

ORIGINAL RESEARCH

SURGICAL TREATMENT OF RECTAL PROLAPSE: EXPERIENCE AND LATE RESULTS WITH 51 PATIENTS

Carlos Walter Sobrado, Desidério Roberto Kiss, Sérgio C. Nahas, Sérgio E. A. Araújo, Victor E. Seid, Guilherme Cotti and Angelita Habr-Gama

Sobrado CW et al. Surgical treatment of rectal prolapse: experience and late results with 51 patients. *Rev. Hosp. Clin. Fac. Med. S. Paulo* 59(4):168-171, 2004

The “best” surgical technique for the management of complete rectal prolapse remains unknown. Due to its low incidence, it is very difficult to achieve a representative number of cases, and there are no large prospective randomized trials to attest to the superiority of one operation over another.

PURPOSE: Analyze the results of surgical treatment of complete rectal prolapse during 1980 and 2002.

METHOD: Retrospective study. **RESULTS:** Fifty-one patients underwent surgical treatment during this period. The mean age was 56.7 years, with 39 females. Besides the prolapse itself, 33 patients complained of mucous discharge, 31 of fecal incontinence, 14 of constipation, 17 of rectal bleeding, and 3 of urinary incontinence. Abdominal operations were performed in 36 (71%) cases. Presacral rectopexy was the most common abdominal procedure (29 cases) followed by presacral rectopexy associated with sigmoidectomy (5 cases). The most common perineal procedure was perineal rectosigmoidectomy associated with levatorplasty (12 cases). Intraoperative bleeding from the presacral space developed in 2 cases, and a rectovaginal fistula occurred in another patient after a perineal rectosigmoidectomy. There were 2 recurrences after a mean follow-up of 49 months, which were treated by reoperation.

CONCLUSION: Abdominal and perineal procedures can be used to manage complete rectal prolapse with safety and good long-term results. Age, associated medical conditions, and symptoms of fecal incontinence or constipation are the main features that one should bear in mind in order to choose the best surgical approach.

KEY WORDS: Rectal Prolapse. Rectal Procidentia. Surgery. Rectopexy.

Complete rectal prolapse is a disabling condition that has been reported ever since the Egyptian and Greek civilizations.¹ In the past century, its management has evolved a great deal due to accumulation of knowledge obtained from physiologic investigations and follow-up of surgical series.

Historically, the correction of rectal procidentia has evolved from simple perineal procedures, like Thiersch's anal encirclement,² to more complex perineal resections³ and abdominal approaches ranging from sus-

pension options with or without bowel resection and use of slings and prosthetic material to restore rectal anatomy and function.⁴ In the last decade, laparoscopic repair has been successfully introduced and used in the

From the Discipline of Coloproctology, Department of Gastroenterology, Hospital das Clínicas, Faculty of Medicine, University of São Paulo - São Paulo/SP, Brazil.
E-mail: sobrado@iconet.com.br

Received for publication on
October 10, 2003.

surgical treatment of rectal prolapse.^{5,6}

Over the years, dozens of techniques have been described to find and treat rectal prolapse.^{4,7} However, little evidence has been presented to support the superiority of one procedure over the others, since large randomized trials are still lacking.

The objective of this retrospective analysis is to describe our experience with the management of rectal prolapse over the past 20 years, with emphasis on discussing the best surgical approach available for each patient.

PATIENTS AND METHOD

A retrospective review was conducted on medical records of all patients that underwent surgical repair of complete rectal prolapse at Hospital das Clínicas, University of São Paulo Medical School, and Hospital do Sesi from 1980 to 2002. Complete rectal prolapse was defined as full-thickness protrusion of the rectal wall through the anus.

Data regarding age, gender, presenting symptoms, associated medical conditions, and previous surgical procedures was obtained, as well as information about the surgical correction of the rectal prolapse and hospitalization, surgical morbidity, mortality, and follow-up of these patients.

RESULTS

From 1980 to 2002, 51 patients underwent surgical repair of complete rectal prolapse. The mean age was 56.7 years (23 to 86 years), with 39 females and 12 males.

