

Comparison Of The Results Of Fissurectomy Versus Lateral Internal Sphincterotomy In The Surgical Management Of Chronic Anal Fissure

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Abstract

Background: Although lateral internal sphincterotomy (LIS) is an effective treatment of chronic fissure in ano, it has the potential to cause serious complications, the most distressing of which is incontinence to flatus and fecal soiling. To avoid such complications, we proposed fissurectomy (F) as an alternative surgical treatment.

Methods: Sixty-two consecutive patients with sequential sampling were divided into two groups. Thirty patients underwent fissurectomy and 32 underwent lateral internal sphincterotomy. After a median follow-up of 22 months, we compared the results of the two procedures. In addition to frequent visits on a predetermined basis, a telephone inquiry into fissure recurrence and continence status was made.

Results: All patients in either group were pain-free and without bleeding within one week. In both groups, urinary retention was noted in one patient. Incontinence to flatus occurred in two patients (6.2%) in the LIS group, but no incontinence was noted in the F group. There was one patient (3.1%) with fissure recurrence in the LIS group, but no one in F group. No patient in either group was afflicted with anal stenosis or perianal infections. All wounds healed within 8 weeks. Twenty-nine patients (96.6%) in the F group and 28 (87.5%) in the LIS group reported satisfactory results.

Conclusion In surgical treatment of chronic anal fissures not responding to conservative management, fissurectomy may be a sphincter-sparing alternative and perhaps a preferable surgical technique.

INTRODUCTION

Despite the advent of new modalities in the conservative treatment of chronic fissures, such as nitric oxide donors, they frequently need surgical treatment. Lateral internal sphincterotomy (LIS) heals chronic fissures in ano in over 90 percent of cases, but it is associated with potential long-term complications [1,2,3,4]. Incontinence to flatus and fecal soiling are distressing complications of sphincterotomy that may occur in up to 35 per cent of patients [5,6]. Surgical techniques that preserve the anal sphincters should reduce the possibility of postoperative fecal incontinence. This study was designed to study the hypothesis that chronic anal fissures unresponsive to conservative treatment may be regarded as unstable scar tissue. Fissurectomy or fissure excision to create a fresh surgical wound might then allow stable wound healing.

PATIENTS AND METHODS

Sixty-two consecutive patients with chronic anal fissures not responding to conservative treatment were included in this study to compare the results of LIS versus fissurectomy (F). Via sequential sampling, the patients were divided into two groups. In view of the distribution of age, sex and intervening variables, including the location of the fissure and other associated disorders such as hemorrhoids, there was a desirable matching between the two groups [tables 1-3]. Out of 62 patients, 30 underwent fissurectomy and 32 underwent LIS. Thirty-seven patients (59.6%) were male and 25 (40.3%) were female. The mean age was 34 years, ranging from 24-52. Location of the fissure was posterior in 56 (90.3%) and anterior in 6 (9.7%) patients. Considering associated anorectal disease, grade I hemorrhoids were noted in 2 (3.2%) patients. All patients had classical symptoms of a chronic anal fissure unresponsive to medical treatment for at least 3 months. All patients had skin tags or sentinel piles.

Figure 1

Table 1: Sex distribution of the patients in the two groups (P>0.05).

Sex \ Operation	LIS	F
Male	17	20
Female	15	10

Figure 2

Table 2: Age distribution of the patients in the two groups (P>0.05).

Age \ Operation	LIS	F
<20 years	9	7
20-40 years	16	17
>40 years	7	6

Figure 3

Table 3: Distribution of associated diseases in the two groups (P>0.05).

Operation	LIS	F
Associated disorders (hemorrhoids)	1	1

Patients with multiple fissures were not included in the study. Irrespective of the method of surgery, prior to operation, we drew up a questionnaire for patients, including specifications of the patient, pre- and postoperative symptoms, and postoperative complications. First, those items related to preoperative time were recorded in the questionnaire, and then we proceeded with the operation (fissurectomy or LIS).

Two days before the operations, the patients started to take an oral stool bulking agent twice daily. Additionally the patients went on liquid diet 24 hours before the operation. Fissurectomy was performed by a single surgeon under spinal anesthesia in the prone-flexed (Jackknife) position. Excision of the fissure complex with a margin of healthy mucosa and scar tissue down to the level of the internal sphincter was carried out. Sphincterotomy was not conducted. As such, a fresh ulcer without any fibrous and scar tissue was established to precipitate its healing capacity.

