

# Surgical Treatment of Complete Rectal Prolapse\*

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THIS REPORT IS BASED ON OUR EXPERIENCE WITH 30 patients treated by the Ripstein procedure<sup>1-4</sup> for complete rectal prolapse. The procedure in our hands has been successful in controlling the anatomic derangement, and has given good functional results. There was no associated operative mortality and the associated morbidity has been acceptable.

Historically, at least 50 operative procedures have been advocated for the correction of massive rectal procidentia.<sup>2,5-8</sup> This multitude of procedures suggests a general ineffectiveness of those procedures to relieve symptoms; indeed, recurrence rates range from 10 to 80 per cent. A review of the literature reveals that, following Ripstein's initial report in 1964, this procedure has gained popularity and widespread use, yielding uniformly good results with a recurrence rate of less than 5 per cent.<sup>7,9</sup>

## Clinical Material

In our series of 30 patients, women predominated over men in a ratio of 3:1, similar to previous reports.<sup>7,10</sup> Unlike a number of reports,<sup>5,7,11</sup> none of the patients in our series suffered from mental deficiency or were retarded.

The age distribution of patients is shown in Fig. 1. The average age in our patient population was 52.3 years. The average duration of symptoms was 18 months.

The procedure has previously been described in detail.<sup>2,4,5</sup> A Teflon® sling is used to effect fixation of the rectum to the anterior surface of the sacrum. Preoperative antibiotics were used in all patients and continued postoperatively. No incidental procedures were performed, such as appendectomy or cholecystectomy, etc.

## Results

Five patients have been lost to follow-up, however, all patients were followed for a minimum of one year without clinical evidence of recurrence. Eighteen patients, or 60 per cent, have been followed longer than five years. There has been no recurrence in any patient to date.

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There have been no operative deaths; however, one patient dies after 12 months, of unrelated causes, at age 76. The majority of men operated upon (7 of 8) were younger than 45 years of age and none have complained of loss of potency.

Two patients subsequently developed intestinal obstruction, one early and one late. The patient with late intestinal obstruction required operation and was found to have intermittent volvulus of a redundant sigmoid colon. Sigmoid resection was performed and the Teflon sling slit anteriorly to increase mobility at the fixation site.

The second patient developed early obstruction at two weeks. This patient responded to conservative management with a Cantor tube and intravenous therapy.

One additional patient developed a fecal impaction secondary to the sling, eight months postoperatively. This patient responded to conservative treatment and has been well to date for four years, requiring only stool softeners.

One patient developed a superficial wound infection which responded to conservative measures following incision and drainage.

## Discussion

Although a relatively rare occurrence, rectal procidentia can be quite debilitating both physically and socially.<sup>5,6,9</sup> The etiology of this condition remains obscure, but recently cineradiographic studies of Broden and Snellman<sup>12</sup> have demonstrated that the majority of patients represent an intussusception of the colon.

This intussusception is brought about by a number of factors. The original concept of Moschowitz,<sup>13</sup> was that of a weakened pelvic floor, allowing a sliding hernia of the pouch of Douglas. This theory is generally less accepted today, and it is of interest that surgical procedures directed to correct those defects in the pelvic floor have been notoriously unsuccessful.<sup>7</sup>

Studies have demonstrated that the majority of patients with rectal procidentia no longer have the nor-

mal posterior attachments of the rectum.<sup>1,12</sup> The resulting laxity allows it to migrate anteriorly, forming a straight tube; this, together with increased intra-abdominal pressure, causes an intussusception to occur. The weakness in the pelvic floor musculature then, is a result of the procidentia rather than its cause.

The Ripstein procedure restores and fixates the anatomic proximity of the rectum to the sacral curve. This redirection of forces within the abdomen and colon prevents intussusception and the resulting procidentia. Numerous reports attest to the good results obtained with this procedure.<sup>4,5,10,11</sup>

Multiple series, including Swinton and Scherer's<sup>11</sup> series of 27 patients, and Bowmar and Sawyer's<sup>5</sup> series of 36 patients, report no mortality and no recurrence. The largest series reported is that of Ripstein himself, who has operated upon 289 patients. The average recurrence rate of the series published is 2.3 per cent.<sup>10</sup> In most reports, failures seem to be the result of technical problems which allow the sling to pull free from its attachment to the sacrum.

Fecal impaction and intestinal obstruction are the most frequently reported complications.<sup>10</sup> This also is likely to be related to technical difficulties. Should the sling be formed too tightly, extreme angulation of the rectum may result. Occasionally this point of fixation and angulation leads to volvulus, as occurred in one patient in our series. At the time of primary operation for prolapse, a markedly redundant sigmoid colon or other associated pathologic condition, such as diverticulitis, may therefore dictate the choice of another operation, such as resection and proctopexy.

