DOI Number: 10.5958/2321-1024.2019.00023.0

Review of Clinical and Functional Result of Abdominal Rectopexy Using Proline Mesh for Complete Rectal Prolapse Over a Period of 1 Year at Tertiary Care Centre in Bihar

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Abstract

Background and Objectives: There are many surgical procedures for treating complete rectal prolapse ranging from complex abdominal interventions to simple perineal procedures with varying results. The ideal procedure suitable in all cases is still an enigma. Many surgeons believe that abdominal rectopexy has become the operation of choice not only in the young but even in the elderly patients, resulting in a low recurrence rate and restoration of continence in significant number of patients. The present study to evaluate clinical and functional results of abdominal rectopexy using prolene mesh for complete rectal prolapse in our centre.

Method: Fifteen patients with complete rectal prolapse underwent abdominal rectopexy using prolene mesh. They were followed up for a mean period of 7.3 months and was analysed for postoperative complications like haemorrhage, operative mortality, wound infection, bladder and erectile dysfunction recurrence of rectal prolapse, changes in bowel frequency and restoration or deterioration in continence were noted.

Results: There was no mortality or recurrence in any patient and (100%) improvement in continence in a lone patient with incontinence and decrease in bowel frequency in 2 patients (13%), postoperatively but this did not result in clinical constipation in any of the patient.

Conclusion: Abdominal rectopexy using prolene mesh is a simple operation with satisfactory low recurrence rate, good functional out come with low morbidity and mortality. This procedure can be considered in all patients who are considered fit to undergo an abdominal procedure.

Keywords: *Complete Rectal Prolapse; Abdominal Rectopexy; Prolene Mesh; Incontinence; Constipation.*

Introduction

When an internal organ persists in an endeavor to become an external organ, it generally causes a great deal of trouble. The rectum is occasionally an offender in this respect[1]. W. Ernest Miles, 1993. Complete rectal prolapse or procidentia is a protrusion beyond the anal verge which secretes mucus and may bleed and associated with incontinence either because there is an underlying weakness in the sphincter mechanism or because of the presence of the prolapse protruding through the anal canal leads to poor sphincter function[2,3]. The multitude of methods that have been devised for its relief. Abdominal rectopexy has a low morbidity and mortality rate. The recurrence rate is usually less than 4% with improvement in incontinence and constipation[6,7].

This clinical study of abdominal rectopexy using prolene mesh was done.

To study recurrence and post-operative complications of complete rectal prolapse.

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To study the functional results (bowel frequency and incontinence).

Methodology

This prospective clinical study included 15 cases of complete rectal prolapse who underwent abdominal rectopexy using prolene mesh. These patients were admitted to Department of General Surgery, IGIMS Patna during the period from January 2017 to December 2017.The patients coming with a history of protrusion of mass per anus were interviewed and a diagnosis of complete rectal prolapse was made essentially on clinical examination.

For assessing functional results, continence was classified after Browning and Park's as follows[8]:

Classification of continence (Browning and parks)

Grade 1	Fully continent for flatus & stool
Grade 2	Continent for Stool but not for Flatus
Grade 3	Incontinent for liquid stool
Grade 4	Incontinent for solid stool

Grade 3 and 4 were considered unacceptable. No distinction was made between occasional and regular episodes of incontinence.

Following investigations were done in all cases.

- Blood: Hb%, TC, DC and ESR.
- Urine: sugar, albumin, microscopy.
- FBS, serum creatine, HIV, HbsAg, Anti HCV
- Chest x-ray and ECG.
- Sigmoidoscopy.

All patients were subjected to abdominal rectopexy using prolene mesh

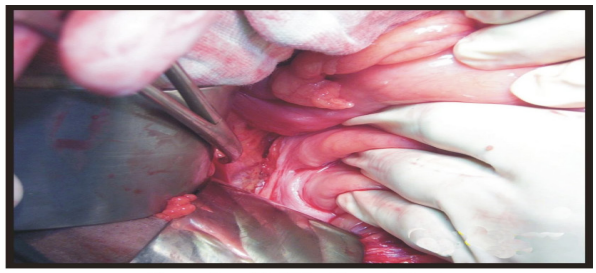
Inclusion Criteria: Patients with complete rectal prolapse who underwent abdominal rectopexy using prolene mesh.

Exclusion Criteria:

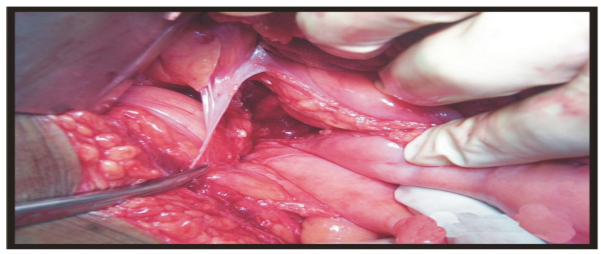
1. Complete rectal prolapse where sigmoidectomy or colectomy was combined with abdominal rectopexy.
2. Cases which could not be followed up for a minimum period of 6 months.

