Ripstein Operation for Rectal Prolapse: Surgical Legacy Procedure

66

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Indications

Complete prolapse of the rectum

Preoperative Preparation

Mechanical and antibiotic bowel preparation
Colonoscopy or barium colon enema to exclude other pathology
Foley catheter in bladder
Perioperative antibiotics

Pitfalls and Danger Points

Excessive constriction of the rectum by mesh, which may result in partial obstruction or, rarely, erosion of mesh into the rectal lumen
Disruption of suture line between mesh and presacral space
Presacral hemorrhage

Operative Strategy

The Ripstein operation uses permanent polypropylene mesh to fix the rectum to the presacral fascia, thereby restoring the normal posterior curve of the rectum and eliminating intussusception and prolapse. This operation is indicated only in patients who are not also suffering from significant constipation. Constipated patients do better with resection of the redundant sigmoid colon and colorectal anastomosis with sutures attaching the lateral ligaments of the rectum to the sacral fascia. For many patients, including those with significant medical comorbidities, a perineal procedure (see Chap. 74) is preferable.

Many variations have been described. They differ primarily in use of mesh or simple suture fixation, type of material, and extent of mesh wrap (partial versus total). Some surgeons will combine a resection of the redundant segment of colon with a rectopexy. Laparoscopic procedures have been described (see references).

To prevent undue constriction of the rectum when the mesh is placed around it, *leave sufficient room to pass two fingers behind the rectum* after the mesh has been fixed in place. The success of the Ripstein operation is *not predicated on any degree of constriction* of the rectum. It suffices if the mesh simply prevents the rectum from advancing in an anterior direction away from the hollow of the sacrum.

The site on the rectum selected for placing the mesh is important. The upper level of the mesh should be 5 cm below the promontory of the sacrum, which requires opening the rectovesical or rectouterine peritoneum. In most cases the lateral ligaments of the rectum need not be divided. Avoid damage to the hypogastric nerves in the presacral area, especially in male patients.

Documentation Basics

- Extent of mobilization
- Combined with resection?
- Mesh used or not?
- What type of mesh?
- Extent of wrap

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Operative Technique

Incision

A midline incision between the umbilicus and pubis provides excellent exposure in most patients. In young women the operation is accompanied by improved cosmetic results if it is performed through a Pfannenstiel incision. That incision is useful in other situations, so it is described in detail here. Place the 12- to 15-cm long Pfannenstiel incision just inside the public hairline, in the crease that goes from one anterior superior iliac spine to the other (Fig. 66.1). With the scalpel, divide the subcutaneous fat down to the anterior rectus sheath and the external oblique aponeurosis. Divide the anterior rectus sheath in the line of the incision about 2 cm above the pubis (Fig. 66.2). Extend the incision in the rectus sheath laterally in both directions into the external oblique aponeurosis. Apply Allis clamps to the cephalad portion of this fascial layer and bluntly dissect it off the underlying rectus muscles almost to the level of the umbilicus (Fig. 66.3). Separate the rectus muscles in the midline, exposing the preperitoneal fat and peritoneum. Grasp the fat and peritoneum in an area sufficiently cephalad to the bladder to not endanger that organ. Incise the peritoneum, open the abdominal cavity, and explore it for coincidental pathology. A moderate Trendelenburg position is helpful.

