The THAI Journal of SURGERY 2008; 29:25-27.
Official Publication of the Royal College of Surgeons of Thailand

Perineal Rectosigmoidectomy for Rectal Prolapse: An 8-Year Experience

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Abstract ***Objective:*** **To report an eight-year experience with perineal rectosigmoidectomy and posterior levator ani repair in patients with complete rectal prolapse.**

Materials and Methods: **From January 2000 to December 2007, 12 patients with rectal prolapse were treated with perineal rectosigmoidectomy at Surin Hospital. Six patients presented with acute incarcerated rectal prolapse. Mortality, morbidity, recurrence rates, and improvement of anal continence were assessed.**

Results: **Of 12 patients, improvement in anal continence was seen in 10 (83%) patients. Morbidity was low. Recurrence rate was 8.3% (1/12).**

Conclusions: **Perineal rectosigmoidectomy for rectal prolapse is safe and has a low recurrence rate. Posterior levator ani repair seemed to improve anal continence.**

Introduction

Rectal prolapse is described as a full-thickness prolapse of rectum through the anus. Rectal prolapse is frequently seen in elderly females. These patients often have associated medical problems. Common symptoms include intense rectal pressure, anal incontinence and bleeding. Several techniques have been described for surgical treatment of rectal prolapse, either perineal or abdominal approach. This report describes an eight-year experience with the perineal approach in the treatment of rectal prolapse at Surin Hospital.

Materials and Methods

During an 8-year period from January 2000 to December 2007, 12 patients (8 females, 4 males) were seen with complete rectal prolapse at Surin Hospital. Seven patients were between the age of 60 and 90 years. Five patients were under 60 years. Four patients had significant associated risk factors (ischemic stroke in 1, DM and hypertension in 1, COPD in 1 and pulmonary tuberculosis in 1). Rectal bleeding, anorectal pressure and anal incontinence were experienced in various degrees by these patients.

All patients, except for 6 patients with incarceration (Figure 1), underwent lower gastrointestinal tract work-up before planned surgery. All patients received intravenous antibiotics prophylaxis. Surgery was performed under regional anesthesia in jackknife position. A circular incision was made 2 cm above the dentate line and gradually deepened through the full thickness of the rectal wall. Mesenteric vessels between the inner and outer layer of the rectum were carefully ligated. The rectum was retracted anteriorly to expose

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Figure 1 The incarcerated rectal prolapse



Figure 2 After perineal rectosigmoidectomy. The patients were fasting for 5 days.

the levator muscles posteriorly. Levator muscles were then approximated together with 2-0 non-absorbable sutures to recreate the anorectal angle. The anorectal ring was completed by placing one suture anteriorly. The prolapsed portion of the rectum was then amputated. The proximal sigmoid colon was anastomosed to the distal rectum in one-layer with interrupted 3-0 Vicryl (Figure 2).

Results

Of 12 patients in this report, 6 patients presented with incarcerated rectal prolapse. Unlike patients with chronic recurrent rectal prolapse, these 6 patients experienced incarceration during the first and the only episode of rectal prolapse. Various attempts to reduce rectal prolapse were unsuccessful. The follow-up period of all patients ranged from 21-60 months (average 30 months). The average hospital stay was 7 days. There was no mortality. One patient had post-operative bleeding that stopped spontaneously. The surgical outcomes were comparable between chronic recurrent rectal prolapse and incarcerated patients. Ten patients gained complete continence of flatus and feces. One patient had only improved continence of feces. One patient could not be assessed because of the underlying disease (ischemic stroke). (Table 1 and 2)

There was one recurrence 3 years post-operatively, second perineal rectosigmoidectomy was performed with satisfactory result. Most patients were highly satisfied with their results. Even the patient who did not attain complete continence was also satisfied with the subsidence of other symptoms associated with recurrent rectal prolapse.

Table 1 Preoperative continence status

Incontinence	Number	%
Flatus	12	100
Feces	6	50

Table 2 Postoperative continence status

Continence	Number	%
Completely gained continence	10	83
Could not be assessed	1	8.3
Minimal or no improvement in continence	1	8.3