The mean duration of symptoms was 45.8 months. Besides the prolapse itself, the most frequent complaint was mucous discharge (33), fecal incontinence (31), rectal bleeding (17), constipation (14), and urinary incontinence (3) (Table 1). The mean length of rectal prolapse was 7 cm (4 cm to 12 cm).

Different surgical procedures were employed and are listed in Tables 2

Table 1 - Main symptoms and complaints of patients with complete rectal prolapse.

Symptoms	n
Prolapse	51
Mucous discharge	33
Anal incontinence	31
Rectal bleeding	17
Constipation	14
Urinary incontinence	3

n = number of patients.

and 3. Abdominal operations were the procedure of choice in 71% (36 out of 51) of cases. The mean age of patients in this group was 51.3 years (23 to 62 years). The most important criteria used to assign patients for an abdominal procedure were younger age and lack of significant comorbidities. Presacral rectopexy without the use of prosthetic material was performed in 27 cases, and it was the procedure most frequently employed in this series. One of these procedures was performed laparoscopically. Five patients underwent abdominal sigmoidectomy associated with the presacral rectopexy due to the presence of a redundant sigmoid colon and constipation. In 2 other patients, presacral rectopexy was associated with a Moschowitz cul-de-sac plication⁸ and with a Thiersch procedure. Two patients underwent the Ripstein procedure, with suspension of the rectum by means of a prosthetic mesh.

Fewer perineal procedures were performed; these were performed in 29% of the cases (15 out of 51), with the mean age of patients of 67.9 years (36 to 86 years). We prefer to use the

Table 2 - Different types of perineal surgery performed for our patients.

Surgery	n
Thiersch	2
Perineal rectosigmoidectomy + levatoroplasty	12
Transsacral	1
Total	15

n = number of patients.

Table 3 - Different types of abdominal surgery performed for our patients.

Surgery	n
Presacral rectopexy	27
Presacral rectopexy + sigmoidectomy	5
Presacral rectopexy + Thiersch	1
Presacral rectopexy + Moschowitz	1
Ripstein	2
Total	36

n = number of patients.

perineal approaches in older patients and those with poor clinical conditions. Rectosigmoidectomy was the most frequent perineal operation. In 2 patients with important associated medical conditions, the Thiersch anal encirclement was the only procedure performed, and 1 patient underwent a transsacral rectopexy.⁹

Among the 51 patients, 9 had undergone a previous operation for correction of rectal prolapse (6 had an abdominal operation and 3 had a perineal operation). Eight of these patients underwent presacral rectopexy, and 1 underwent perineal rectosigmoidectomy.

The mean length of follow-up was 49 months (18 to 248 months). There was no operative mortality. Surgical complications included rectovaginal fistula (1) and sacral bleeding (2) (Table 4).

Table 4 - Major surgical complications following repair of the rectal prolapse.

Complication	n
Rectovaginal fistula	1
Sacral bleeding	2
Recurrence	2

n = number of patients.

The rectovaginal fistula occurred after a perineal rectosigmoidectomy, probably as a consequence of vaginal perforation during rectal mobilization. This 68-year-old woman, who had previously undergone a perineal hysterectomy and vaginal pexy, developed an acute abdomen that required laparotomy with drainage and performance of a loop ileostomy, which was subsequently closed. Sacral bleeding developed during posterior rectal mobilization and was successfully managed intraoperatively with the use of bone wax and application of sacral thumbtacks.

Recurrence of rectal prolapse (defined as full-thickness protrusion of

the bowel wall through the anus) occurred in 2 patients after presacral rectopexy, and both were corrected with repeated presacral rectopexy with success through 36 months follow-up (Table 4).

DISCUSSION

The ideal procedure for surgical correction of complete rectal prolapse remains unknown despite more than 100 different operations described so far.^{4,10,11} Moreover, there are no large prospective randomized trials comparing the techniques to attest to the superiority of one operation over another. Indeed, the surgeon must be familiar with the most important techniques and be able to identify specific patient characteristics to choose the best technique for each patient. Therefore, surgeon preference allied with patient risk factors are key points in the decision-making process when managing a patient with rectal prolapse.

Important criteria for selecting the corrective procedure include identification of pelvic floor abnormalities, a deep pouch of Douglas, redundant sigmoid colon, patulous anus, long lateral rectal stalks, concurrent pelvic genital prolapse, associated urinary and/or fecal incontinence, severe constipation, and rectoceles. Length of the prolapse, patient's age, associated medical conditions, and clinical status must always be considered.

