Original Article

Surgically treated Rectal Prolapse: Experience at a teaching hospital

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Abstract

Objective: To analyze our results regarding the surgical treatment of complete rectal prolapse performed at the Aga Khan University Hospital, from January 1988 to December 2003.

Methods: Files were retrieved from our medical records and data was reviewed for all adult patients admitted and operated upon for complete rectal prolapse during our study period. Long-term follow-ups were obtained through these files and also by contacting patients through telephone and letters. Data was recorded in a standardized two-page proforma and analysis was carried out between different variables using SPSS 10.0.

Results: A total number of twenty surgeries (n=20) were performed. All patients had the presenting complaint of something coming out of anus, 70% (n=14) patients complained of some bleeding per rectum, 30% (n= 6) had anal pain and 20% (n=4) had faecal incontinence. Chronic constipation was found in 50% (n=10) patients, obstructive uropathy in 30% (n=6), weight loss, chronic cough and mental illness, each in 10 % (n=2) of patients. Primary procedure was carried out in 70% patients. Mean operative time was 178 minutes; mean length of stay was 7 days with a mean follow-up of 25 months. Early complications were noted in 5% (n=1) patients, and late complications in 30% (n=6). Based on this data, comparative analysis was carried out between different variables.

Conclusions: Surgery is the only treatment for rectal prolapse in adults. Several procedures are done suggesting that there is no standard treatment for this ailment. The number of male patients was higher, chronic constipation was the most common risk factor, abdominal rectopexy was the favored procedure, perineal procedures were associated with shorter operative time, hospital stay, and were done more often in females and elderly. Revision surgery was associated with longer operative time and hospital stay (JPMA 55:247;2005).

Introduction

Rectal prolapse is defined as protrusion of all layers of the rectal wall through anus and is synonymous with procidentia.[1] Complete rectal prolapse is an uncommon pathology, reported as early as the Egyptian and Greek civilizations; and is associated with a weak pelvic floor, faecal incontinence, pain, bleeding per rectum, constipation, which all lead to much discomfort and social embarrassment.[2] The incidence of complete rectal prolapse has not been estimated, but it is found four times more frequently amongst women and commonly in elderly, mentally ill, and patients with chronic constipation.[3,4] Complete rectal prolapse in adults can only be managed surgically and more than a hundred different surgical procedures have been described for its treatment, although only a few are in practice today. These procedures are broadly classified as either perineal or abdominal. During the past century, newer investigations have lead to better understanding of the etiology which in turn has resulted in much improved results of surgery. However, despite years

of experience and research, it has been impossible to identify or refute clinically important differences between different surgical operations and there is still no standard surgical procedure.[5] The choice of the procedure is based largely upon the surgeon's experience, age and fitness of the patient. Whatever the procedure, there is considerable morbidity such as recurrence of prolapse, faecal incontinence and anal stenosis. Here the authors have performed an audit, wherein all the surgical procedures performed at our institute for the treatment of complete rectal prolapse in adults, during the past sixteen years, have been statistically analyzed.

Patients and Methods

We included in our study all adult patients admitted and operated upon for complete rectal prolapse. Patients younger than 14 years and outpatient reductions were thus not included. Files were retrieved from our medical records using the ICD9-CM (International Classification of Diseases 9th edition, Clinical Modifications) code 569.1 for rectal prolapse, data was recorded using a standardized two-page proforma having sections for patient's demographic data, clinical data and procedure related information. Long-term follow-ups were noted from the files and also by contacting patients through telephone and letters. The data thus collected was reviewed and comparative analysis was carried out between different variables using SPSS version 10.0.

Results

A total number of twenty patients (n = 20) were included in our study. There were 13 (65%) male patients (65%) as compared to 7 (35%) females. Mean age was 49 years ± 21 years (18-75 years). Mean age for male patients was 48 ±19 years (18-72 years) and for females 52 years ± 23 years (18-75 years). All patients (n=20) had the presenting complaint of something coming out of anus, 70% (n=14) patients complained of some bleeding per rectum, 30% (n=6) had anal pain and only 20% (n=4) had fecal incontinence. Most common risk factor recognized in our patients was chronic constipation, found in 50% (n=10) patients. Other risk factors included obstructive uropathy in 30% (n=6), weight loss, chronic cough and mental illness, each in 10% (n=2) of patients. No statistically significant difference was noted amongst the male and female patients with respect to presentations and recognized risk factors.