Fig. 66.1

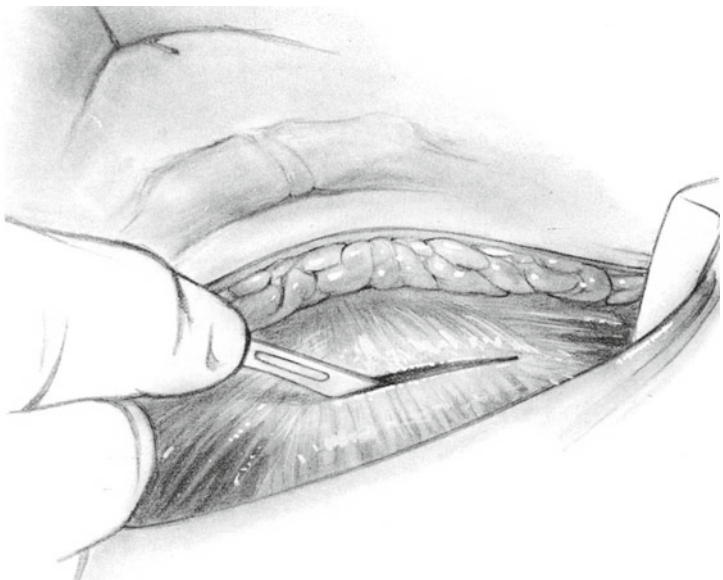

Fig. 66.2

Incision of Pelvic Peritoneum

Retract the small intestine in a cephalad direction. Make an incision in the pelvic peritoneum beginning at the promontory of the sacrum and proceed along the left side of the mesorectum down as far as the cul-de-sac. Identify the left ureter.

Make a second incision in the peritoneum on the right side of the mesorectum, where the mesorectum meets the pelvic peritoneum. Extend this incision also down to the cul-de-sac and identify and preserve the right ureter. Join these two incisions by dividing the peritoneum at the depth of the rectovesical or rectouterine pouch using Metzenbaum scissors (see Figs. 53.4, 53.5, and 53.6). Frequently, the cul-de-sac is deep in patients with rectal prolapse. Further dissection between the rectum and the prostate or vagina is generally not necessary.

Presacral Dissection

For rectal prolapse the rectum can be elevated with ease from the hollow of the sacrum. Enter the presacral space via a Metzenbaum dissection, a method similar to that described for anterior resection (see Chap. 53), but keeping the dissection close to the rectum to avoid nerve injury. Take the usual precautions to avoid damage to the presacral veins. Inspect the presacral area for hemostasis, which should be perfect before the procedure is continued.

Application of Mesh

Fit a section of Prolene mesh measuring 5 × 10 or 5 × 12 cm into place overlying the lower rectum. The upper margin

