

Complete Rectal Prolapse: *

An Evaluation of Surgical Treatment

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THE GREAT MULTITUDE of surgical procedures that have been devised and advocated for the treatment of complete rectal prolapse bears silent witness to the general inadequacy of surgical therapy for this condition. Most often mentioned as factors contributing to this condition are: 1) an excessive mobility and redundancy of the sigmoid colon, 2) an abnormally deep cul-de-sac, 3) a weak and inadequate pelvic diaphragm and 4) a weak and ineffective sphincter. Whether these factors are of major import as to cause or are merely the result of the prolapse has provoked much discussion.

Most surgical procedures have been designed to correct the condition by considering the four factors mentioned. The myriad of surgical procedures that have been proposed can be classified into two major groups: 1) those that use the abdominal approach and 2) those that use the perineal approach. A combination of the two occasionally is used.

It is not the purpose of this report to review the extensive literature concerning rectal prolapse and the historical development of the numerous surgical procedures designed for treatment. Bacon³ in 1949 and Shann⁷ in 1959 reviewed the subject and illustrated the various surgical procedures that have been proposed over the years.

In 1953, Pemberton and associates⁵ reviewed the records of all patients who underwent surgical treatment for complete rectal prolapse at the Mayo Clinic from 1910 through August, 1951. The present report concerns the follow up of patients seen and treated surgically from August, 1951, through March, 1962. This study has thus permitted at least a 1-year follow up.

Present Series

One hundred and one patients were seen and treated surgically during this 10½-year span; 26 were males and 75, females. The average age at the time of operation was 52.1 years; the youngest was 18 months and the oldest was 81 years. Nine patients were lost to follow up, leaving 92 patients for whom results could be evaluated. Eighty-six of these patients were treated by one of three surgical procedures: 52 by the suspension-fixation operation advocated by Pemberton and associates,⁵ 19 by anterior resection and fixation, and 15 by the Altemeier¹ procedure. The remaining six patients were treated by various other surgical procedures. Of the nine patients who were lost to follow up, six had had a Pemberton procedure, one an anterior resection, one a Whitehead procedure and one an Altemeier operation.

Approximately one-fourth (25 patients) had undergone previous operation in an attempt to cure their rectal prolapse prior to coming to the Mayo Clinic. Because of the

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TABLE 1. *Rectal Prolapse. Results of Treatment*

Procedure	Case	Duration of Prolapse (yr.)			Time of Recurrence (yr.)				
		0-3	4-5	5+	0-1	1-3	3+	Total	
								No.	%
Suspension-fixation	52	24	9	19	13	4	1	18	34.6
Altemeier	15	7	0	8	1	2	0	3	20.0
Anterior resection and fixation	19	8	5	6	0	0	0	0	0.0
Other	6	4	0	2	2	0	1	3	50.0
Total	92	43	14	35	16	6	2	24	26.0

inability to obtain precise data concerning these initial surgical procedures, some of which had been performed many years previously, no attempt at evaluation was made.

All patients in this series were examined proctoscopically prior to operation to determine the extent of prolapse. The prolapse was complete in all cases, that is, all layers of the bowel had prolapsed. No attempt was made to analyze the size or the length of bowel prolapsed, as the prolapsed bowel was most often referred to in descriptive manner by the examiner, for example, "size of a grapefruit with straining."

Duration of the rectal prolapse was exceedingly variable—from several months to more than 35 years. Thirty-five patients (38%) had had their prolapse for 5 years or longer. There were no hospital deaths in this series, irrespective of the surgical procedure employed.

One of the perplexing problems that is frequently encountered when dealing with rectal prolapse is incontinence. An attempt was made in this series to evaluate preoperative and postoperative bowel function. The patients were considered in one of three categories with regard to their bowel control: good, fair and poor. Patients with good bowel control were those who were continent at all times. Patients with fair bowel control were those who were continent except when afflicted with diarrhea.

Those patients designated as having poor control were those who were incontinent most of the time and who required protective padding to prevent soiling their clothes.

Results of Surgical Procedures

Suspension-Fixation Operation. At the Mayo Clinic, Pemberton and Stalker⁶ first described the suspension-fixation operation in 1939, and it has been the operation used most frequently at this clinic since then. In 1953, Pemberton and associates⁵ reported a recurrence rate of 11.4 per cent. Patients undergoing this surgical procedure at the Mayo Clinic since 1953 have not done as well. In our series 18 of the 52 patients with this procedure who were observed had a recurrence of their rectal prolapse, a recurrence rate of 34.6 per cent (Table 1). Of the 18 cases, 13 (72%) had recurrence within the first year after operation, 4 (22%) had recurrence in 1 to 3 years, and 1 (6%) had recurrence after 3 years.

