



Research Article

A Tailored Surgical Approach of Management and Outcome of Rectal Prolapse at B.P.Koirala Institute of Health Sciences, a Tertiary Hospital

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Abstract

Background: Rectal prolapse is a clinical entity characterized by the complete or partial protrusion of the rectum through the anal canal and surgical procedures for rectal prolapse are diverse. There are many abdominal and perineal approach described for rectal prolapsed surgery. At present, laparoscopic surgery is gaining popularity as the treatment of choice for rectal prolapse. However, perineal procedures are still performed in elderly, high-risk patients or in case of recurrence following abdominal surgery.

Objectives: To analyze the patients with rectal prolapse with respect to their demographics, case records, the type of operation performed and operative time.

Method: All patients of rectal prolapse who were operated in BPKIHS, between 1st May 2016 to 30th April 2021 (five years) were included in this study. Each patient's medical records were reviewed retrospectively. **Results:** Total 50 patients of rectal prolapse were operated during the study period. Over the years, perineal procedure out numbered abdominal procedures. Eight patients underwent laparoscopic rectopexy. Two patients had recurrence who underwent re-do surgery.

Conclusion: Both abdominal and perineal approaches are safe and acceptable approach with slightly higher recurrence rate in perineal group. A tailored approach for management of rectal prolapse is considered as key for better outcome and in recent years trend of laparoscopic rectopexy is increasing in our setup.

Keywords: Abdominal rectopexy; Laparoscopy; Rectal prolapse

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.” Complete rectal prolapse is a distressing and demoralizing condition. Patients are troubled by a protrusion beyond the anal verge which secretes mucus and may bleed. It is frequently associated with incontinence either because of underlying weakness in the sphincter mechanism

or due to the presence of the prolapse protruding through the anal canal leads to poor sphincter function. [1] Rectal prolapse is a protruding mass per rectally following defecation. It could occur at every age in women as well as in men; however, women are the main group of patients in the adult population with the peak incidence after the fifth decade of life. Postmenopausal women reveal full-thickness rectal prolapse more often than younger women and men [2].

While a variety of abdominal and perineal procedures have been described to treat rectal prolapse, these are divided into abdominal and perineal approaches. It is considered that

abdominal procedures carry a lower rate of recurrence and better functional outcomes but may entail an undesirable risk in young patients: fertility disorders in women and sexual dysfunction in men. However, perineal procedures are still performed in high-risk patients or in case of recurrence following abdominal surgery. A high BMI or the risk for nerve injury involved in abdominal surgery in young males may also lead to an indication of perineal surgery. [2,3] Nowadays, laparoscopic surgery is gaining popularity as the treatment of choice for rectal prolapse. As surgeons become more familiar with laparoscopic approaches, we will probably see a shift in this direction. Long-term outcomes following laparoscopic surgery for rectal prolapse appear to equal open techniques and this may emerge as the procedure of choice in the future [2].

So, the goal of this study was to assess the tailored approach of surgery for rectal prolapse in our set as we have operated patients either abdominal or perineal approach and in some selected patients by laparoscopic method.

Aims & Objectives

To analyze the patients with rectal prolapse with respect to their demographics, case records, the type of operation performed and operative time, determine the effectiveness of rectal prolapse surgery and determine the intraoperative, post-operative complications and recurrence.

Method and Methodology

The study was conducted in the Department of Surgery, B.P.K.I.H.S. Dharan, after approval from institutional ethical review board. All patients of rectal prolapse who were operated in our hospital, between 1st May 2016 to 30th April 2021 (5 years) were included in this study. Each patient’s medical record was reviewed retrospectively. Demographic information of all patients was retrieved from medical record section. Data on the patients presenting complaints, disease status, radiological findings, treatments provided, co morbidities, operative details, postoperative mortality and morbidity, outcomes, follow up and further management of each patient were retrieved from the available case record files and were recorded in predesigned proforma.

All procedures were performed under general or spinal anesthesia. Preoperative bowel preparation with polyethylene glycol solution was given the day before surgery. Prophylactic intravenous antibiotics were given at the induction of anesthesia. Foley’s catheterization & nasogastric tube placement before surgery. All of the patients underwent either abdominal or perineal approach for rectal prolapse or laparoscopic in selected patients.

Ethical approval was obtained from ethical board. All the data were analyzed using SPSS version 11.5. For descriptive analysis percentage, odds ratio, arithmetic mean and median were used. The Chi-square and Fisher’s exact test was used to compare variables and association. To compare overall and disease-free survival, Kaplan-Meier a survival curve was used to assess the factors which were associated with mortality, a Cox-regression analysis was used.

Results

Demographic Characteristics

Total 50 patients were included in this study. Out of which 10 patients were of below 50 yrs of age and 40 patients were above 50 yrs of age. Females were more commonly involved than males with F: M ratio was 4.0/1.0. Most of the patients were housemaker. The mean age of the patient was 62.4, the range being (19-92) years. The demographic is as shown in Table 1 below.