In all, 18 cases of complete rectal prolapse were admitted during the period. 3 patients refused to undergo surgery. Only 15 cases who underwent abdominal rectopexy were followed up for a minimum period of 6 months and were included in the study.

Figures 1 to 3 shown complete rectal prolapse and operative details



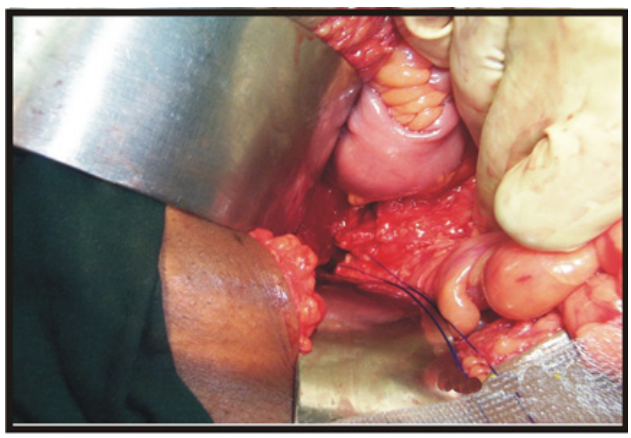
Posterior Mobilization of Rectum



Anterior Mobilization of Rectum

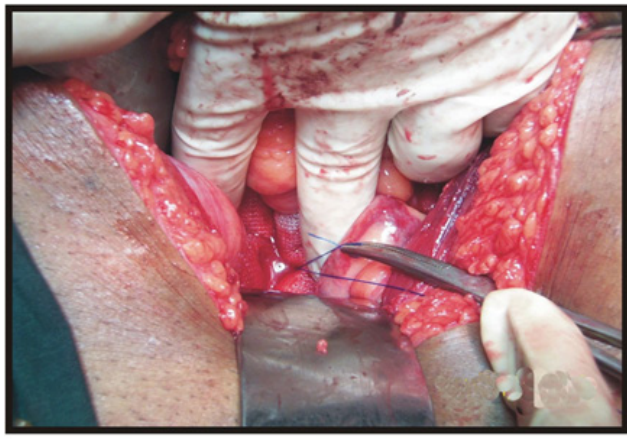
Mobilization of Rectum

Figure 1



Prolene Mesh placed behind Rectum and sutured to sacral promontary and S3 vertebra

Figure 2



Prolene Mesh placed behind Rectum and sutured to sacral promontary and S3 vertebra

Figure 3

Results

Table 1: Age distribution

Age in Years	No. of Cases	Percentage
21-30	1	6
31-40	4	27
41-50	7	47
51-60	3	20
Total	15	100

Table 2: Sex distribution

Sex	No. of Cases	Percentage
Male	12	80
Female	3	20
Total	15	100

Table 3: Symptoms with duration

Symptoms	No of cases with percentage	Mean duration
Rectal prolapse	15 (100%)	7.3 months
Mucus discharge	15 (100%)	7.3 months
Occasional bleeding	9 (60%)	3.2 months
Loose stools	2 (13%)	2.6 months
Constipation	4(27%)	18 months
Straining at stools	4 (27%)	18 months
Incontinence to stool/flatus	1 (7%)	3 months
Uterine prolapse	Nil	Nil

Interpretation: The predominant symptoms seen in all patients were prolapse and mucus discharge form anal canal with a mean duration of 7.3 months. The next common symptom was occassional bleeding seen in 9 (60%) patients with mean duration of 3.2 months. Constipation with straining at stool was seen in four (27%) cases. Only two patients (13%) had bowel frequency of more than 3 times per day and one among them complained of incontinence for liquid stools. Four (25%) patients had undergone previous anorectal surgery. Haemorrhoidectomy (three), Thiersch stitch (one). One female patient had undergone vaginal hysterectomy with pelvic repair for uterine prolapse 3 years prior to noticing prolapse of rectum.

Table 4: Signs at presentation

Signs	No of cases	Percentage
Complete prolapse + manually reducible with no ulceration or bleeding	6	40
Complete prolapse + manually reducible + with bleeding ulceration	9	60
Total	15	100

Interpretation: In 6 (40%) patients presented with complete prolapse which was manually reducible and there was no ulceration or bleeding. Nine patients (60%) presented with complete prolapse with ulceration and bleeding. There was no cystocele, rectocele or uterine prolapse in female patients. The anal canal was patulous in all cases. On sigmoidoscopy distal proctitis was noticed in 9 (60%) cases

Table 5: Post-operative complications

Complications	No of cases	Percentage
Haemorrhage	Nil	0
Prolonged ileus	1	7
Mesh infection	Nil	0
Wound infection	Nil	0
Bladder dysfunction	Nil	0
Erectile dysfunction	Nil	0
Mortality	Nil	0

Interpretation: There was no mortality. Only one case of prolonged ileus was seen extending for seven days which resolved on conservative treatment. The average duration of hospital stay was 8 days and the average time taken by patient to return to normal daily activities was 7 days. There was no recurrence of rectal prolapse either partial or complete. Bowel frequency of more than 3 times per day seen in 2 patients pre operatively improved to 1-2 times per day post operatively. Out of 4 patients with preoperative constipation, improvement was seen in only one patient.