Those patients with good bowel control before operation tended to do well after operation (Table 2). Of the 13 patients with fair control prior to operation, three had poor control after the surgical procedure, despite no recurrence of their prolapse and two had good control. The patients who had poor rectal control prior to operation and who were not cured of their prolapse still had difficulties after the operation; if there was no recurrence, however, continence improved.

TABLE 2. Treatment and Bowel Control in Cases of Rectal Prolapse

Bowel control	Procedure								
	Suspension-fixation (52)			Altemeier (15)			Anterior Resection and Fixation (19)		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
Preoperative	28	13	11	9	1	5	13	6	0
Postoperative with recurrence	6	5	7	1	1	1	0	0	0
Good	4	0	0	1	0	0	0	0	0
Fair	1	5	0	0	1	1	0	0	0
Poor	1	0	7	0	0	0	0	0	0
Without recurrence	22	8	4	8	0	4	13	6	0
Good	21	2	3	8	0	2	13	0	0
Fair	1	3	1	0	0	2	0	3	0
Poor	0	3	0	0	0	0	0	3	0

Altemeier Procedure. Fifteen patients underwent a perineal resection and repair as advocated by Altemeier *et al.*^{1, 2} Three of the patients have had a recurrence, an incidence of 20.0 per cent (Table 1). Of the five patients with poor rectal control prior to operation, all had improvement of rectal continence; however, one had a recurrence of his rectal prolapse. Two patients, one with good and the other with fair bowel control before operation, had recurrence of the prolapse but had no change in their bowel control after operation (Table 2).

Anterior Resection and Fixation. Good results have been reported in the treatment of rectal prolapse when a portion of the redundant sigmoid is resected in addition to a fixation procedure.⁴ For seven patients treated in this manner at the Lahey Clinic, Swinton and Mathiesen⁸ reported no complications and good end results in all.

Nineteen patients in our series were treated by anterior resection in addition to fixation by the Pemberton technic. There were no recurrences in this group of patients (Table 1). Patients with good bowel control before operation had no difficulties after operation. Of the six patients with fair bowel control prior to operation, three had deterioration of bowel continence. In

each instance resection of the sigmoid had caused the stool to be more loose after operation and the patients had more difficulty with continence.

Miscellaneous Procedures. The patients in this group underwent three different operations: the Peters-Moschcovitz operation (3), a modified Whitehead procedure (2), and a vaginal procedure for repair of genital prolapse and simultaneous repair of a rectal prolapse (1). There were three recurrences, two within 1 year of operation and one 4 years after operation (Table 1).

Comment

The recurrence rate of 34.6 per cent that followed the suspension-fixation procedure in this series is disappointing. In Pemberton and associates' previous report,⁵ the recurrence rate for this procedure was 11.4 per cent. The discrepancy in the recurrence rates of the two series is not readily apparent since the age and number of patients in both series are comparable. Certainly the efficacy of the suspension-fixation as a single procedure in the surgical therapy of rectal prolapse must be considered more critically, and it is probably inadequate in effecting a cure in at least a third of the patients. By adding an anterior resection

for removal of the redundant sigmoid, most of the recurrences probably can be prevented.

Altemeier¹ reported good results from his procedure in nine patients; all patients were elderly and debilitated. In a later report Altemeier *et al.*² observed only one recurrence in 13 patients with complete rectal prolapse. Of the 15 patients in our series with an Altemeier procedure, only three (20%) had a recurrence of their rectal prolapse. For patients who are old or who are not good surgical risks for some other reason, the Altemeier procedure has some merit. The patients treated with this procedure in our series tended to be both older and poorer risks; their average age was 57.1 years, whereas the average ages for the patients treated by the suspension-fixation procedure and by anterior resection and fixation were 50.2 and 53.6 years of age, respectively.

Swinton and Mathiesen⁸ believe that the treatment of choice in all good risk patients is resection with fixation. In our series, patients treated by anterior resection with fixation by the Pemberton technic have done well after operation. There have been no recurrences, although three patients who had fair rectal continence prior to operation had poor rectal continence after operation.

Summary

Ninety-two patients who were treated surgically for rectal prolapse during a 10½-year period have been observed 1 year or longer.

Fifty-two patients were treated by the suspension-fixation operation as advocated by Pemberton. Of these, 18 (35%) had a recurrence of their prolapse—almost three-fourths within 1 year of operation. Patients

with poor bowel control prior to operation had improved rectal continence after operation when there was no recurrence of the prolapse.

Fifteen patients were treated by the Altemeier procedure. Of these, three (20%) had a recurrence within 2 years of operation. Patients treated by this surgical procedure were usually older and frequently presented an increased surgical risk.

In our series, anterior resection and fixation by the Pemberton technic gave the best postoperative results. Of 19 patients so treated, none had recurrence; in three, rectal continence diminished.

Six patients were treated by various other procedures. No conclusions can be drawn about this group because of the limited number of cases in each procedure; however, three had recurrence of the prolapse.

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