Abdominal procedures were associated with a lower recurrence rate than perineal ones.^{10,12,13} However, abdominal procedures are associated with higher rates of morbidity and are preferred for younger patients with few associated medical conditions.^{4,10} This

may explain the difference observed in our series, where the mean age of the 36 patients that underwent abdominal procedures was 51.3 years versus 67.9 years in the group of 15 perineal procedures.

During the execution of presacral rectopexy, posterior mobilization of the rectum down to the level of the tip of the coccyx until the levator muscles are clearly identified is important. To prevent inadvertent bleeding, this dissection should be carried out in front of the sacral nerves and should not be done blindly. We usually do not perform either anterior or lateral mobilization of the rectum. The presacral fixation must be accomplished with nonabsorbable sutures, usually with 4 to 5 points stitches at different levels in the midline of the sacrum and the rectum, where at least a 1 cm length of the fascia and muscular wall must be included.

One point that must be emphasized in the selection of type of procedure is the complaint of severe constipation and the presence of a redundant sigmoid colon. In these patients, a concomitant sigmoidectomy should be associated with the rectopexy, as was done in 5 patients in our series. Preoperative investigation of constipation may be done using colonic transit, electromanometry, and defecography. Bowel resection under these circumstances is usually associated with improvement in bowel function.

Perineal procedures represent a good surgical option for elderly and high-risk patients, since these procedures are associated with a low complication rate.^{14,15} The mean age of the 15 patients who underwent perineal procedures in this study was 61.7 years. Simple perineal procedures, like the

Thiersch anal encirclement that was performed on only 2 patients, are reserved for patients in very poor clinical condition because of a high recurrence rate and low grade of symptom control. Twelve patients underwent perineal rectosigmoidectomy, which is a more complex perineal procedure than anal encirclement. Perineal rectosigmoidectomy has the advantages of resection of the extensive prolapsed bowel segment with the opportunity to support the levatorplasty in achieving an improvement in fecal continence and is associated with a low morbidity rate. More recently in the literature, there is a reported tendency of performing more perineal rectosigmoidectomies associated with levatorplasty even in young patients with good clinical status.⁴

Regarding management of recurrent rectal prolapse, the previous procedure performed should always be kept in mind as a possible procedure of choice, but the outcome of surgery is usually similar in cases of primary and recurrent prolapse.¹⁶ Unless the previous anastomosis is resected in the second procedure, resection procedures should be avoided to prevent occurrence of ischemic segments of bowel between the two anastomosis that can lead to catastrophic consequences.¹⁷

In conclusion, abdominal and perineal procedures can be safely performed for the treatment of complete rectal prolapse and recurrent rectal prolapse with good results. The best surgical option should be individualized for each patient based upon characteristics such as age, associated medical condition, symptoms of fecal incontinence, or constipation allied with the surgeon's experience. These are the main issues that one must bear in mind before choosing the operation.

RESUMO

Sobrado CW e col. Tratamento cirúrgico da procidência retal: experiência e resultados tardios de 51 pacientes. *Rev. Hosp. Clin. Fac. Med. S. Paulo* 59(4):168-171, 2004

A técnica cirúrgica mais apropriada para a correção da procidência retal permanece motivo de controvérsia. Por se tratar de afecção pouco frequente, há dificuldade de avaliação de número adequado de pacientes em estudos randomizados e existe pouca evidência para comprovar a superioridade de alguma das técnicas.

OBJETIVO: Analisar os resultados de eficácia e segurança do tratamento cirúrgico da procidência retal em pacientes operados entre 1980 e 2002.

MÉTODO: Estudo retrospectivo. **RESULTADOS:** Cinquenta e um pacientes foram operados. A idade média foi de 56,7 anos e 39 eram mulheres. Além do prolapso, 33 pacientes queixavam-se de eliminação de muco, 31 tinham incontinência anal, 14 apresentavam constipação, 17 com sangramento retal e 3 incontinência urinária. Operações abdominais foram realizadas em 36 (71%) casos, sendo a retopexia sem prótese a operação mais realizada (29 casos) seguida pela retossigmoidectomia com retopexia (5 casos). A operação perineal mais realizada foi a retossigmoidectomia com plastia dos elevadores (12 casos). O sangramento sacral foi a única complicação intra-operatória e ocorreu em dois casos. Como complicação pós-operatória, houve um caso de

fístula retovaginal após operação de retossigmoidectomia perineal. Após seguimento médio de 49 meses, observamos recidiva da procidência em 2 casos.