Table 6: Fecal Continence

	No of cases	
	Pre Operative	**Post Operative**
Grade I fully continent for flatus and stools	14	15
Grade II continent for stool but not flatus	Nil	Nil
Grade III incontinent to liquid stools	1	Nil
Grade IV incontinent for solid stool	Nil	Nil
Total	15	100

Interpretation: One patient who had incontinence to liquid stools had improvement after rectopexy and was fully continent after wards.

Discussion

Complete rectal prolapse, a distressing condition is more common in adults than in children. In our study that this condition is seen predominantly after the age of 40 nearly in 67% of cases shown in Table-1 did not have any paediatric case with complete rectal prolapse in our series[1,2]. In West with female to male ratio of 6:1. in India and other Asian countries slight male preponderance is reported .However in our series there is male preponderance with male to female ratio being 4:1 shown in Table -2. All females were parous.

Constipation with straining is considered to be one of the predisposing factors in the aetiology of prolapse. We have found constipation only in 4 (27%) patients preoperatively.

Incontinence of various grades reported in different studies in West range from 30% to 80%. But our series had only one patient (7%) who complained of incontinence for liquid stools only. Probably this is because of the fact that we may be seeing the patients at much younger age than in the West[3,4]. Over the past 30 to 35 years, abdominal rectopexy has become the accepted management of complete rectal prolapse in patients fit enough for an abdominal procedure. Several series report no mortality following operation.

Keighley MRB, Shouler P.J. (1983) in their series of 100 cases of abdominal rectopexy using marlex mesh reported no mortality[19]. Hilsabeck (1981) reported no mortality in their series of 17 cases. Notarus (1979) reported nil mortality in their series of 32 cases[20].We also did not encounter any mortality in our series.

We did not experience any technical difficulty in performing the abdominal rectopexy using prolene mesh. Mean operating time was 1 hour 33 minutes. Practically we did not have in our patients post operative complications like haemorrhage, bladder or erectile dysfunction, mesh infection or abdominal wound infection. Except in one patient who had prolonged paralytic ileus.

Recurrence: Keighley et al (1983) reported no recurrence in their series of 100 cases[19]. Hilsabeck (1981) reported no recurrence in 17 patients[20]. Kim D.S, Tsang CB, Wong WD, Lowry Ae, Gold berg SM, Madoff RD (1999) found recurrence in 5% of 161 patients[23]. Hiltunen KM and Matikainen M (1991) show recurrence rate to be 1.8% in their series of 54 cases[24]. In our study did not have recurrence either partial or full thickness for a mean follow up period of 7.3 months. The shorter follow up period (7.3 months) and small number of patients (total 15) are the limitations of our study.

Functional results:

Constipation: Abdominal rectopexy is shown by many to produce post operative constipation in 10% to 47% of patients. Hiltunen KM and Matikainen M (1991) found post operative constipation in 31% of cases in their series of 54 consecutive marlex mesh abdominal rectopexy[24]. G S Duthie and DCC Bartolo (1992) reported no evidence of significant post operative constipation in their series of 20 patients followed up for a period of 6 months[21]. Bowel frequency in two of our patients

(13%) who had bowel frequency of more than 3 times per day preoperatively decreased to 1 to 2 times per day postoperatively. We did not observe development of post operative constipation in previously normal patients.We had in our present study, 4 patients who complained of constipation with straining preoperatively. The symptom of constipation continued in 3 of them postoperatively and it disappeared in the fourth patient. Those who had continued constipation postoperatively were treated with bulk laxatives and were satisfied with the treatment.

Incontinence: The incidence of restored continence associated with successful abdominal rectopexy is generally high[12,25]. G S Duthie and D C C Bartolo (1992) reported improved continence in 67% following Marlex mesh abdominal rectopexy[21]. Hiltunen K M and Matikainen M (1991) found improvement in continence in 75%.[24]

We did not observe incontinence in majority of our patients. It was observed only in one (7%) patient who was incontinent for liquid stools only became fully continent postoperatively resulting in 100% improvement in incontinence. This remarkable (100%) improvement in incontinence has to be interpreted with caution as the number of incontinent patients was too low in our study.

Conclusion

The abdominal rectopexy using prolene mesh produced no mortality or recurrence in our hands and this operation easy to learn and master. There were no significant postoperative complications including intractable troublesome constipation, mesh infection etc. Functional result in the form of improvement in incontinence was also excellent. Therefore, we considered the abdominal rectopexy using prolene mesh an ideal operation for complete rectal prolapse for patients who are fit for an abdominal procedure.

Source of Funding: Self

Conflict of Interest: None

Ethical Clearance: Taken

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