Original Article

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Outcome of Open Abdominal Rectopexy for the Treatment of Complete Rectal Prolapse –Our Experience in 20 Cases

*Mowla G[1], Chowdhury JM[2], Rahman S[3], Munim MI[4], Ahmed J[5].

Abstract

Introduction: Complete rectal prolapse (procidentia) is a very troublesome condition. In adults, the only curative treatment for complete rectal prolapse is surgery either bytrans abdominal or perineal approaches. Among the all surgical procedure, the option of abdominal rectopexy , which can be done either by open procedure or laparoscopically, has become the treatment of choice for complete rectal prolapse.

Objective: The purpose of this study is to see the outcome of open abdominal rectopexy for the treatment of complete rectal prolapse by subjective assessment.

Methodology: The study was conducted in the Department of Surgery, Women's Medical College Hospital and different private hospital in Sylhet District, from July 2013 to May 2021.A total of 20 Patients who presented with complete rectal prolapsed fulfilling the inclusion criteria were selected as study population. Laparotomy was done by lower midline incision and spinal anaesthesia was chosen for all the cases. Assessment of operative time, postoperative pain, mean days of hospital stay, constipation score, in continence score and recurrence rate within six months of follow-up were observed and recorded.

Result: A total of 20 patients were included in this study of which 65% were female and 35% were male. The mean age was 48.80 (SD 11.50) years, the mean BMI was 24.1 (SD 2.35) and the mean time of operation was 80(SD 10.75) minutes. The mean VAS was 5.0(SD 1.25) on the day of first postoperative and 3.8(SD 1.15) on the second postoperative day. The mean days to resume bowel activity was 3.12 (SD 1.0) days. Postoperative hospital stay mean was 5.2 (SD 1.14) days. The constipation scores during preoperative and postoperative period were 3.8(SD 2.12) and 2.6 (SD 1.75) respectively. The mean in continence score during preoperative and postoperative period were 7.1 (SD 3.25) and 2.0 (SD 2.25) respectively. No recurrence case was found within six months of follow up period in this study.

Conclusion: Open abdominal rectopexy is a safe, simple and effective procedure for the treatment of complete rectal prolapse.

Key words: Rectal Prolapse, Abdominal rectopexy.

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Introduction

Complete rectal prolapse may be defined as the protrusion of the full-thickness rectum through the anus[1].

1. Golam Mowla, Associate Professor, Department of Surgery, SWMCH, Sylhet.
2. Jamal Ahmed Chowdhury, Professor & Head, Department of Surgery, SWMCH, Sylhet.
3. Siddiqur Rahman, Professor & Head, Department of Urology, SWMCH, Sylhet.
4. Mamun Ibn Munim, Associate Professor, Department of Surgery, SWMCH, Sylhet.
5. Jahir Ahmed, Assistant Professor, Department of Surgery, Sylhet MAG Osmani Medical College & Hospital.

Corresponding author: Golam Mowla,
Associate Professor, Department of Surgery,
Sylhet Women's Medical College & Hospital.
Email: gmowla098@gmail.com

It occurs at any age but the peak incidence is after the fifth decade of life and females are more prone to develop[2]. The exact etiology is not known till today but there are certain risk factors for onset of the diseases, which include the presence of an abnormal deep pouch of Douglas, the lax and atonic state of the pelvic floor muscles, pudendal neuropathy, loose rectal fixation, weakness of both internal and external sphincters[3].

Rectal prolapse may result in some acute conditions like ulceration, bleeding, incarceration, gangrene or some chronic debilitating conditions such as difficulty in maintaining perianal hygiene like faecal incontinence and mucus discharge[4]. Chronic straining force may push the anterior upper rectal wall into the anus resulting in a solitary rectal ulcer due to repeated trauma to the mucosa[5].