Primary procedure was carried out at our hospital in 70% patients (n=14). Twenty percent (n=4) patients

Table 1. Procedure details (n=20).

Procedure	No.	%
Rectopexy alone	9	45
· Posterior with mersilene mesh	7	
· Posterior with suture	2	
· Anterior	1	
Thiersch wiring	3	15
Rectosigmoidectomy alone	3	15
Perineal proctectomy	2	10
Rectosigmoidectomy with posterior rectopexy	1	5
Sigmoid colectomy with posterior rectopexy	1	5
Delorme's procedure	1	5

Table 2. Comparison between male and female patients.

	Male	Female
No. of procedures	13	7
Mean age (years)	48 ±19 (18-72)	52 ± 23 (18-75)
Primary vs. Revision	Primary: 9, Revision: 4	Primary: 5, Revision: 2
Type of procedure	Abdominal: 3, Perineal: 4	Abdominal: 3, Perineal: 4
Mean operative time	187 minutes	171 minutes
Mean length of stay	6.6 days	7.7 days

Table 3. Comparison of abdominal and perineal procedures.

	Abdominal	Perineal
No. of procedures	12	8
Gender	Male: 9, Female: 3	Male: 4, Female: 4
Mean age (years)	47 (18-75)	52 (18-70)
Type of procedure	Primary: 8, Revision: 4	Primary:6, Revision: 2
Mean operative time	266 minutes	124 minutes
Mean length of stay	7.92 days	5.88 days

underwent the first revision procedure and 10% (n=2) a second revision procedure. Mean operative time was 178 minutes±128 minutes (40-500 minutes). Mean length of stay was 7±2.6 days (3-13 days). Mean follow-ups as documented in charts was seven months (1-24 months) and mean follow-ups after our attempts at contacting patients was 25 months with a range of 1-156 months.

Early complications were noted in 5 % (n=1) and late complications in 30% (n=6) patients. Late complications included post procedure incontinence in 10% (n=2), recurrence of prolapse in 10 % (n=2) patients, anal stenosis in 10% (n=2) patients. The details of procedure are given in Table 1.

Based on this data, comparative analysis was carried out between different variables. When comparing the male and female patients, we found the mean age of our female patients to be higher than their male counterparts, 52 years compared to 48 years. Female patients were found more likely to undergo perineal procedures and had a longer mean length of stay, 7.7 days compared to 6.6 days for male patients. No statistically significant difference was noted amongst the two groups in terms of presentation, mean operative time, and complications (Table 2).

Comparison of primary and revision procedures revealed much longer mean operative time and length of stay for patients undergoing revision surgery. Comparison of abdominal and perineal procedures showed the mean age of patients subjected to perineal procedures to be higher, 52 years (18-70) compared to 47 years (18-75) for those who underwent abdominal procedures. Mean operative time and mean length of hospital stay was also found to be much longer for patients in the abdominal group, 266 minutes and 7.92 days as compared to 124 minutes and 5.88 days for the perineal group. Table 3. Post procedure anal stenosis was found to occur in two patients, which responded to regular anal dilatations with Hegars dilators; both had perineal surgeries, otherwise no differences were noted in the two groups in terms of recurrence and incontinence.

