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Original Article

DELORME'S PROCEDURE FOR FULL-THICKNESS RECTAL PROLAPSE- OUR EXPERIENCE IN BANGABANDHU SHEIKH MUJIB MEDICAL UNIVERSITY

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Abstract

Background: The study was undertaken to validate the efficacy of Delorme's procedure as the treatment modality of choice for full-thickness rectal prolapse.

Materials and Methods: In this study, results of Delorme's procedure for full-thickness rectal prolapse were assessed retrospectively. 14 patients with full-thickness rectal prolapse who were operated on with Delorme's procedure between January 2010 and October 2013 in the department of Colorectal surgery, Bangabandhu Sheikh Mujib Medical University were included in the study.

Results: There were 8 males with mean age of 32.62 years (range 15–70) and 6 females with mean age of 26 years (range 12–70).The mean operative time was 65±4.5 minutes (range 60–90); there was no mortality and blood loss was minimal. Mean hospital stay was 3.5 days (2–6 days). Outcomes of the procedure were satisfactory and no patient reported recurrence of the disease in the follow up period.Delorme's procedure, especially in younger patients, is a relatively safe and effective treatment and should not be restricted to older frail patients. This procedure may not be suitable for recurrent cases

Delorme's procedure, especially in younger patients, is a relatively safe and effective treatment and should not be restricted to older frail patients. This procedure may not be suitable for recurrent casesConclusion: Delorme's operation is a safe and effective treatment for complete rectal prolapse in patients of all age groups.

Key words: Complete rectal prolapse, Delorme's procedure.

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Introduction

A full-thickness rectal prolapse is a formidable and debilitating condition that needs surgical management. It can easily be diagnosed with a careful history and physical examination. The associated symptoms are tenesmus, incomplete evacuation, obstructed defecation, mucus discharge, bleeding, the need to manually assist in defecation by pushing in the perineum, and functional complaints like incontinence, constipation and even diarrhea[1-3].

Many operations have been described for the correction of rectal prolapse, but none have proved to be superior to others[4].

The aim of treatment is to repair the prolapse and to resolve functional problems like incontinence and constipation with a low complication rate, an acceptable mortality rate, and a low recurrence rate[5, 6].

Delorme's procedure was initially described in 1900 as a technique to correct an overt rectal mucosal prolapse in three young men[7,8]. In transabdominal approaches, neurologic complications (including sexual or urologic disturbances) related to extensive dissection within the pelvic region have been reported[9]. This study was performed to investigate the effectiveness of Delorme's procedure and to review the clinical outcomes for patients who underwent that procedure.

Patients and Methods

14 patients with full-thickness rectal prolapse who were operated on with Delorme's procedure were retrospectively analyzed in this study.

After preoperative bowel preparation, under spinal anesthesia, and in lithotomy position, the prolapsed rectum was identified and pulled tightly downward with sponge holding forceps so that the redundant rectal wall was taken into the prolapsed segment. After injecting 1:200,000 adrenaline in normal saline in the sub mucosal plane, circumferential incision was made 1.5–2 cm proximal to the dentate line. Mucosal dissection from internal sphincter fibers was done cephalad till the end of redundant segment. Plication of rectal wall, excision of dissected mucosa, and closure of mucosal defect were done. Mild laxatives were given for 2 weeks and the patients were advised not to strain at stool.

The patients were followed up for recurrence, incontinence, and constipation after 3 weeks, 3 months and then every 6 months postoperatively.

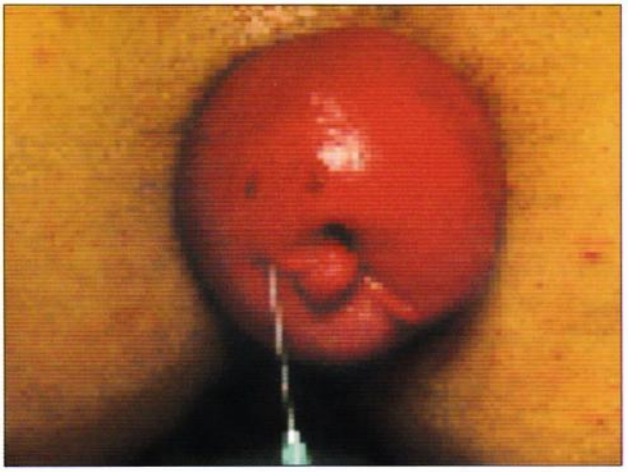

Fig.-1: *Injection of epinephrine solution (1:100.000) into the sub-mucosa in patients with a full-thickness rectal prolapse.*

