Repair of Low Rectovaginal Fistula*

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THE PRINCIPLE of using a tissue flap for repair of rectovaginal fistula is not new. Laird,[2] in 1948, in an excellent presentation, described the use of a mucosal flap. This type of repair can be traced to Noble,[4] who published an article in 1902, and to Elting,[1] who wrote an article on fistula-in-ano in 1912. This type of operation has been known as the Noble or Elting procedure.

The technic here described differs from Laird's in several respects. Clarification of the principles involved in this procedure is of particular importance as a means of lessening the need for performing a diversionary colostomy prior to repair of a persistent rectovaginal fistula.

Twenty women, from 23 to 48 years of age, comprise the clinical experience upon which this report is based. The procedure to be described was followed by a single failure and excellent results were obtained in 19 cases. The majority of these patients had undergone previous surgical procedures in an attempt to repair a rectovaginal fistula. One patient had had six previous unsuccessful operations. Various surgical operations, other than the one here described, had failed. Many consisted of a fistulotomy or fistulectomy with primary, complete or partial closure of the wound.

Eleven of 20 patients had developed a fistula after a third-degree (rectovaginal) tear at the time of childbirth. Eight had had no associated pregnancy; a fistula had been caused by an abscess originating in an anterior anal crypt. One of these patients had a low-grade ulcerative proctitis. Another developed a rectovaginal fistula on the seventh day after a vaginal hysterectomy.

In every case the primary or internal opening was situated in the anterior midline at, or within, 1.5 cm. of the anal crypts. Several patients had associated inflammatory sentinel tags or hypertrophied anal papillae. In all instances the fistulous tract was deep to all portions of the external sphincter muscle and the perineal body.

The great majority of third-degree tears and midline episiotomies heal after simple primary repair, in spite of gross contamination and constant drainage of lochia over the suture line. However, some patients develop a persistent rectovaginal fistula. We are convinced that infection in anterior anal crypts is an important factor in the causation of this complication and we suggest that surgical repair should include their removal.

The anterior midline of the anorectal canal is particularly vulnerable to trauma because of the lack of levator ani support in that area as contrasted to the posterior portion of the anal canal. The external sphincter muscles fuse with the transversus perinei muscles and the perineal body to form an anterior midline anchor. When this anchor is severed, gross fecal incontinence may result. A corrective operation should not disturb this anchor. In fact, on occasion, it is wise to provide additional support for it.

When a rectovaginal fistula has developed, it is advisable to delay surgical repair for several weeks or even months. This permits the acute inflammatory reaction to subside and the fistulous tract to become well demarcated.

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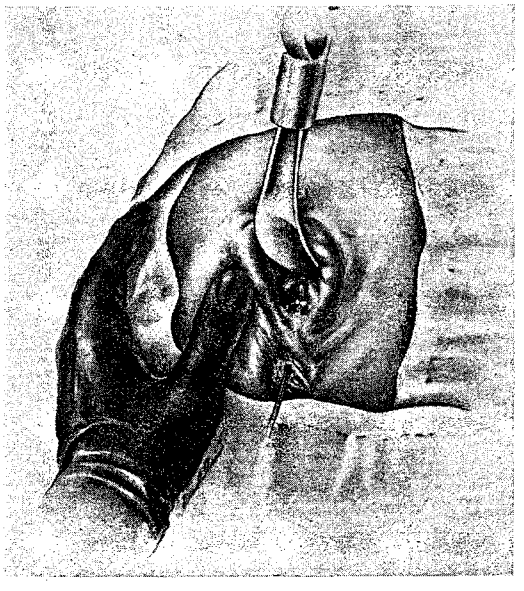

FIG. 1. Demonstration of a low rectovaginal fistula.

An essential part of this procedure is good preoperative bowel preparation. In our series this has been initiated by admitting the patient to the hospital and administering two ounces of castor oil, followed by a nonresidue diet and neomycin for two and one-half days prior to surgery. For maximum relaxation, the operation is performed under spinal anesthesia. Good exposure and maneuverability for the surgeon and his assistants is afforded by placing the patient in a prone *jackknife* position.