Characteristics	Cateogories	Frequency(n=50)	Percentage (%)
Age	<50	10	20
	≥50	40	80
Sex	Male	40	42.0
	Female	10	58.0
Occupation	businessman	2	4.0
	farmer	19	38.0
	house maker	25	50.0
	student	4	8.0

Table 1: Patient characteristics.

Clinical Characteristics

Total 50 (100%) patients were complaining of mass coming per rectum followed by mucus discharge in 78% of patients, followed by bleeding per rectum 42% of patients and constipation in 20 % of patients. Reducible mass coming per rectum was seen in 86% of patients and incarcerated rectal prolapse was seen in 10 % of patients. The clinical characteristics are as shown in Table 2.

Characteristics	Categories	Frequency(n=50)	Percentage (%)
Bleeding	Yes	21	42.0
	No	29	58.0
Mucus Discharge	Yes	39	78.0
	No	11	22.0
Constipation	Yes	10	20.0
	No	40	80.0
Incontinence	Yes	8	16.0
	No	42	84.0
Mass per rectum	Yes	50	100
	No	0	0
Incarceration	Yes	5	10.0
	No	45	90.0
Reducible	Yes	43	86.0
	No	7	14.0

Table 2: Clinical characteristics.

Personal Behavior and co-Morbidities

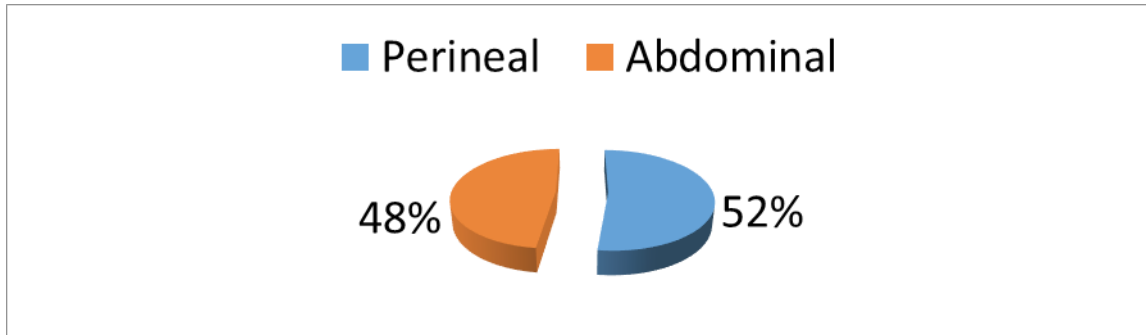
Out of 50 patients were included in this study, 32 (64%) patients had history of smoking followed by smoking in 27(54%) and 4(8%) of patients were having obesity. The diabetes mellitus was seen in 11(22%) of patients. The personal behavior and co-morbidities are as shown in Table 3.

Characteristics	Categories	Frequency(n=50)	Percentage (%)
Smoking	Yes	32	64.0
	No	18	36.0
Obesity	Yes	4	8.0
	No	46	92.0
COPD	Yes	27	54.0
	No	23	46.0
DM	Yes	11	22.0
	No	39	78.0

Table 3: Personal behavior and co-morbidities.

Surgical Approach

Out of 50 patients 26(52%) of patients underwent abdominal approach and 24(48%) of patients underwent perineal approach. Perineal approach were selected in old and patients who were not fit for general anesthesia and abdominal approach were selected in patients those were fit for general anesthesia.



Abdominal Approach : Abdominal approaches were selected in young and medically fit patients. Out of 50 patients, 24(48%) of patients underwent abdominal approach , in which 14(28%) patients underwent suture rectopexy followed by mesh rectopexy in 6(12%) and resection rectopexy in 4(8%) of patients.

Perineal Approach: Perineal approaches were selected in elderly and in those patients who were not fit for general anesthesia. Out of 50 patients 26 (52%) of patients underwent perineal approach in which Altemier’s approach (30%) was the common procedure followed by Delorme’s approach (10%) and Altemier’s + leveteroplasty (10%) of patients. Thiersch wiring was done in 1(2%) patient as she was extremely moribund.

Open / Laparoscopic: In abdominal approach 8 (16%) patients underwent laparoscopic rectopexy. Out of which 6 (12%) patients underwent suture rectopexy and 2 (4%) patients underwent was anterior mesh rectopexy. Rests of the abdominal rectopexy were done by open approach. Mean Duration of Surgery (Hrs): 3.11(1-4.5). Mean Duration of Hospital stay (Days): 6.02(2-9).