Discussion

There is no optimal or standard procedure for treatment of complete rectal prolapse. Although in excess of a hundred different operations have been described so far, some more popular than the others, only a few are in practice today.[6-8] To date, there are more than five hundred published papers on this topic, but only a small number of relevant clinical trials have been conducted to find the "best" operation, and even their usefulness is severely limited because of small sample size and other methodological weaknesses.[5] One consensus that we have managed to reach after decades of research is that the abdominal procedures are associated with a lower recurrence rate than perineal ones.[9,10] However, abdominal procedures are associated with higher rates of morbidity and are preferred for younger patients with few associated medical conditions.[6,7] Perineal procedures on the other hand are associated with much less morbidity but have a higher rate of recurrence as compared to the abdominal procedures and should thus be considered in older patients with multiple co-morbids.[11,12] A selective policy has probably improved outcome, although there is no objective method of selecting a particular type of operation.[13]

Thirty percent of surgeries (n=6) performed at our center, were on patients who had already undergone at least one previously failed surgery for this disease.This is understandable, as most procedures for treating rectal prolapse are associated with high rates of recurrence. Seven different procedures were chosen for these twenty patients, which further validates the lack of consensus regarding the choice of a certain procedure. Abdominal rectopexy was the most commonly performed procedure at our centre, perhaps because of its excellent results in literature, both in terms of recurrence and incontinence. Most surgeons once considered this procedure as the operation of choice for the control of prolapse, even in the elderly patients.[14] Another commonly performed procedure was Thiersch wiring, performed in three patients, which is a form of perineal encircling procedure generally reserved for the elderly.[15] Some form of resection procedure was performed in seven patients, with three patients undergoing rectosigmoidectomies, a much more extensive procedure, associated with longer operative time and significant morbidity but better results. The only early complication observed in our patients was postoperative urinary retention in a patient who had an abdominal rectosigmoidectomy done. Amongst the late complications, anal stenosis was observed in two patients, both having undergone perineal procedures. Rest of the late complications, including recurrence was found to be comparable in patients undergoing either primary or revision surgery, or in patients undergoing either perineal or abdominal surgery.

In our study, 65% of patients were male (n=13), which is in contrast to the published data that reports a predominant female population suffering from procidentia.[4,16] This may be explained on the basis of our male dominated culture and under-reporting of peri-anal pathologies by the female population. It must also be noted

that our statistics represent only the patients who underwent surgeries for procidentia, and do not necessarily represent the population suffering from the disease. In our study, female patients were slightly older than their male counterparts, which is usually the case in most studies.16 No differences were found between the sexes with regards to presentation. Another finding was that female patients, with comparable age and co-morbids as the male patients, were found more likely to undergo perineal procedures than male patients. This is difficult to explain and a thorough search of literature failed to show similar findings in other series. Perhaps better cosmesis associated with perineal procedures is the reason.

All the patients in our series presented with the principal complaint of prolapse itself, which is usually the case. Patients with prolapse are shown to have disordered rectal emptying and thus constipation is also a significant problem, which may be more common pre-operatively than generally realized.[4] In our study, 50 percent (n=10) of the patients had some degree of constipation; however, fecal incontinence was present only in 20 percent (n = 4) as compared to approximately 70 percent as reported by other much larger series.[16,17] This is also of importance because rectal prolapse is a well-known cause of anal incontinence, but the clinical diagnosis of this condition may sometimes be difficult although a specific treatment of the prolapse may improve the symptoms of anal incontinence.[18-20] Some form of mental illness was also found to be present in at least ten percent (n=2) of our patients, in compliance with published literature.[21,22]

Comparative analysis between primary and revision surgeries revealed longer operative time and length of hospital stay for revision surgeries, which was expected, keeping in mind the technically difficult nature of all revision surgeries because of adhesions. Comparative analysis between abdominal and perineal procedures showed much greater mean operative time and length of stay for abdominal procedures, which validates the published and accepted literature. In our study no difference in rates of recurrence was noted between the two approaches. Although this is also reported by a few other studies, our mean follow up was only 25 months, and a third of recurrences are reported to occur 3-14 years after treatment.[23]

The study concluded that rectal prolapse surgery is infrequent with chronic constipation being the most common risk factor. Perineal procedures were preferred for older female patients and were associated with a shorter operative time and hospital stay.

