgical repair is required to restore anatomy and function, with two main approaches: transabdominal (rectopexy) or transperineal approaches. The Delorme's procedure is a classic perineal repair involving a circular mucosal sleeve resection with plication of the exposed rectal muscle. First described by Edmond Delorme in 1899,[2] it was traditionally reserved for elderly or high-risk patients and for prolapse segments shorter than 5 cm[3]. The advantage of Delorme's operation is its minimal invasiveness and low physiological stress, which avoids pelvic nerve injury associated with some abdominal procedures.[4] Although historical series reported moderate recurrence rates, more recent studies and guidelines emphasize its safety and acceptable durability when patients are carefully selected.

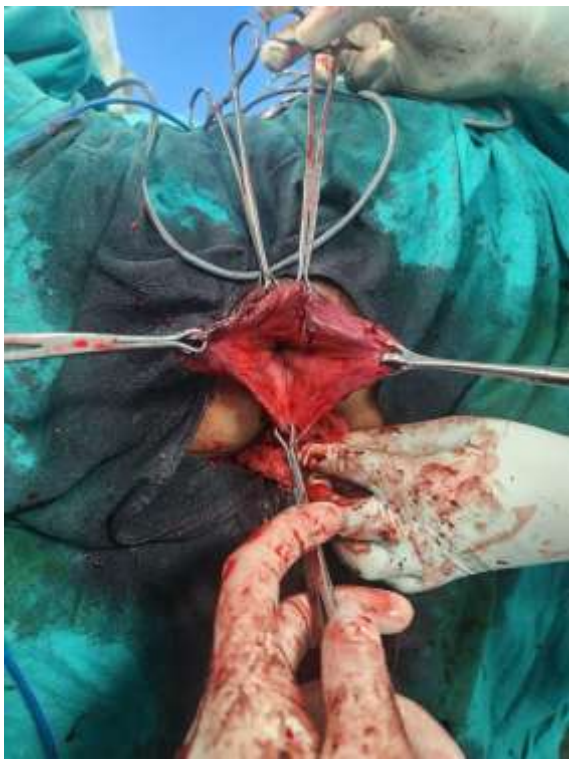
We report three cases of full-thickness rectal prolapse treated with Delorme's procedure at our institution. All patients had uneventful recoveries with no operative complications or recurrent prolapse on follow-up. We describe each case briefly, summarize the surgical technique, and compare our outcomes with contemporary literature on the safety and efficacy of Delorme's procedure.

Three patients with full thickness rectal prolapse were successfully treated with Delorme's procedure, each demonstrating favorable recovery and functional outcomes.

The first, a 52-year-old woman (ASA I) presented with a 4 cm full thickness rectal prolapse of 6-month duration, associated with incontinence score of zero. She had an uneventful postoperative course and remained recurrence free at 3 years. The second, a 65- year-old woman (ASA II) with obesity BMI 35 kg/m2 presented with a 5 cm prolapse with seepage of liquid stool (incontinence score of 2). The Delorme approach was chosen to avoid abdominal surgery due to her obesity and remained recurrence free with no worsening of continence at 1-year follow-up. The third, a 42-year-old woman (ASA I) complained of a 4 cm rectal prolapse and mucus discharge with an incontinence score of zero, opted for a perineal approach after declining abdominal surgery; her postoperative recovery was smooth and at 6 months she remained symptom free with unchanged or improved bowel functions. Collectively these cases highlight Delorme's procedure as a safe, minimally invasive, and effective option for managing rectal prolapse in patients with comorbidities or those preferring to avoid abdominal surgery.

Surgical Technique

In all three cases, we performed the standard Delorme's technique. Under anesthesia (spinal in all cases), the patient was placed in the lithotomy position. The prolapse was fully exteriorized, and submucosal injections of dilute epinephrine (1:200,000) were made to reduce bleeding. A circumferential incision was then made through the mucosa about 1 cm above the dentate line, and the mucosal and submucosal layers were sharply dissected proximally along the prolapsed rectum toward the apex. This exposed the circular and longitudinal muscular layers of the rectum. The redundant rectal muscle was imbricated with several longitudinal absorbable sutures to reduce its circumference. After excising the redundant mucosal sleeve, the remaining proximal mucosal edge was advanced and sutured to the distal mucosal cuff using interrupted absorbable sutures. Thiersch wiring was performed for a patulous anal opening in Case 3. A loose gauze pack was placed at the anastomosis and removed on POD 1. Broad-spectrum antibiotics were given perioperatively. All patients were kept on bowel rest with IV fluids for 1–2 days and then advanced to a soft diet. This technique (mucosal sleeve resection plus muscle plication) has been well described in the literature and is generally favored for prolapses under 5–6 cm in length.



RESULTS

All three patients recovered uneventfully from surgery. There were no intraoperative or immediate postoperative complications in any case. None of the patients required blood transfusion or intensive care. Early mobilization and bowel function were achieved: two patients resumed clear fluids on POD 1 and normal diet by POD 2–3, while one patient resumed diet by POD 3. Mean hospital stay was 3 days. On discharge, patients were continent (of solid and liquid stool) or improved from their preoperative status, and no new constipation or incontinence was noted. At follow-up examinations (median 1.5 years, range 1-3 years) no patient had recurrence of the rectal prolapse. Anorectal examination and history confirmed durable repair in all three. One patient who had preoperative minor incontinence score of 2 reported improvement postoperatively with incontinence score of zero. No patient developed anal stenosis or fecal impaction. Overall, the functional outcome was favorable.

