Original Paper

Digestive Surgery

Dig Surg 2002;19:56–58

Received: March 5, 2001
Accepted: September 3, 2001

Partial Fistulotomy and Modified Cutting Seton Procedure in the Treatment of High Extrasphincteric Perianal Fistulae

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Key Words
Perianal fistula · Fistulotomy · Seton

Abstract
Aim: In our prospective study the method of partial distal fistulotomy and modified cutting seton for high extrasphincteric perianal fistulae is discussed. ***Methods:*** 10 patients (9 males and 1 female) with high extrasphincteric perianal fistulae were treated with partial distal fistulotomy and modified cutting seton. Four or five threads were introduced through the tract; one was tied tightly at the end of the operation, others were tightened every 10th day. While the tied thread cut the tissue, the others drained the tract. The follow-up period ranged from 3 months to 9 years. ***Results:*** None of the patients developed major fecal incontinence. 2 of the 10 patients complained of incontinence due to flatus. ***Conclusion:*** Distal fistulotomy and modified cutting seton can be used in perianal fistulae with high anal or rectal opening, because it combines the effects of both cutting and loose setons and because the postoperative results regarding continence are satisfactory.

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Introduction

The treatment of high anal or rectal fistulae is difficult because of postoperative continence problems. A high incidence of incontinence occurs when a simple lying-open technique is applied. Staged fistulotomy with a seton is considered to decrease the incidence of continence problems after surgery. Cutting, loose, and chemical setons are used in order to minimize the risk of anal incontinence [1–3]. Application of a cutting seton after partial distal fistulotomy is used to treat patients with high extrasphincteric fistulae in a successful manner with lower risks of recurrence or incontinence problems [2–5].

Operative Technique

From July 1991 to July 2000, 10 patients (9 males and 1 female) with high extrasphincteric perianal fistulae, all of which were caused by perianal abscesses, were treated with the 'partial distal fistulotomy and modified cutting seton' technique. Their age ranged from 35 to 59 years, with a median age of 45 years. None of the patients received previous surgical treatment for fistulae.

All patients had preoperative bowel preparations with oral laxatives and sodium phosphate enemas. The procedure was performed under general anesthesia in all patients. Internal openings were not defined preoperatively in any of them.

The patients were positioned in lithotomy position, and the table was tilted in head-down position to improve the exposure of the anal region. A probe was introduced through the external opening with the help of the index finger of the other hand in the anal canal palpating the anorectal ring. The probe was advanced very gently, and the

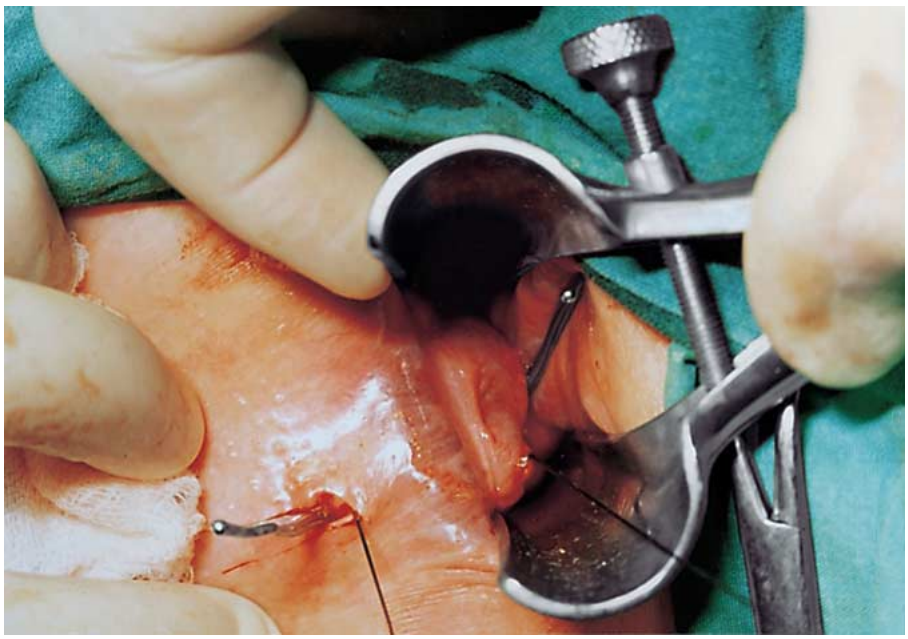
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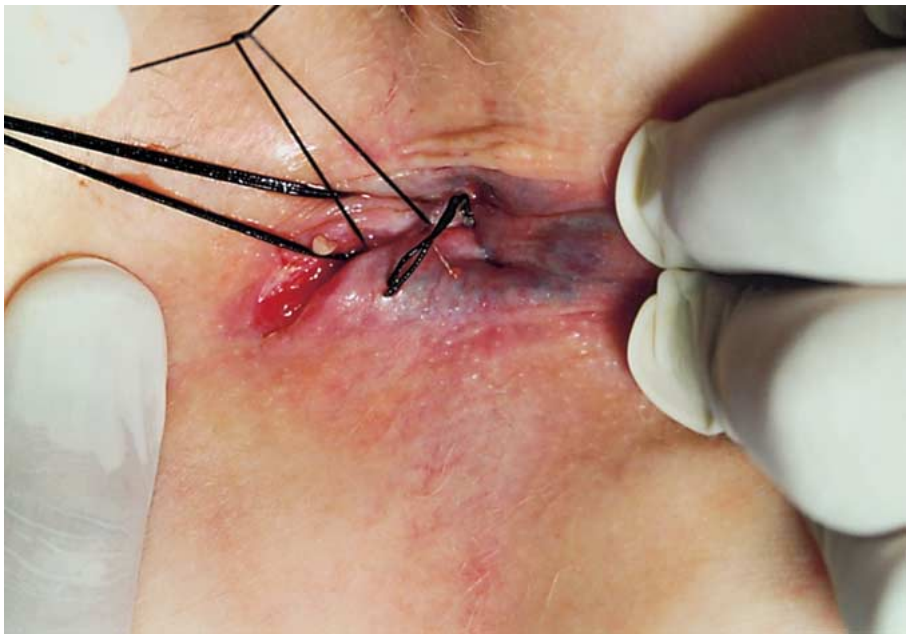
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Fig. 1. Demonstration of the tract and the internal opening via a probe.
Fig. 2. Partial fistulotomy is completed, and the threads are placed into the fistula tract. One of the threads is knotted tightly to encircle the anorectal ring. Other threads are kept in a small bag prepared from a surgical glove finger.
Fig. 3. Knotting of a new thread in the outpatient clinic. The fistulotomy wound is filled with granulation tissue.

