

Delorme's Procedure; 5 years experience at a Teaching hospital, for treatment of Complete Rectal Prolapse

IMRAN ASLAM¹, BALAKH SHER ZAMAN², ZAIN MUKHTAR³

¹Associate Professor Surgery, King Edward Medical University (KEMU), Lahore,

²Assistant Professor Surgery, King Edward Medical University (KEMU), Lahore,

³Post Graduate Resident of General Surgery, King Edward Medical University (KEMU), Lahore.

Correspondence to **Dr. Zain Mukhtar**, Email: zainmukhtar847@yahoo.com , Contact +92-333-8188046

ABSTRACT

Aim: To analyze our results regarding the recurrence rate of patients with complete rectal prolapse undergoing delorme's procedure.

Study Design: Observational study

Setting and Duration: Surgery Department, King Edward Medical University (KEMU), Mayo Hospital Lahore from October 2012 to September 2015.

Methodology : A total of 14 adult patients of both genders with complete rectal prolapse (at least 5 to 8 cm in length) who presented in outpatient department of mayo hospital, Lahore were treated with Delorme's procedure and followed up prospectively in outpatient unit were included in this study. The associated problems included constipation(7 patients),rectal bleeding(8 patients),mucous discharge(6 patients) ,anal pain (5 patients) and variable degrees of fecal incontinence(4 patients).Only 2 patients had no associated functional problem. We took in consideration patient age, gender, length of mucosal resection in procedure and risk factors. Follow up of patients ranges from 1 to 3 years (12-36 months) unless death or recurrent prolapse intervened. The primary outcome was recurrence after procedure.

Results: A total of 14 patients (11 males and 3 females) ages 16 to 76 years (mean 46.7 years) underwent Delorme's Procedure for Complete Rectal Prolapse (at least 5 to 8cm in length) were included in this study. The follow up period ranges from 12 to 36 months(median 23 months).There was no mortality and morbidity was 14.3 % (one patient with temporary urinary retention treated with foley's catheter for 24 hours and one patient with postoperative bleeding controlled with anal packs for 48 hours). Recurrence occurred in one patient (7.1%) within 12 months after surgery.

Conclusion: Delorme's Procedure is simple and effective treatment modality for complete rectal prolapse for all age groups with recurrence at 3 year of 7.1% as in our study the outcome regarding recurrence is very low. We recommend this procedure as an alternative procedure to abdominal approaches. Additional studies are required to investigate this further.

Keywords: Complete Rectal prolapse, Delorme's procedure.

INTRODUCTION

Rectal prolapse is defined as a protrusion of rectum beyond the anus from its normal position. It can be complete and incomplete¹. Although not life threatening, rectal prolapse is a condition which significantly abrade quality of life. Specially in the paediatric population it is usually diagnosed by the age of three with an equal gender distribution. In adult population its incidence has not been estimated but women are more frequently affected commonly in elderly, mentally ill and patients with chronic constipation².

Rectal prolapse is a debilitating condition and main clinical symptoms requiring treatment include constipation, rectal bleeding, fecal incontinence, mucous discharge and presence of bulge itself³. The anatomical abnormalities associated with rectal prolapse are deep pouch of Douglas, redundant rectum and sigmoid colon, absent fixation of rectum to the sacrum and weakness of pelvic floor/anal sphincter muscles⁴.

A variety of surgical procedures through abdominal and perineal approaches have been described to treat the rectal prolapse⁵. It is considered that abdominal approach

carry lower recurrence rate and better functional sequelae but may elicit an undesirable risk in young patients like fertility problems in females, sexual functions in males and urological disturbances. Conversely perineal approaches like Delorme's or Altemeier's procedure limit these risks and are reserved for older frail patients with significant comorbidity because higher recurrence rate is assumed with perineal procedure⁶.

However the recurrence rate in younger patient's ≤ 50 years of age who undergo Delorme's procedure (perineal approach) has recently been shown to be comparable with those of transabdominal approach. Moreover these neurologic complications like sexual or urological disturbances are less in perineal approach than intrabdominal approach because they are related to substantial dissection within the pelvis⁷.

This study was carried out to assess the effectiveness of Delorme's procedure (perineal approach) and to review the clinical outcome in terms of recurrence rates for patients who underwent Delorme's procedure.