DISCUSSION

Our series of three patients demonstrates that Delorme's procedure can be performed safely with good functional results and no early recurrence. This aligns with current evidence that, when appropriately selected, Delorme's repair is a safe, effective, and minimally invasive option for full-thickness prolapse.[2-3] In a long-term study of 52 patients undergoing a "modified Delorme" repair, Wood et al. reported 0% perioperative mortality, low overall morbidity (4% reoperation), and only a

6% recurrence rate at 5 years (10% by study end).[2] These authors concluded that:

Delorme's is "a safe and effective surgical treatment" with a low risk of recurrent prolapse.[2] Similarly, guidelines note that Delorme's is generally considered very safe, with early complication rates in the range of 4–12% (mostly minor issues like infection or retention).[1]

The absence of complications or deaths in our series is consistent with these reports of low morbidity.[5-6] We attribute this to patient selection and technique. All our cases involved relatively short prolapses (4-5 cm) in patients whose medical status favoured a perineal approach (advanced age, significant comorbidities, or concern for pelvic nerve preservation) or on patient demand. Guidelines and recent reviews recommend Delorme's especially for elderly or frail patients and for prolapses under about 5 cm.[3] In fact, Wu et al. (2025) note that Delorme's has seen renewed interest as a "classic perineal procedure" in elderly or high-anesthesia risk patients, as well as in young men seeking to avoid nerve injury.[3] In our practice, these indications guided case selection. One concern with Delorme's repair has been the risk of recurrence. Prior meta-analyses report recurrence rates ranging roughly 10–30%.[7-8] We observed 0% recurrence at nearly one-year follow-up, which is encouraging but should be interpreted cautiously given our small series and relatively short follow-up. It is notable that recent evidence links longer prolapse length to higher recurrence risk after Delorme's.[8] None of our patients had a long prolapse (>5 cm), which may explain their durable results. In contrast, larger studies (96–104 patients) found up to ~25–27% recurrence, with risk markedly higher in prolapses ≥3 cm.[8] This underscores that careful measurement of prolapse length is important in preoperative planning: when prolapse is short, Delorme's can achieve very good outcomes.[3]

Compared to other perineal procedures, Delorme's has some unique advantages. It avoids a full thickness anastomosis (unlike the Altemeier procedure) and can be done under spinal anesthesia if needed. A recent meta-analysis found that Delorme's and Altemeier's had similar operative times, but Delorme's was associated with a shorter hospital stay.[9] However, Altemeier's had slightly lower recurrence in that comparison.[9] In our small series we did not compare approaches, but the theoretical benefit of avoiding a coloanal anastomosis is appealing in older or high-risk patients. Importantly, no patients in our series developed new sexual or urinary dysfunction – a known advantage of perineal repair because pelvic nerves are not dissected.[10]

This aspect was highlighted in the literature: Delorme's avoids the impotency risk seen with some abdominal rectopexies.[11-12]

Our findings also mirror published data that many patients experience improved continence after Delorme's repair.[2] In the Wood study, 75% of patients had improvement or resolution of preoperative incontinence.[2] We observed similar subjective improvement in the one patient who had baseline leakage. Although not formally measured in our series, this suggests that muscle plication in Delorme's may help restore sphincter function, as others have reported.

Wexner/Cleveland Clinic Incontinence Scoring System

Parameter Never(0)	Never (0)	Rarely (1)	Sometimes(2)	Usually (3)	Always(4)
Solid stool leakage	0	1	2	3	4
Liquid stool leakage	0	1	2	3	4
Gas leakage	0	1	2	3	4
Wears pad or plug	0	1	2	3	4
Lifestyle alteration	0	1	2	3	4

Scoring:

- Total score = Sum of all five parameters
- Range: 0 to 20
- 0 = Perfect continence
- 20 = Complete incontinence

Interpretation

Score range	Severity
0	Perfect continence
1-4	Mild incontinence
5-9	Moderate incontinence
10-20	Severe incontinence

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Limitations of the study

- Small sample size (only three cases), which limits the generalizability of findings.
- Lack of a control group or comparison with other surgical techniques.

- Single-centre experience, which may introduce selection bias and limit external applicability.

CONCLUSION

Delorme's procedure is a safe, effective perineal operation for full-thickness rectal prolapse in appropriately selected patients. In our series of three cases, it achieved complete correction of prolapse with no postoperative complications or recurrences. This supports existing evidence that Delorme's is a minimally invasive option with low morbidity and durable success. Given its advantages – no abdominal incision, potential for regional anaesthesia, and preservation of pelvic nerves – Delorme's remains particularly useful for elderly or high-risk patients and for short segment prolapses.

Recommendations

- Delorme's procedure should be considered a viable surgical option for elderly or high-risk patients with short-segment full-thickness rectal prolapse. Proper patient selection, meticulous surgical technique, and close postoperative follow-up are essential to optimize outcomes and minimize recurrence.

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