Meticulous operative technique and prophylactic antibiotic coverage is required to prevent problems related to sepsis, which can be extremely formidable in face of the introduction of a foreign body, the Teflon sling.

Bleeding from the presacral veins can be considerable. We have controlled bleeding, when it occurred, by use of the cautery current, and occasionally suture ligation.

The problem of anal continence appears to be directly related to the duration of the procidentia.<sup>7,10</sup> In a number of series it appears to be also directly related to the problems associated with the significant proportion of patients who were mentally retarded, and the prolonged duration of their prolapse. No problem of continence was encountered in our patients, however sphincteroplasty and/or Thiersch wire has been advocated by various authors when necessary.<sup>7</sup>

### Summary

The Ripstein procedure was used to effect a cure of rectal procidentia in 30 patients. There was no opera-

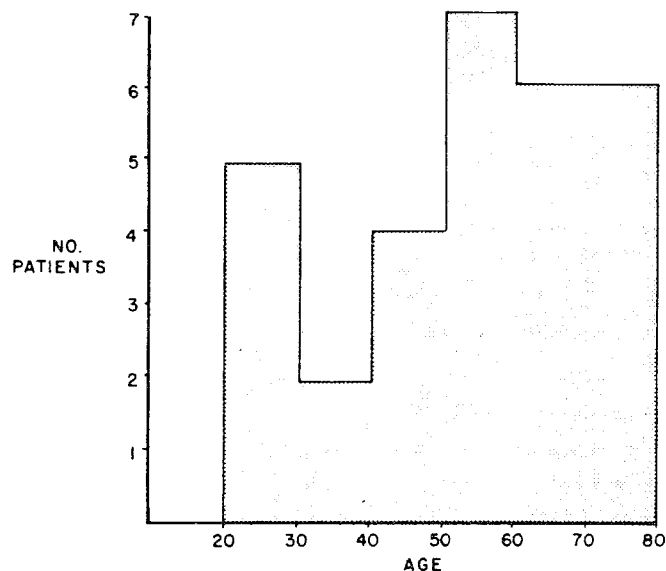


FIG. 1. Age distribution of patient population.

tive mortality, and morbidity was confined to problems related to two patients with intestinal obstruction, one with fecal impaction, and one with wound infection. We believe the operation to be the treatment of choice in patients to control the anatomic and clinical abnormalities related to rectal procidentia. Associated colonic abnormalities, such as an extremely redundant sigmoid or associated diverticulitis, may dictate the choice of a different procedure that does not require introduction of a foreign material.

### References

1. Ripstein CB: Treatment of massive rectal prolapse. *Am J Surg* 83: 68, 1952
2. Ripstein CB: Surgical cure of massive rectal prolapse. *Dis Colon Rectum* 8: 34, 1965
3. Ripstein CB: Rectal prolapse—an alternate point of view. Ed 2. Edited by R. Turrell. *Diseases of the Colon and Anorectum*. Philadelphia, W B Saunders, 1969, vol 2, p 1069
4. Ripstein CB: Procidentia: Definitive corrective surgery. *Dis Colon Rectum* 15: 334, 1972
5. Bomar RL, Sawyers JL: Transabdominal proctopexy (Ripstein procedure) for massive rectal prolapse. *Am Surg* 43: 97, 1977
6. Khubchandani IT, Bacon HE: Complete prolapse of rectum and its treatment. *Arch Surg* 90: 337, 1965
7. Moore HD: The results of treatment for complete prolapse of the rectum in the adult patient. *Dis Colon Rectum* 20: 566, 1977
8. Wright AD: Discussion on prolapse of the rectum. *Proc R Soc Med* 42: 1005, 1949
9. Theuerkauf FJ, Beahrs OH, Hill JR: Rectal prolapse: Causation and surgical treatment. *Ann Surg* 171: 819, 1970
10. Gordon PH, Hoexter B: Complications of the Ripstein procedure. *Dis Colon Rectum* 21: 277, 1978
11. Swinton NW, Scherer WP: Complete rectal prolapse or procidentia. *Geriatrics* 23: 113 (Nov) 1968
12. Broden B, Snellman B: Procidentia of the rectum studied with cineradiography: A contribution to the discussion of causative mechanism. *Dis Colon Rectum* 11: 330, 1968
13. Moschowitz AV: The pathogenesis, anatomy, and cure of prolapse of the rectum. *Surg Gynecol Obstet* 15: 7, 1912