

Perineal Repair of Rectal Procidentia with an Elastic Fabric Sling*

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Labow S, Rubin RJ, Hoexter B, Salvati EP. Perineal repair of rectal procidentia with an elastic fabric sling. *Dis Colon Rectum* 1980;23:467-469. The use of a Dacron[®]-reinforced Silastic[®] graft in the perineal repair of rectal procidentia offers a simple technique for elderly and debilitated patients. Experience with this procedure in nine patients, followed for two years, indicates that this elastic material appears to have substantial advantages over wire or synthetic mesh in the perineal repair of rectal procidentia. [Key words: Prolapse, sling repair; Rectum, prolapse, sling repair; Surgery, sling repair for prolapse]

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PERINEAL REPAIR of rectal procidentia is a relatively simple and safe procedure that is most frequently employed on patients who are elderly and debilitated.¹ The classic Thiersch² procedure in which a circumanal sling of silver or stainless wire is installed subcutaneously was popularized by Gabriel in 1951.³ It has been followed by a high incidence of broken wires. Often there is extrusion of the broken or intact wire through the perianal skin or into the lumen of the rectum. Postoperative impaction has also been frequent.

The use of Marlex[®] mesh in place of a perineal wire as described by Lomas and Cooperman,⁴ has led to a marked reduction in the erosive complications and provides a broad-based support for the anal canal. Successful variations of this procedure using Dacron[®] or Mersilene[®] mesh strips² or Teflon[®] arterial grafts⁵ have also been described. The rigidity of these materials, however, has led to discomfort when sitting, and recurrent episodes of fecal impaction are not lessened.

In an attempt to correct these problems, a strip of Dacron-impregnated Silastic[®] sheet (Dow Corning No. 501-7) has been used. This material, which comes in sheets measuring 8" × 6" × 0.040", has the advantages of being elastic in one direction, pliable, non-reactive, and with sufficient strength to hold sutures as provided by the impregnated dacron mesh (Fig. 1). It has been employed in reconstructive surgery with-

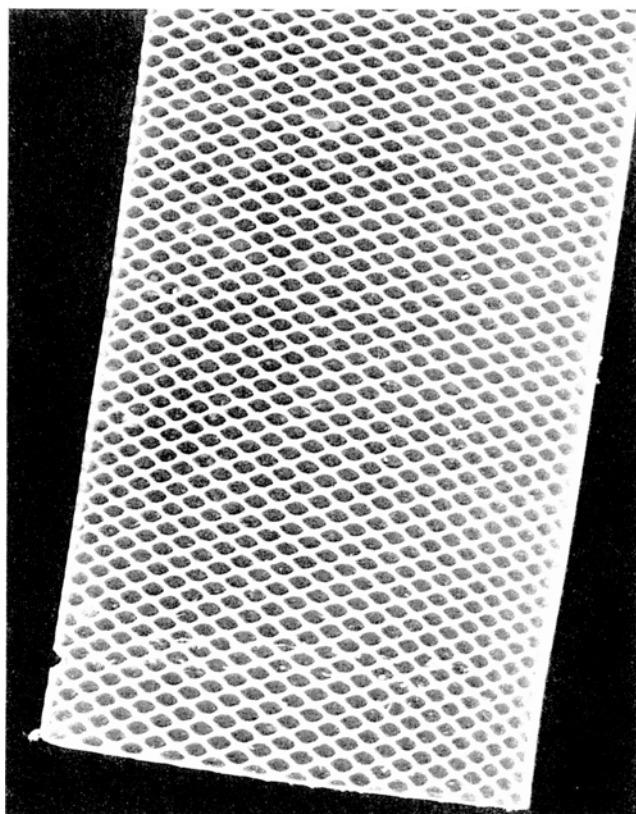


FIG. 1. Close-up of Dacron[®]-impregnated Silastic[®] sheet. (Dow Corning #501-7)

out significant breakdown, deterioration or tissue rejection.