Among the all treatment options surgery is the only potentially definitive management for complete rectal prolapse. There are two surgical approaches to the prolapsed rectum like trans abdominal (open and laparoscopic) or perineal route.Trans abdominal approach usually involves a rectopexy along with or without the sigmoid colon resection[6]. The perineal approach has been reserved for the most elderly and debilitated patients and the abdominal approach is thought to be associated with a more robust repair having a lower recurrence rate[7].
This study was designed to evaluate the outcome of conventional open abdominal rectopexy for the treatment of complete rectal prolapse in our settings.

Objectives:
To assess the operative time, postoperative pain, mean days of hospital stay, constipation score, incontinence score and recurrence rate of open abdominal rectopexy for the treatment of complete rectal prolapse.

Materials & Methods
The study was conducted in the Department of Surgery, Women's Medical College Hospital and different private hospitals in Sylhet District, from July 2013 to May 2021.
All patients bearing full-thickness rectal prolapse were included in the study. The details of the patients and the findings were recorded after obtaining informed and written consent. Operative time, postoperative pain, mean days of hospital stay, constipation score, incontinence score, recurrence rate within six months of follow-up were observed and recorded.
Patients bearing the age below 18 years, those having ASA (American society of anaesthesiologist) score more than 2 and associated with anorectal malignancies were excluded from the study.
The study was designed as a prospective observational study. All the patients who fulfilled the inclusion criteria recorded their demographic variable like age, sex, weight and BMI. Two experienced surgeons were involved to perform the all operations.

Operation technique
Under spinal anesthesia, laparotomy was done through lower midline incision. The rectum was mobilized from the pre sacral tissue up to the tip of the coccyx. Special attention was given to save the nervi erigentes, ureter, and superior rectal vessels. Proper hemostasis was ensured and a prolene mesh(7.5cmx15cm) was placed in the sacral curve behind the mobilized rectum and fixed to presacral fascia and sacral promontory centrally by 2/0 polypropylene suture. Then the part of rectum which was mobilized was fixed on either side to the mesh leaving anterior one third of rectum free by 2/0 polypropylene suture .After proper haemostasis the abdomen was closed in layers. Skin was closed by 2/0interrupted stitch by 2/0 polypropylene. Various outcomes were observed. Time required for operation, postoperative pain (visual analog scale), duration of hospital stay, constipation, incontinence score and recurrence rate were recorded. All the cases were followed up at two weeks, one month and six months postoperatively.

Results
In this study, twenty cases were selected for open abdominal rectopexy. Among them 35% were male and 65% were female. The mean age was 48.8 years, the mean weight was 62.12 kg and mean BMI was 24.1 (Table I*)*.

Table I: Demographic profile of patients:

Number of patients	
Males	7(35%)
Females	13(65%)
Age in years (SD)	48.8 (±11)
Weight in kg (SD)	62.12 (±13.6)
BMI (SD)	24.1 (±2.35)

The mean time of operation was 80 (SD 10.75) minutes. The mean days to resume bowel activity was 3.12 (SD 1.0) days. The mean days of hospital stay were 4.2(SD 2.14) days. The mean of VAS score was 5.0 (SD 1.25)on the first postoperative day and 3.8 (SD 1.25) on the second postoperative day. The mean

constipation score during preoperative and postoperative time were 3.8 (SD 2.12) and 2.6 (SD 1.75) respectively. Theme an incontinence score during preoperative and postoperative period were 7.1 (SD 3.25) and 2.0 (SD 2.25) respectively. No recurrence case was found within six months of follow up period in this study (Table II).