METHODOLOGY

This is an observational study of 14 patients undergoing Delorme's procedure for full thickness rectal prolapse at tertiary care hospital between October 2012 to September

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2015. None of the patient operated previously for rectal prolapse. Patients clinical record, physical examination (Digital rectal examination and Proctoscopy) and preoperative studies were performed and data collected. All operations were performed by consultants. All patients received a low residue diet for two days and clear liquids for one day before procedure. The preoperative mechanical bowel preparation done with a polyethylene glycol solution and all patients received a preoperative enema and intravenous administration of prophylactic antibiotic (Third generation cephalosporins) with metronidazole. A urinary catheter was inserted. Surgery performed either under general or hyperbaric spinal anesthesia in lithotomy position. A dilution of Lignocaine 2% with adrenaline was injected in submucosal plane and standard Delorme's procedure was used.



All patients were followed up for at least 36 months postoperatively, after every three months for first year then every 6 months. All patients were examined in an outpatient clinic setting.

RESULTS

A total number of 14 patients were included in our study. There were 11(78.6%) male patients and 3(21.4%) female patients. Mean age was 46.7±14.2 years. Mean age for male patients was 46.09±16 and for female patients 49.33±4.04. All patients (n=14) complaint of something coming out of anus, 8(57.1%) complaint of rectal bleeding, 6(42.9%) complaint of mucous discharge, 5(35.7%) patients complaint of anal pain and 4(28.6%) complaint of variable degrees of fecal incontinence. Only 2(14.3%) patients had no associated functional problem. All patients undergo Delorme's procedure and mean operative time was 89.3±18.4 minutes. Mean follow up time was 23 months upon contacting the patient telephonically with a range of 12 to 36 months. There was no mortality and morbidity was 14.3% (one patient with temporary urinary retention treated with Foley's catheter for 24 hours and one patient with postoperative bleeding controlled with anal packs for 48 hours). Recurrence occurred in 1(7.1%) patient within 12 months after surgery.

Table 1. Comparison between male and female patients.

	Male	Female
No. of procedures	11	3
Mean age (years)	46±16 (16-76)	49±4 (45-53)
Mean operative time (Min)	90 minutes	86 minutes
Mean Follow up	23 months	23.6 months
Morbidity	2	0
Recurrence rate	1	0

DISCUSSION

Rectal prolapse usually presents with incomplete or complete rectum prolapsed⁸. Multiple procedures for rectal prolapse repair have been reported till today but none of them has become standard⁹. For each condition there are different treatment options but here we describe surgical treatment of complete rectal prolapse and our experience regarding recurrence rate in patients undergoing delorme's procedure in the age group of 16-76 years. Rectal prolapse usually occurs in old age group specially in females but in our study 78.5% were male and 21.4% were female which is in contradiction to literature that reports dominant female population suffering from procidentia. This may be explained on the basis of under reporting of perianal pathologies by female and our male dominated culture as described by Shahzad et al in his study at Agha Khan University, Karachi¹⁰.

It is thought that incontinence may be improved by delorme's procedure because it creates a bulky circumferential mass of rectal wall muscle around the upper anal canal and lower rectum¹¹.

Our study demonstrated that delorme's operation is safe procedure, with no mortality 0% (0 out of 14) in our case series and morbidity 14.3% (2 out of 14) after a long median follow up of 23 months (ranges 12 to 36 months), an acceptable overall recurrence of 7.1% (1 out of 14) which is comparable to other study done by Placer, et al¹². The only limitation of this study is that it is an observational study of small series of cases but the main strength is the long follow up period of 3 years with a median follow up of 23 months and the recurrence rate at 3 years was 7.1 %.

Many authors agree that the low recurrence rates among younger patients undergoing delorme's operation are due to good state of their pelvic floor musculature as compared to elderly patient who have a weak pelvic floor as Hwang, et al stated in his study¹³.

Pikarsky, et al demonstrated in his study that delorme's procedure can be performed for complete rectal prolapse with better outcomes and low technical complexity¹⁴. Despite of methodological limitations Prosper has rekindled debate about the effectiveness of perineal approach in recent multicenter controlled study¹⁵. However this study shows that outcome seems to depend on surgeon's ability who perform the procedure compared to the approach selected.

As recent survey performed on American College of Surgeons National Surgical Quality Improvement Program revealed that the morbidity and mortality of abdominal procedure were similar to those of perineal procedure in elderly patients instead of abdominal approach, perineal approach is also preferred for complete rectal prolapse¹⁶. So, young males undergoing surgery for rectal prolapse should be informed that abdominal surgery might cause pelvic nerve damage and adhesive bowel¹⁷.

CONCLUSION

The study concluded that Delorme's Procedure is simple and effective treatment modality for complete rectal prolapse for all age groups with low recurrence rate. So, we recommend this procedure as an alternative procedure to abdominal approaches. Additional studies with more cohort group are required to investigate this further.

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