Surgical Approach

Variables		Surgical Approach		P value
		Perineal	Abdominal	
Age	<50	00	10(41.7)	<0.001
	≥50	26(100)	14(58.3)	
Gender	M	9(34.6)	12(50)	0.271
	F	17(65.4)	12(50)	
Reducible		19(73.1)	24(100)	0.006
Incarceration		5(19.2)	00	0.024
Variables		Surgical approach		P value
		Perineal	Abdominal	
Postoperative Bleeding		9	4	0.004
Postoperative Constipation		0	6	0.007
Mean duration of Surgery(hrs)		2.77±0.77	3.47±0.59	0.001*
Mean duration of hospital Stay(days)		6.04±2.21	6.00±1.18	0.94*

Post operative issues: Out of 50 patients, the most common post operative issue was pain following rectopexy followed by surgical site infection, bleeding per rectum and constipation. Seventy two percentage of patients were having pain after surgery and twelve percentage of patients were having constipation. Post op issues are as shown in Table 5.

Characteristics	Categories	Frequency(n=50)	Percentage (%)
Bleeding	Yes	13	26.0
	No	37	74.0
Pain	Yes	36	72.0
	No	14	28.0
Infection	Yes	19	38.0
	No	31	62.0
Constipation	Yes	6	12.0
	No	44	88.0

Recurrence

Out of 50 patients, 2 patients who underwent perineal rectopexy had recurrence and those were managed with abdominal rectopexy.

Discussion

Rectal prolapse as a disorder occurs in patients at every age. According to the literature and clinical experience, it is more common in women than men with a ratio of 6:1. Women have an increased incidence in elderly age especially in their postmenopausal period; male patient suffer from the entity irrespective of age. [1,2] There are many types of operations and still no procedure of choice. Before the operation, many factors must be considered, such as the patient's age, co-morbidities, gender and preoperative constipation as well as anal incontinence. In our study also females were commonly involved than males with F: M ratio 4:1. The abdominal procedures are connected with the risk of some severe complications such as anastomotic leak, in resection procedures, and ileus, and some of these complications might require reoperation. The risk of recurrence in suture rectopexy varied from 0 to 9 % with no mortality but with a morbidity rate of 0–20 %. The recurrence rate in our study was 4%, In patients operated on with rectopexy with the used mesh, the risk of recurrence ranges from 2 to 10.5 % and the incidence of morbidity might be higher than in suture rectopexy and accounted from 3 to 52 %. Posterior mesh rectopexy could be connected with a higher rate of overall morbidity. Therefore, in our centre, we have chosen suture rectopexy than mesh mainly to reduce the risk of postoperative complications [6,7].

In a group of patients with constipation as an additional complaint to rectal prolapse, sigmoid resection may be added to rectopexy. Patients with a history of constipation seem to obtain more benefit by adding sigmoid resection of the redundant bowel. We did report of 4(8%) constipated patients prior to surgery in our small rectopexy group; thus, the procedures of rectopexy require additional bowel resection [6-8].

We realize the limitation of our study especially when it comes to the rectopexy group as we could only perform laparoscopic

rectopexy in few patients. Rectopexy with laparoscopic approach is used routinely in some centres; however, in our department, we do both open and laparoscopic abdominal due to patient factor, time constrain and hospital logistics [9,10]. Perineal procedures are considered to be more appropriate in elderly patients who have some significant or severe comorbidities. However, in these procedures, the decreased perioperative morbidity could be connected with the increased recurrence rate. There are three most commonly performed procedures: the perineal rectosigmoidectomy (Altemeier procedure), the perineal rectosigmoidectomy with levatoroplasty and the Delorme procedure [9,11,12]. In our study, actually we noted higher recurrence rates in overall perineal group of patients but we did not reveal any statistical significance. Furthermore, comparing the morbidity rates, there were similar rates in the study groups as well. The Delorme procedure remains a good surgical choice for patients with a mucosal or partial thickness rectal prolapse, and it is the best option for patients with only short full thickness rectal prolapsed [13-15].

Conclusion

Rectal prolapse is a chronic disturbing condition, which affects elderly women primarily, usually with a history of chronic constipation with varying degrees of incontinence. Perineal procedures offer the advantage of a less-invasive operation with results similar to open procedures. This approach would seem most appropriate in elderly debilitated and young male patients with sexual dysfunction as an important consideration. Laparoscopic operations may also result in acceptable cosmesis. Open or laparoscopic options would appear to benefit patients with significant longstanding constipation with marked sigmoid colon redundancy. Preoperative transit studies should be utilized to define the extent of the colonic dysfunction. The ultimate decision should be made by the patient and surgeon after reviewing the options, risks, and benefits of the various operative techniques, and which approach best suits the individual patient. As surgeons become more familiar with laparoscopic approaches, we will probably see a shift in this direction. Long-term outcomes following laparoscopic surgery for rectal prolapse appear to equal open techniques and this may emerge as the procedure of choice in the future.

Both abdominal and perianal approach is described in the literature for the management of rectal prolapse. Procedure has to be tailored according to the condition of the patient, precipitating events and the surgical experience.

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