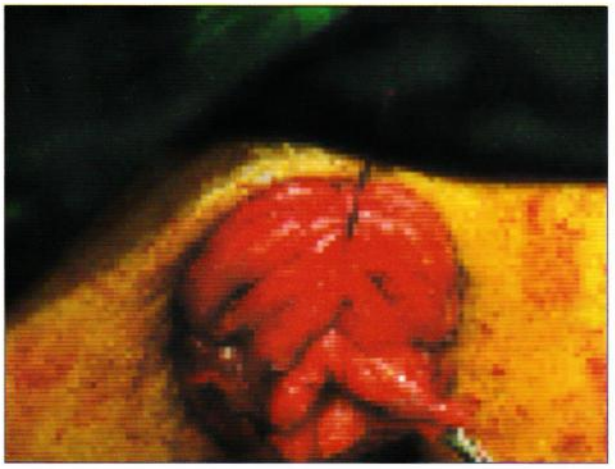

Fig.-2: *Insertion of plicating sutures in the muscular wall of the rectum after dissection of the mucosa from the muscularis layer.*

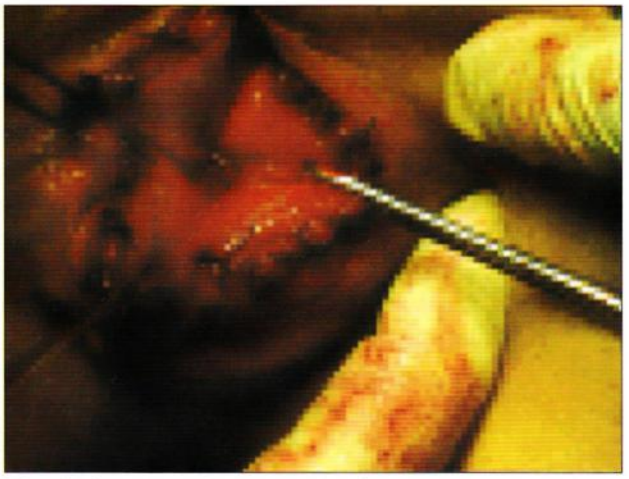

Fig.-3: *Suturing the cut ends of the mucosa together.*

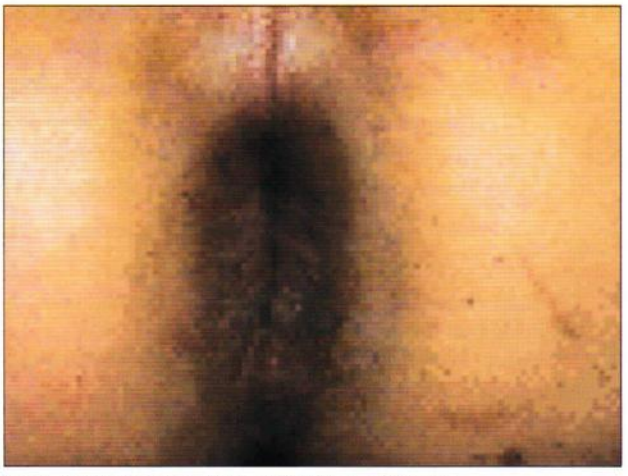

Fig.-4: *Outcome following the surgery.*

Results

There were 8 males with mean age of 32.62 years (range 15–70) and 6 females with mean age of 26 years (range 12–70). The mean operative time was

65±4.5 minutes (range 60–90 min); there was no mortality and blood loss was minimal. Mean hospital stay was 3.5 days (2–6 days). Postoperative complications included suture line bleeding 3(8.1%), retention of urine 6 (16.2%), infection 3(8.1%), fecal impaction 3 (8.1%), and anastomotic stricture in 4 (10.8%) patients. Outcomes of the procedure were satisfactory.