CONCLUSÕES: Operações abdominais e perineais podem ser utilizadas com segurança e eficácia no tratamento cirúrgico da procidência do reto. A idade, a presença de afecções associadas, comorbidades e os sintomas de constipação e incontinência são as principais variáveis envolvidas na escolha da operação. As operações de retopexia abdominal e retossigmoidectomia perineal estão associadas a bons resultados.

UNITERMOS: **Procidência de Reto. Cirurgia. Prolapso retal. Sacropromontofixação.**

REFERENCES

1. Boutsis C, Ellis H. The Ivalon-sponge-wrap operation for rectal prolapse: an experience with 26 patients. *Dis Colon Rectum* 1974;17(1):21-37.
2. Goldman J, Concerning prolapse of the rectum with special emphasis on the operation by Thiersh. *Dis Colon Rectum* 1988;31:154-5.
3. Altemeier WA, Culbertson WR, Schowengerdt C, Hunt J. Nineteen years' experience with the one-stage perineal repair of rectal prolapse. *Am Surg* 1971;173:993-1006.
4. Madoff Rd, Mellgren A. One hundred years of rectal prolapse surgery. *Dis Colon Rectum* 1999;42(4):441-50.
5. Heah SM, Hartley JE, Hurley J, Duthie GS, Monson JR. Laparoscopic suture rectopexy without resection is effective treatment for full-thickness rectal prolapse. *Dis Colon Rectum* 2000;43(5):638-43.
6. Solomon MJ, Young CJ, Eysers AA, Roberts RA. Randomized clinical trial of laparoscopic versus open abdominal rectopexy for rectal prolapse. *Br J Surg* 2002;89(1):35-9.
7. Malyshev JI. Our experience on surgical treatment of rectal prolapse. *Am J Proctol* 1971;22(4):255-7.
8. Moschowitz AV. The pathogenesis, anatomy and cure of prolapse of the rectum. *Surg Gynecol Obstet* 1912;15:7-21.
9. Bringel RW, Sobrado CW, Nahas SC, Habr-Gama A. Transsacral rectopexy for treatment of bleeding rectal prolapse in a patient with severe liver disease: case report. *Rev Hosp Clin Fac Med Sao Paulo* 1998;53(6):317-320.
10. 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(4):460-6; discussion 466-9.
11. Azimuddin K, Khubchandani IT, Rosen L, Stasik JJ, Riether RD, Reed JF 3rd. Rectal prolapse: a search for the "best" operation. *Am Surg* 2001 Jul;67(7):622-7.
12. Watts JD, Rothenberger DA, Buls JG, Goldberg SM, Nivatvongs S. The management of procidentia. 30 years' experience. *Dis Colon Rectum* 1985;28(2):96-102.
13. Habr-Gama A, Pinto Jr PE, Jatoba P et al. Rectal prolapse. Results of treatment. *Coloproctology* 1982;83:4-7.
14. Williams JG, Rothenberger DA, Madoff RD, Goldberg SM. Treatment of rectal prolapse in the elderly by perineal retosigmoidectomy. *Dis Colon Rectum* 1992 Sep;35(9):830-4.
15. Thorne MC, Polglase AL. Perineal proctectomy for rectal prolapse in elderly and debilitated patients. *Aust N Z J Surg* 1992t;62(10):791-4.
16. Pikarsky AJ, Joo JS, Wexner SD, Weiss EG, Noguera JJ, Agachan F, et al. Recurrent rectal prolapse: what is the next good option? *Dis Colon Rectum* 2000;43(9):1273-6.
17. Fengler SA, Pearl RK, Prasad ML, Orsay CP, Cintron JR, Hambrick E, et al. Management of recurrent rectal prolapse. *Dis Colon Rectum* 1997;40(7):832-4.