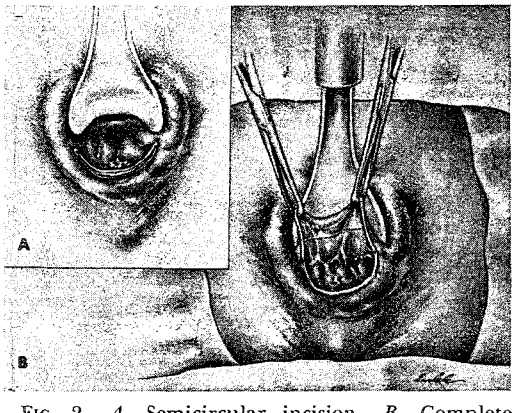

FIG. 2. *A*. Semicircular incision. *B*. Complete mobilization of the anterior rectal wall. (Dotted line indicates the infected, scarred tissue that is excised.)

Usually, as has been stated, the tract is deep to the external sphincter muscles and the perineum (Fig. 1). The rectal opening of the fistulous tract is usually larger and more easily demonstrated than that of the vaginal portion of the tract.

The anterior semicircular incision, which is about 4.0 cm. long, is made several millimeters below the mucocutaneous line (Fig. 2, insert). The incision is deepened to include mucosa, submucosa, adventitia and a portion of the internal sphincter muscle. The dissection includes the mucosa and usually the full thickness of the anterior rectal wall. This is an important part of the procedure and it should not be labelled a *mucosal* flap repair, but rather an advancement of the anterior rectal wall as described by Mengert and Fish.[3]

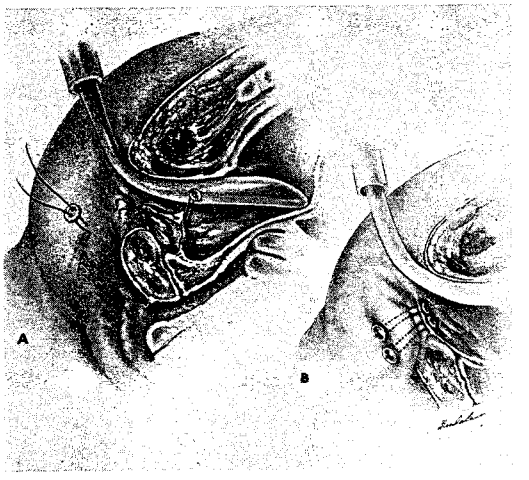

FIG. 3. *A*. Placement of the pull-out wire sutures over buttons. *B*. Appearance after completion of the procedure.

The cephalad portion of the flap is mobilized, usually for a distance of 4.0 cm. or more (Fig. 2). Complete mobilization is tested by applying gentle traction on the flap and is revealed if it can be drawn below the point of origin of the fistula. The anterior rectal wall is separated from the tract by sharp dissection, but the internal or rectal opening and adjacent scar tissue and crypts

are included in the flap. All of the infected, scarred tissue is removed. The deeper or vaginal portion of the tract is in no way disturbed.

The wound is closed by employing braided steel wire over buttons (Fig. 3). Wire is used, not only for its tensile strength but because it causes minimal tissue reaction. Buttons are used to disperse tension more evenly and to facilitate complete removal of the sutures eight to ten days later. Usually four to five sutures are used. The vaginal portion of the fistulous tract is not disturbed. This facilitates drainage beneath the tissue flap. After several months this portion of the tract disappears. We have never encountered any complication such as formation of a retention cyst.

Postoperatively, the patient is maintained on a nonresidue diet and tincture of opium, usually administered in doses of 10 minims, four to five times daily. If there is fecal seepage or a bowel movement, the wound is cleansed with warm water and zephiran. Sitz baths are not employed. One patient was given an enzyme, administered by mouth, to lessen edema and ecchymosis.

The procedure described does not violate any fundamental surgical principles, it is relatively simple to perform, it produces good results and it does not necessitate a colostomy. The patient usually leaves the hospital by the twelfth postoperative day, with a completely healed, normally functioning rectum.

References

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The research library of the Institute of Experimental Medicine and Surgery of the University of Montreal has suffered extensive losses owing to destruction by fire.

In attempting to rebuild our library, we should like to enlist the assistance of the readers of *Diseases of the Colon & Rectum* and ask them to send us all available reprints of their work, especially those dealing with Endocrinology and Stress.

At the same time we wish to point out that our permanent mailing list was also destroyed, hence we shall be able to send reprints of our publications only to those readers who write for them.

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