Constipated patients showed improved symptoms in 3 of 5 cases. Of 11 patients who were incontinent preoperatively, seven patients became fully continent and two patients showed partial improvement of their symptoms.

Discussion

Abdominal procedures for treatment of complete rectal prolapse are presumed to entail better anatomic and functional results than perineal repair. They are prone to correct the loss of sacral attachments of the rectum and deep peritoneal reflection[10]. Concomitant resection provides adequate rectosigmoid shortening. After rectopexy, persistence of incontinence and residual disorders of defecation are the main causes of dissatisfaction. Constipation and difficulties in evacuating the rectal ampulla occur in up to 50% of patients[1]. Division of the lateral ligaments and posterior dissection that lead to partial denervation of the rectum may be responsible. All abdominal procedures have three drawbacks that might account for the functional results: (1) they entail a rectal mobilization with subsequent changes in motility and sensation and (2) pelvic floor repair is presumably less effective from above than from below .(3) neurologic complications (including sexual or urologic disturbances) related to extensive dissection within the pelvic region[3].

With regard to correction of the prolapse, a significant improvement has been demonstrated by the present operation. Many series of Delorme's procedure reported a variable recurrence rate of 0–32%[3] . This may be related to the length of follow-up along with variations in case mix and patient selection. An 18.9% recurrence with a mean follow-up of 27±4.6 months was within the range and compared favorably with figures reported[1-3].

Delorme's procedure has two theoretical advantages: it avoids the hazards of colo-anal anastomosis, and respects autonomic innervation of genito- urinary system . It has an additional advantage of excision of a concomitant rectal ulcer with concomitant improvement of associated bleeding and urgency.

Anastomotic stricture is related to mucosal excision excessive in length[3,4]. Stenosis is currently avoided by limited mucosal stripping not exceeding the apex of the prolapse.

With regard to functional outcome, 63.6% of incontinent patients improved with return of full continence in 6 months. Pescatori et al.[11] combined Delorme's procedure with sphincteroplasty in 33 patients, with good results achieved in 79% of patients. Continence was improved in 70%, and constipation was cured in 44%. They concluded that Delorme's procedure combined with sphincteroplasty seemed indicated when both clinical and physiological findings showed a concomitant severe pelvic floor dysfunction. However, many other series without sphincteroplasty have shown improvement in continence.

Delorme's operation showed reported mortality rates of 0–4% and recurrence rates of 4–38%[3]. These figures approximate the figures reported in this study. Factors associated with failure for Delorme's procedure include proximal procidentia with retrosacral separation on defecography, fecal incontinence, chronic diarrhea, and major perineal descent (9 cm on straining). In the absence of these factors, Delorme's procedure provided a satisfactory and durable outcome. **Delorme's** procedure represents a surgical alternative for patients with prolapse who may be unable to tolerate a more extensive operation, such as the elderly frail patients, and those who are medically unfit for major surgery.

Results of recent studies are consistent with previously published experiences that most preoperative evacuatory symptoms resolve with repair of the prolapse, and serious complications are uncommon. The observation that recurrence and complication rates may be lower in younger, medically fit patients suggests Delorme's repair need not be restricted specifically to older, medically unfit patients.

Because of low incidence of postoperative constipation and significant improvement in rectal sensation and compliance, we believe that Delorme's operation, coupled with avoidance of abdominal procedures, is the treatment of choice in elderly frail patients and in patients with defecatory disorders. It is also suitable for young patients as it avoids extensive dissection within pelvic region and thus avoids neurological complications including sexual and

urological disturbances. Recurrence can be successfully treated with repeated Delorme's operation[4].

Conclusion

The most appropriate surgical procedure in the treatment of complete rectal prolapse is a matter of controversy. The surgeon should balance the related hazards and advantages in selecting the procedure. Our results indicate the efficacy of Delorme's procedure and its significantly better functional outcome and lower recurrence rate among young patients. With few minor complications, acceptable recurrence rate and good functional results, we believe that Delorme's procedure should be considered as the first choice for all patients, particularly young adults, presenting with complete rectal prolapse.

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