Technique

In performing this procedure, patients undergo sigmoidoscopic and barium-enema examinations to rule out associated colonic abnormality. They then

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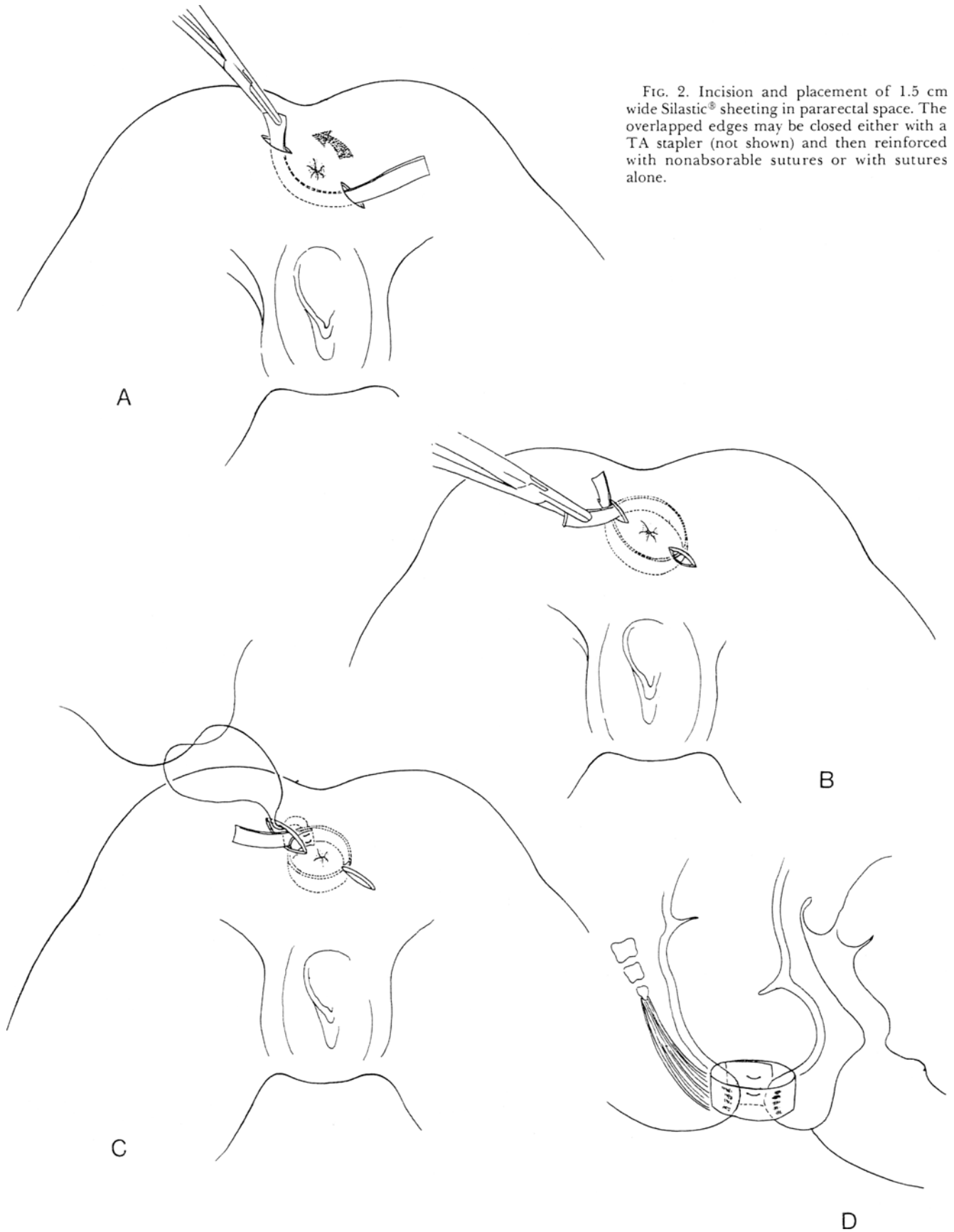


FIG. 2. Incision and placement of 1.5 cm wide Silastic® sheeting in pararectal space. The overlapped edges may be closed either with a TA stapler (not shown) and then reinforced with nonabsorbable sutures or with sutures alone.

have a one-day preoperative bowel preparation of clear fluids, saline cathartics, (30 cc of phosphate of soda), and an oral antibiotic preparation with neomycin and erythromycin base, 1 gm each at 1:00, 2:00, and 11:00 P.M. Saline enemas are given till clear the night prior to the procedure. The patients are often started on intravenous fluids the night prior to surgery to prevent dehydration.