Discussion

Complete rectal prolapse is usually seen in elderly females.[1-5] Surgical procedures selected should be safe and effective. There are more than 100 procedures described to treat this condition. The surgical approach could be either transabdominal or perineal. Type of surgery selected should depend, for the most part, on the overall health of the patient.[2,6] Abdominal recto-pexy with or without resection of the sigmoid colon is best suited for a good-risk patient.[5-7] Elderly, high-risk patients are best treated by perineal rectosigmoidec-tomy of rectal prolapse with posterior levator ani

repair. Perineal proctosigmoidectomy was first described by Mickulicz[8] in 1889. The procedure was later performed by Miles[9] in 1933 and Gabriel[10] in 1948. Altemeier[11] popularized this technique. Altemeier first described one-stage perineal proctosigmoidectomy but later modified his technique to repair the defect in the pelvic diaphragm by high ligation of the sac of pouch of Douglas with anterior approximation of the levator ani muscle. Perineal rectosigmoidectomy of rectal prolapse with rectopexy and posterior levator ani repair was first described by Prasad et al.[5] Rates of recurrence vary considerably in the literatures. Several authors recently reported very low recurrence rates after perineal rectosigmoidectomy.[3-5,12] The lack of improvement or worsening of anal incontinence after perineal rectosigmoidectomy reported in some series is probably related to reversal of the anorectal angle, an important component of anal incontinence.[4,6,12] Posterior levator repair described initially by Prasad et al.[5] recreates anorectal angle anatomically.

Unlike chronic recurrent rectal prolapse, acute incarcerated rectal prolapse was seen during the first and the only episode in this group. Incarceration is also possible with recurrent rectal prolapse. The exact mechanism is unclear; however, it is possible to assume that pararectal tissues and the sphincter mechanism have not undergone chronic laxity and stretching, as seen in recurrent prolapse. The relatively tight anal sphincter mechanism and pararectal tissues probably prevent acute incarcerated prolapse from spontaneous reduction. Surgical options are very limited in patients with acute incarcerated rectal prolapse. According to Goligher,[13] irreduciblity with gangrene remains one of the few indications of perineal rectosigmoidectomy. Abdominal approach with resection of the incarcerated segment will necessitate a colostomy. Perineal rectosigmoidectomy will prevent colostomy in the majority of incarcerated patients. The anastomotic leak rate after elective perineal rectosigmoidectomy is extremely low.[4,10] There were no anastomotic leaks in a large series reported by Altemeier.[11] Similarly, Gopal et al.[3] and Watts et al.[4] in their respective reported series did not have any anastomotic leaks. In this series, we have also no anastomotic leak.

Conclusions

An 8-year experience of perineal rectosigmoidectomy for rectal prolapse in 12 patients shows that this procedure is safe and has a low recurrence rate. Perineal rectosigmoidectomy is the procedure of choice in difficult subgroup of incarcerated prolapse patients. The posterior levator repair, which recreates the anorectal angle, seems to improve anal incontinence.

REFERENCES

1. Altemeier WA, Giuseffi J, Hoxworth P. Treatment of extensive prolapse of the rectum in aged debilitated patients. Arch Surg 1952;65:72-80.
2. Ramanujam PS, Venkatesh KS. Perineal excision of rectal prolapse with posterior levator ani repair in elderly high risk patients. Dis Colon Rectum 1988;31:704-6.
3. Gopal KA, Amshel AL, Shonberg IL, Wftaiha M. Rectal procidentia in elderly and debilitated patients: experience with the Altemeier procedure. Dis Colon Rectum 1984;27:376-81.
4. Watts JD, Rothenberg DA, Buls JG, Goldberg SM, Nivatvongs S. The management of procedentia: thirty years' experience. Dis Colon Rectum 1985;28;96-102.
5. Prasad MI, Pearl RK, Abcarian H, Orsay CP, Nelsen RL. Perineal proctectomy, posterior rectopexy, and posterior anal levator repair for the treatment of rectal prolapse. Dis Colon Rectum 1986;29:547-52.
6. Wassef R, Rothenberg DA, Goldberg SM. Surgical treatment of rectal prolapse. Surg Rounds 1986;7:15-29.
7. McKee RF, Lander JC, Poon TW, Finley IG. A prospective randomized study of abdominal rectopexy with and without sigmoidectomy in rectal prolapse. Surg Gynecol Obstet 1992;174:145-8.
8. Mickulicz J. Zur operativen behandlung prolapsus recti et coli invaginati. Arch Klin Chir 1889;38:74.
9. Miles WE. Rectosigmoidectomy as a method of treatment for procedentia recti. J R Soc Med 1933;26:1445-52.
10. Gabriel WB. The principles and practice of rectal surgery. 4th ed. London: HK Lewis; 1948.
11. Altemeier WE. One stage perineal surgery for complete rectal prolapse. Hosp Pract (Off Ed) 1972;7:102-8.
12. Wassef R, Rothenberger DA, Goldberg SM. Rectal prolapse. Curr Probl Surg 1986;23:402-51.
13. Goligher JC. Surgery of the anus, rectum and colon. 5th ed. London: Bailliere Tindall; 1984. p. 302.