All wounds were left open. No anal tampons were used. The day after surgery, the patients were discharged with warm sitz bath and bulking agents for at least 2-3 weeks. The second group of patients underwent the traditional approach of LIS and was discharged the day after with the above-mentioned recommendations. The first visit was scheduled within one week, the others within 1 and 2 months and the last one at the end of the follow-up period. Furthermore, patients were told that they would be contacted subsequently by telephone regarding symptoms and postoperative continence. The median follow-up was 22 months (range 18-26). At the end of the follow-up the rest of the questionnaire concerning postoperative complications and symptoms was filled out.

RESULTS

During follow-up all patients got rid of pain and bleeding within one week of the operation. In both groups, transient urinary retention was noted in one patient. Incontinence to flatus was seen in the LIS group in two patients (6.2%) but no incontinence was noted in the fissurectomy group. There was one patient (3.1%) with fissure recurrence in the LIS group after 20 months, but no one in the fissurectomy group (P>0.05).

No patient in either group suffered from anal stenosis or perianal infections. In patients who underwent fissurectomy only one case was affected with complications (3.3%) but in the LIS group 3 patients (10%) sustained injury due to complications (P>0.05). In the fissurectomy group, 29 patients (96.6%) and in the LIS group, 28 patients (87.5%) described their operation as satisfactory (P>0.05). All wounds were healed within 8 weeks. No keyhole defects were present in the anal canal.

Figure 4

Table 4: Postoperative complications in F and LIS patients

Operation Complication	F	LIS
Persistence of pain	-	-
Persistence of bleeding	-	-
Urinary retention	1(3.3%)	1(3.1%)
Incontinence to flatus or fecal soiling	-	2(6.2%)
Infection (abscess or fistula)	-	-
Anal stenosis	-	-
Total complications	1(3.3%)	3(10%)

DISCUSSION

This study has shown that fissurectomy is a safe sphincter-sparing alternative in the treatment of chronic fissures in ano not responding to conservative treatment. Recent studies have shown that lateral internal sphincterotomy is detrimental to the continence mechanism [7]. The length of the sphincterotomy and whether an open or closed technique is used are related to the incidence of incontinence. Given that surgical estimate of the length of the sphincterotomy is not always correct, lateral internal sphincterotomy is not as standardized a procedure as might otherwise be thought [8].

To examine the more sparing surgical technique, it is important to look at the etiology of chronic fissure in ano. Both hypovascularization and hypoperfusion occur in the posterior anal commissure in approximately 85% of normal people. Combination of these factors with internal anal sphincter hypertonia, causing ischemia, explains the poor wound healing and pain associated with chronic anal fissure [9,10,11]. It does not explain why anterior chronic fissure in ano occurs in at least 10% of female patients and why pain if ischemic in nature, occurs only for a certain period after defecation. Also the actual causative or initiating mechanism is unknown and the mechanism of the transition from acute to chronic fissure remains obscure. Repetitive trauma for example large diameter of fecal bolus may cause defects in the anal lining that heal poorly leading to unstable scar tissue and a defect termed chronic anal fissure. The central hypothesis in this study was that chronic fissure in ano is unstable scar tissue with a central defect in a hemodynamically unfavorable location.

Another aspect of our study is that it is a single procedure

without any combination with other modalities such as topical isosorbide dinitrate or injection with botulinum toxin. Both techniques have been used in recent studies in combination with fissurectomy to cause temporary chemical sphincterotomy and to improve tissue perfusion [1,2]. However, in other studies such as that by Meier et al. in Germany in 2001, fissurectomy has been used as a separate procedure in the treatment of chronic anal fissure with favorable results [3]. Again in other studies, fissurectomy has been combined with posterior midline sphincterotomy [12,13,14,15,16,17]. The main disadvantage of this latter procedure is keyhole deformity which may lead to fecal soiling. When fissurectomy is not combined with a midline sphincterotomy, wound dehiscence and keyhole deformities such as those that occur after anal fistulotomy, do not occur.

The gradual improvement in pain in the F group as compared to immediate pain relief in the LIS group should not be regarded as a main difference between the two procedures, since all patients eventually were pain free within one week of operation. To emphasize the results, no patient in the fissurectomy group suffered from incontinence to flatus. There was no fissure recurrence in this group during the follow-up period. Totally, 29 patients (96.6%) reported satisfactory results with their operation.

Statistical examinations reveal no significant difference between the two groups of patients; this may be due to the small numbers of patients, and larger series are needed to accurately compare these two different techniques. However, incontinency as a complication of LIS operation is so disabling that even small differences between two methods of surgery seem to be significant.

Finally, we concluded that given the lower rate of distressing complications (especially incontinence) and greater satisfaction of patients, fissurectomy could be considered as an alternative sphincter-saving and perhaps preferable approach in the surgical management of chronic anal fissures. However, much remains to be done regarding its long-term results through more extensive and larger clinical trials.

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