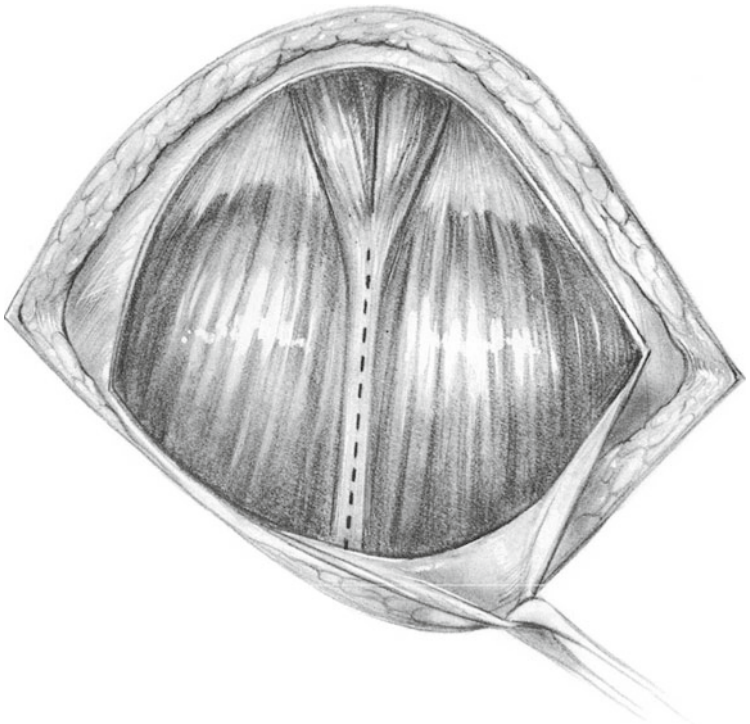

Fig. 66.3

of the mesh should lie over the rectum at a point 4–5 cm below the sacral promontory. Using a small Mayo needle, insert three interrupted sutures of 2-0 Prolene or Tevdek into the right margin of the mesh and attach the mesh to the sacral periosteum along a line about 1–2 cm to the right of the mid-sacral line. Use the same technique to insert three interrupted sutures in the left lateral margin of the mesh and through the sacral fascia and periosteum (Fig. 66.4a). Tie none of these sutures yet, but apply a hemostat to each of them temporarily. After all six sutures have been inserted, have the assistants draw them taut. Then insert two fingers between the rectum and sacrum to check the tension of the mesh, thereby ensuring that there will be no constriction of the rectum (Fig. 66.4b). Now tie all six sutures. Use additional sutures of 4-0 atraumatic Prolene or Tevdek to attach both the proximal and distal margins of the mesh to the underlying rectum, so there is no possibility of the rectum sliding forward underneath the mesh.

Because there is a significant incidence of severe constipation and narrowing of the lumen by the mesh, Nicosia and Bass described fixation of the mesh to the presacral fascia using sutures or a fascial stapler. The mesh is then *partially* wrapped around and sutured to the rectum, leaving the anterior third of the rectal circumference free to dilate as necessary (Figs. 66.5 and 66.6).

Closure of Pelvic Peritoneum

Irrigate the pelvic cavity. Close the incision in the pelvic peritoneum with a continuous suture of 2-0 atraumatic PG (Fig. 66.7).

Wound Closure

To close the Pfannenstiel incision, grasp the peritoneum with hemostats and approximate it with a continuous 2-0 atraumatic PG suture. Use several sutures of the same material loosely to approximate the rectus muscle in the midline. Close the transverse incision in the rectus sheath and external oblique aponeurosis with interrupted sutures of atraumatic 2-0 PG. Close the skin with a continuous 4-0 PG subcuticular suture.

Generally, no pelvic drains are necessary. If hemostasis is not perfect, bring a 6 mm Silastic catheter out from the presacral space through a puncture wound in the lower abdomen and attach it to a closed-suction device (Fig. 66.5).

Postoperative Care

Nasogastric suction is not necessary.