internal opening was defined (fig. 1). For defining the internal opening, methylene blue can be injected from the external opening before probing. The tract was laid open over a grooved probe up to the dentate line. From the dentate line up to the internal opening mucosa and submucosa were laid open. Then four or five No. 1 braided silk threads were passed along the tract and taken out of the external opening (fig. 2). The threads were introduced one by one, not all together.

After all of them were introduced, one of the threads was tied tightly, and its ends were cut short. The other threads, after tied loosely by one knot, were put in a small bag made of a surgical glove finger (fig. 2). For the tract to drain and the muscle to be cut and adequate fibrosis to be formed around the seton, the patients were seen every 10 days in the outpatient clinic, and after proper premedication with Dormicum, another of the four or five threads was tied without causing any discomfort to the patient (fig. 3). After the patients were discharged from the hospital, they were adviced to clean the area after each defecation with plenty of tap water. No other wound irrigations were required.

The follow-up period of the patients ranged from 3 months to 9 years: once a month during the 1st postoperative year and annually during the consecutive years. No major continence problems developed. Only 2 of the 10 patients complained of incontinence due to flatus occasionally. One of them was a female patient who had given two births. No recurrence of fistulae occurred in any of the patients.

Discussion

The problem of surgical treatment of high anal complex anal fistulae is the high incidence of incontinence, especially if a simple lying-open technique is applied. Staged fistulotomy with a seton is considered to decrease the incidence of continence problems after surgery [2–5]. By this way, a seton drains the primary tract, enables the surgeon to assess the level of the fistula more accurately when the patient is awake and able to squeeze, and it stimulates fibrosis and cuts the tissue that it encircles.

Setons are employed for less than 10% of the fistulae that involve all of the sphincter complex, the simple division of the sphincter complex – the simple division of which certainly results in major fecal incontinence. There are cutting, loose, and chemical setons. A cutting seton may be preferred when not all the sphincter is involved and a drainage seton if the tract passes deep to all of the sphincteric muscles [6–8].

Our technique, partial distal fistulotomy and modified cutting seton, combines both cutting and loose setons. While the tied knot cuts the tissue, the other four or five threads left to be tied later drain the tract.

The most important step of the operation is the definition of the internal opening. Because the tracts are usually occluded with debris, so methylene blue or other dyes usually cannot establish the internal opening. The surgeon must be careful not to create a false route while advancing the probe.

Some argue that the internal sphincter should be divided to achieve drainage. But if the internal sphincter is divided completely, the edges may retract. So most of the surgeons prefer to divide it superficially or include the internal sphincter within the seton to prevent retraction [1–3].

On the following visits of the patients, if the number of the threads are not enough, the required number of threads can be introduced through the tract by tying them to the end of the remaining thread and pulling them through.

We have seen that three or four threads were enough, and in most of the patients the remaining thin layer of tissue over the third or fourth tied knot was stretched and torn while defecating without causing any harm.

Usually healing after a seton procedure is uneventful. Minor control problems may occur in many patients. This may be related to the preoperative state of anal continence and to wound healing. If the edges of the wound do not approximate precisely, or if bridges between the cut edges occur, postoperative soiling may result. Only 2 of our patients had incontinence due to flatus, 1 of whom was a multiparous woman.

In conclusion, we believe that distal fistulotomy and modified cutting seton can be used in perianal fistulae with a high anal or rectal opening, because it combines the effects of both cutting and loose setons and because the postoperative results regarding continence are satisfactory.

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