Operation is performed with the patient in the prone jackknife position under a combination of intravenous sedation with diazepam and a local infiltration anesthetic of 0.25 per cent Marcaine® with 1:200,000 epinephrine containing 300 units of hyaluronidase.

The procedure is performed, as described by Lomas and Cooperman,⁴ by making a 1 to 2 cm incision in the left posterior and right anterior quadrants just beyond the outer edge of the external sphincter (Fig. 2). The incision is extended deeply, approximately 2 to 3 cm into the pararectal space with blunt dissection. A Kelly clamp is passed from the left posterior quadrant wound to the right anterior quadrant wound (Fig. 2) both posteriorly behind the rectum and anteriorly in front of the rectum, with care being taken to avoid damage to the attenuated rectovaginal septum in women.

The Silastic mesh that is to be inserted is cut to a 1.5 cm wide strip. It is cut so that it is elastic along its longitudinal axis. The strip is delivered through the right anterior quadrant wound using a Kelly clamp to bring the Silastic circumferentially around the rectum anteriorly and posteriorly. The two ends of the implanted Silastic strip are overlapped in the wound to fit snugly over the M-P joint of an index finger placed in the anal canal. The overlapped portion of the graft is then delivered out of the wound and may be closed with a T-A stapler to leave a smooth edge (RR & ES) or with through-and-through sutures alone. The excess portion of the graft is then cut, leaving an overlap of 1 cm which is approximated and reinforced with through-and-through interrupted 00 Mersilene or 0 Tevdek® sutures. The sewn edge of the graft is then replaced deep in the wound and the wound is irrigated copiously anteriorly and posteriorly with a 0.5 per cent kanamycin solution. The subcutaneous tissue and skin is then reapproximated with fine interrupted absorbable sutures.

The wound is left undressed and the patients are given peroperative antibiotics (before, during, intra-op and one day after operation). A stool softener or mild laxative is started immediately after

surgery. At the time of discharge, the patients are advised to continue stool softeners and to avoid impactions by the use of laxatives or enemas, if necessary. In the short time that this procedure has been used, there has been no caudal migration of the grafts and none of the grafts have broken down, eroded through the skin, or separated. The pliability of the graft to digital examination has remained unchanged and resembles the normal pliant anus to a remarkable degree.

Results

This procedure has now been employed in nine patients without failure or rejection. There were eight women and one man, ranging in age from 72 to 88 years. The grafts have been in place from two to 20 months, with a median of 14 months. In no patient was infection, erosion, or impaction a problem. Seven of the patients had never been operated upon for prolapse. Two patients previously had conventional Thiersch procedures, but had the Thiersch wires removed because of fracture and erosion.

Discussion

Although an intra-abdominal approach with sacral fixation of the prolapsing rectum is probably the preferred procedure for patients with no medical contraindications, we feel that in older and more debilitated patients, this perineal approach seems to offer a viable alternative. It may also be of use in patients with a lax sphincter mechanism. It has been used in two patients with failures of previous conventional Thiersch procedures. It is also of use in patients with a patulous anus who have persistent soiling after having had a previous abdominal sacral fixation (Ripstein procedure). The compliance of this elastic material significantly reduces impaction and erosion. It increases comfort markedly.

References

1. Goligher JC. Surgery of the anus, rectum and colon. 4th ed. London: Bailliere Tindall, 1980.
2. Thiersch K. Quoted by Goligher JC.¹
3. Gabriel WB. Quoted by Notaras MJ. The use of mersilene mesh in rectal prolapse repair. Proc R Soc Med 1973;66:684-6.
4. Lomas MI, Cooperman H. Correction of rectal procidentia by polypropylene mesh (Marlex). Dis Colon Rectum 1972;15:416-9.
5. Haskell B, Rovner H. A modified Thiersch operation for complete rectal prolapse using a teflon prosthesis. Dis Colon Rectum 1963;6:192-5.