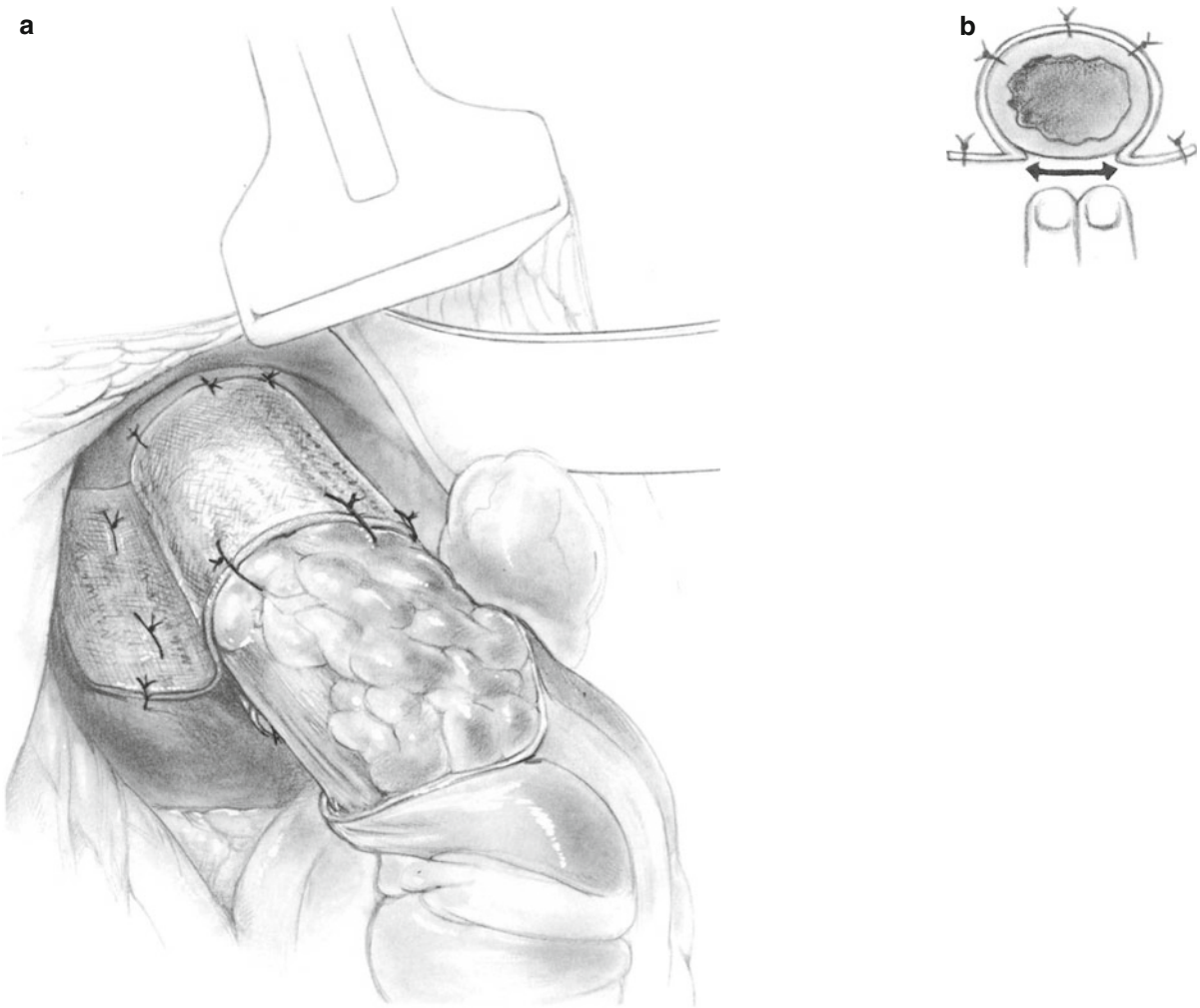

Fig. 66.4

Complications

Most patients who have a complete prolapse have suffered from years of *constipation*. They may have to continue the use of laxatives, although in some cases there is a definite improvement in the patient's bowel function following the operation.

Fecal incontinence—the result of many years of dilatation of the anal sphincters due to repeated prolapse—is also common among these patients. Correction of the prolapse does not automatically eliminate incontinence. This condition is alleviated over time in more than 30 % of patients who are placed on a regimen of high fiber and muscle-strengthening exercises, occasionally supplemented with biofeedback.