References

1. Russell RCG, Williams NS, Bulstrode CJK. Bailey and Love's Short Practice of Surgery, 24th ed. London, Arnold, 2004, p1225.
2. Boutsis C, Ellis H. The Ivalon-sponge-wrap operation for rectal prolapse: an experience with 26 patients. Dis Colon Rectum 1974; 17:21-37.
3. Huber FT, Stein H, Siewert JR. Functional results after treatment of rectal prolapse with rectopexy and sigmoid resection. World J Surg 1995. 19:138-43.
4. Scaglia M, Fasth S, Hallgren T, Nordgren S, Oresland T, Hulten L. Abdominal rectopexy for rectal prolapse; influence of surgical technique on function outcome. Dis Colon Rectum 1994,37:805-13.
5. Bachoo P, Brazzelli M, Grant A. Surgery for complete rectal prolapse in adults. Cochrane-Database-Syst-Rev.2000; (2): CD 001758.
6. Madoff Rd, Mellgren A. One hundred years of rectal prolapse surgery. Dis Colon Rectum 1999; 42:441-50.
7. Kim DS, Tsang CB, Wong WD, Lowry AC, Goldberg SM, Madoff RD. Complete rectal prolapse: evolution of management and results. Dis Colon Rectum 1999; 42:460-6; discussion 466-9.
8. Azimuddin K, Khubchandani IT, Rosen L, Stasik JJ, Riether RD, Reed JF 3rd. Rectal prolapse: a search for the "best" operation. Ann Surg 2001;67:622-27.
9. Watts JD, Rothenberger DA, Buls JG, Goldberg SM, Nivatvongs S. The management of procidentia. 30 years' experience. Dis Colon Rectum 1985;28:96-102.
10. Habr-Gama A, Pinto Jr PE, Jatoba P et al. Rectal prolapse: results of treatment. Coloproctology 1982;83:4-7.
11. Williams JG, Rothenberger DA, Madoff RD, Goldberg SM. Treatment of rectal prolapse in the elderly by perineal rectosigmoidectomy. Dis Colon Rectum 1992;35:830-4.
12. Thorne MC, Polglase AL. Perineal proctectomy for rectal prolapse in elderly and debilitated patients. Aust N Z J Surg 1992;62:791-4.
13. Brown AJ, Anderson JH, McKee RF, Finlay IG. Strategy for selection of type of operation for rectal prolapse based on clinical criteria. Dis Colon Rectum. 2004;47:103-7.
14. Wise WE Jr, Padmanabhan A, Meesig DM, Arnold MW, Aguilar PS, Stewart WRC. Abdominal colon and rectal operations in the elderly. Dis Colon Rectum 1991; 34:959-63.
15. Goldman J. Concerning prolapse of the rectum with special emphasis on the operation by Thiersh. Dis Colon Rectum 1988;31:154-5.
16. Keighley MR, Fielding JW, Alexander WJ. Results of Marlex mesh abdominal rectopexy for rectal prolapse in 100 consecutive patients. Br J Surg 1983. 70: 229-32.
17. Kupfer CA, Goligher JC. One hundred consecutive cases of complete prolapse of the rectum treated by operation. Br J Surg 1970;57:481-7.
18. Senapati A, Nicholls RJ, Thomson JP, Phillips RK. Results of Delorme's procedure for rectal prolapse. Dis Colon Rectum 1994;37:456-60.
19. Cirocco WC, Brown AC. Anterior resection for the treatment of rectal prolapse: a 20-year experience. Am Surg 1993;59:265-9.
20. Duthie GS, Bartolo DC. Abdominal rectopexy for rectal prolapse: a comparison of techniques. Br J Surg 1992;79:107-13.
21. Altemeier WA, Culbertson WR, Schowengerdt C, Hunt J. Nineteen years' experience with the one-stage perineal repair of rectal prolapse. Ann Surg 1971;6:993-1001.
22. Vongsangnak V, Varma JS, Watters D, Smith AN. Clinical, manometric and surgical aspects of complete prolapse of th rectum. J R Coll Surg Edin 1985; 30: 251-4.
23. Tjandra JJ, Fazio VW, Church JM, Milson JW, Oakley JR, Lavery IC. Ripstein procedure is an effective treatment of rectal prolapse without constipation. Dis Colon Rectum 1993;36:501-7.