Table II: Outcomes of the study:

Operative time in minutes(SD)	80(10.75)	
Days to resume bowel activity(SD)	3.12(1.0)	
Days of hospital stay(SD)	5.2(1.14)	
Post-op mean VAS score for pain(SD)	Day 1	Day 2
	5(1.25)	3.8(1.25)
Incontinence score(SD)	Pre-op	Post-op
	7.1(3.25)	2.0(2.25)
Constipation score(SD)	Pre-op	Post-op
	3.8(2.12)	2.6(1.75)
Recurrence at six month	0	

Discussion

Among the all different surgical procedures proposed for rectal prolapse, the option of abdominal rectopexy has become the treatment of choice. The aim of surgical management is to restore the rectal physiology by treating the prolapse and releasing the symptoms like incontinence and constipation. Laparoscopic procedures may be considered as one of the surgical method for the treatment of procidentiadue to the universally known benefits of minimally invasive surgery[8].

Solomon et al. concluded that rectopexy with the help of laparoscopic procedure is the preferred surgical option because of its less long-term adverse outcomes [9]. But laparoscopic rectopexy is technically challenging and requires more time to perform the operation. The open methods for treatment of procidentia are different in number[10,11]. For the all surgical options the common surgical steps are mobilization of rectum and fixation of it to the pre sacral tissue either by the suture material or by a synthetic mesh. The result can be enhanced if a recto-sigmoid resection and anastomosis is added[11]. Rectopexy with the help of mesh enhances the value of operation but technical skills are necessary to accomplish the surgery. In addition of recto-sigmoid resection and anastomosis to open rectopexy may make the technique more exceptable for the treatment of procidentia.

In this study the middle-aged male patients are higher in number that probably indicates the type of population covered by us. Incontinence and constipation are the two most common complaints of patient associated with rectal prolapse. About 50% of the patients have coexisting incontinence with rectal prolapse because of diminishing rectal accustom to distension in rectal prolapse[12]. In the present study, both the incontinence and constipation score had improved after surgery which are the two most important indicators of patient satisfaction.

The time required for an operation is one of the important parameters to be attributed to the benefits of a surgery. In the present study, the mean duration of open abdominal rectopexy was 80 (SD 10.75) minutes. Solomon et al. showed the similar result regarding the operative time of open abdominal rectopexy [9].However, the study done by Heah et al. reproduced that the average time required for laparoscopic rectopexy was 96 minutes (range 50-130 minutes) [13].The more time requires for laparoscopic rectopexy is very much understandable because it is technically challenging to perform. The mean duration of resumebowel activity was 3.12 (SD 1.0) days in this study. It is similar as many other studies [9,15] .However, Milsom et al. showed an improved and early bowel movement in patients with complete rectal prolapse undergone laparoscopic rectopexy[14].

Duration of hospital stay is used as a yardstick for the postoperative complications and recovery of patients. In this study, the duration of hospital stay is 5.2 (SD 1.14) days. Graf et al. demonstrated similar result in respect of time required for hospital stay after open abdominal rectopexy [15] .Again postoperative pain is a debilitating factor to the patient as well as to the

surgeon. It is regarded as another important yardsticks in deciding the type of operation for a specific disease. In this study, postoperative pain score has been shown 5(SD 1.25) on day 1 and 3.8(SD 1.25) on day 2. Stage et al. showed the similar result patients undergone open colorectal surgery [16]. Incidence of recurrence is regarded as one of the most important parameters to evaluate the success of an operation. It is one of the predominant criteria to measure the effectiveness of surgery for procidentia[17] . In the present study no recurrence was found probably due to small sample size and short-term follow up. Graf et al. showed a recurrence of 0-3% after open abdominal rectopexy [15] .One study done by Madiba et al. demonstrated a recurrence rate of 0-10% after laparoscopic rectopexy[3]. Thus, it becomes clear that whatever is the procedure, the recurrence rate is similar and show no significant differene.

The limitations of this study are a smaller sample size and shorter period of follow-up. A larger clinical trial may be done in the future to see long-term results of surgery for procidentia by open abdominal rectopexy.

Conclusions

Open abdominal rectopexy is a safe, simple and effective procedure for the treatment of complete rectal prolapse. However, further study with large sample size and long-term follow-up can be done in future to observe the long-term outcomes of open abdominal rectopexy.

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