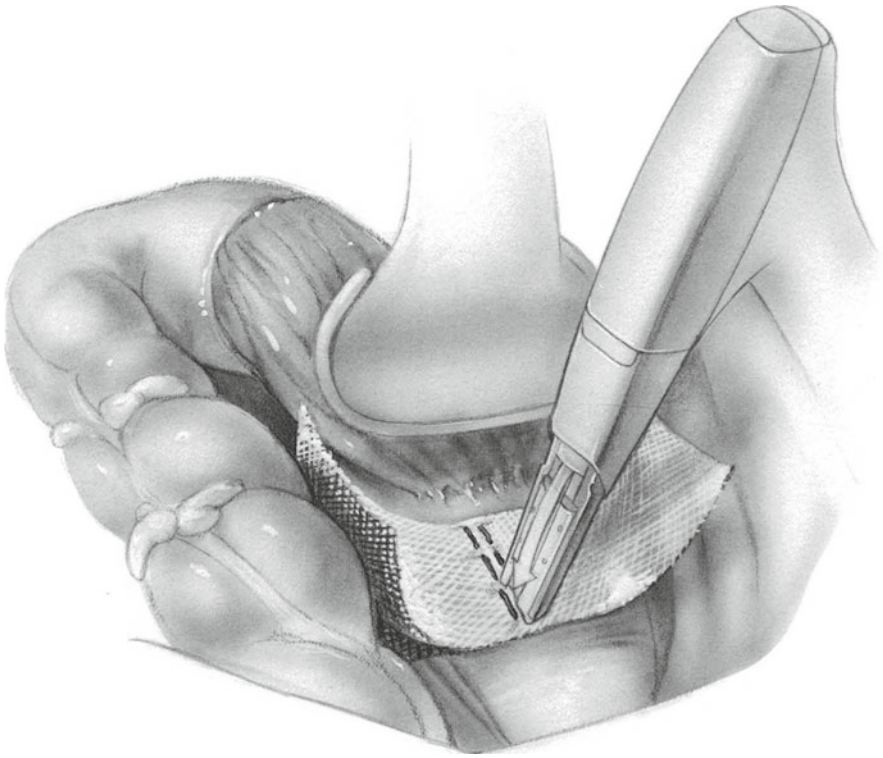

Fig. 66.5

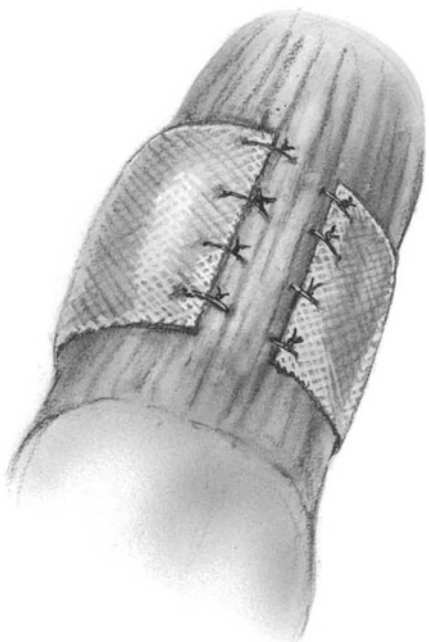

Fig. 66.6

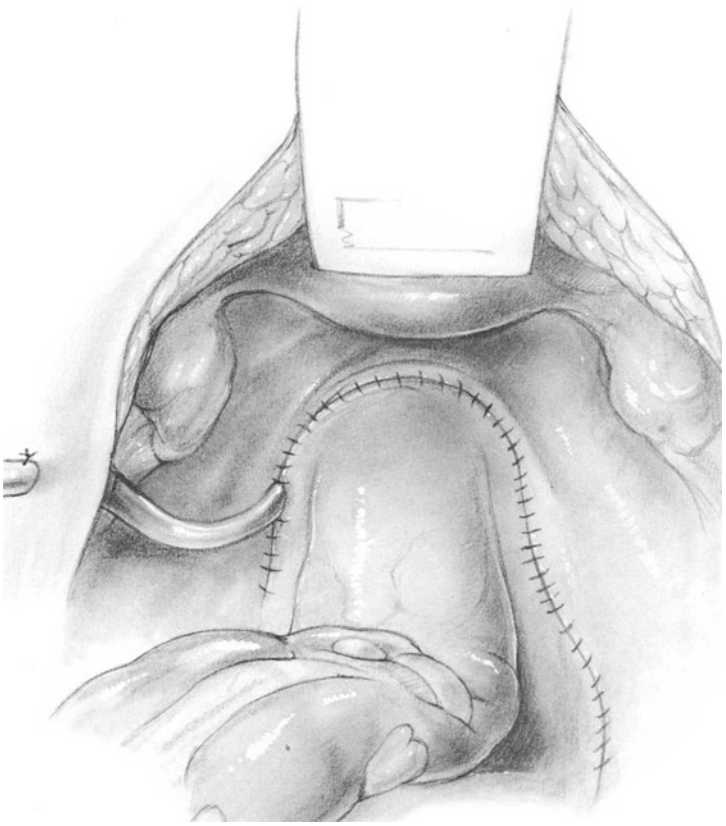

Fig. 66.7

Further Reading

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