

Original Article

Comparison of Fissurectomy VS Lateral Internal Sphincterotomy in Chronic Anal Fissure Surgery

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ABSTRACT

Background: Chronic anal fissure is the most common cause of anal pain associated with internal anal sphincter hypertonia. 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. We proposed fissurectomy (F) as an alternative surgical treatment.

Study Design: Experimental and Comparative Study.

Place of Study: This study was conducted at Surgical Department, Ghulam Mohammad Mahar Medical College Sukkur.

Patients and Methods: one hundred twenty four patients, divided into two groups. Sixty patients underwent fissurectomy and 64 underwent lateral internal sphincterotomy. After a median follow-up of 18 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 two patients. Incontinence to flatus occurred in four patients (6.2%) in the LIS group, but no incontinence was noted in the F group. There were two patients (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 6 to 8 weeks. 58 patients (96.6%) in the F group and 56 (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.

Key Words: Fissurectomy, Sphincterotomy, Chronic Anal Fissure

INTRODUCTION

An anal fissure is a crack or tears in the skin of the anal canal. Anal fissures may be noticed by bright red anal bleeding on the toilet paper, sometimes in the toilet. The etiology of this disease is in doubt up to now but mucosal ischemia secondary to sphincter spasm is an acceptable etiology. Spasm of the internal anal sphincter plays a central role in the pathogenesis of the disease^{1, 2, 3}. 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^{4, 5, 6, and 7}. Incontinence to flatus and fecal soiling are distressing complications of sphincterotomy that may occur in up to 35 per cent of patients^{8, 9, 10}. 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

One hundred- twenty four 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). 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 124 patients, 60 underwent fissurectomy and 64 underwent LIS. 74 patients (59.6%) were male and 50 (40.3%) were female. The mean age was 34 years, ranging from 24-52. Location of the fissure was posterior in 112 (90.3%) and anterior in 12 (9.7%) patients. Considering associated anorectal disease, 1st degree hemorrhoids were noted in 4 (3.2%) patients. All patients had classical symptoms of a chronic anal

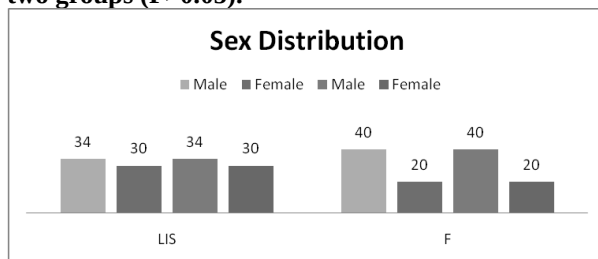
fissure unresponsive to medical treatment for at least 3 months. All patients had skin tags or sentinel piles. Patients with multiple fissures were not included in the study. Irrespective of the method of surgery, prior to operation, we drew up a questionnaire for patients, including specifications of 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).

Fissurectomy was performed by a single surgeon under spinal anesthesia in the lithotomy 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. 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 18 months (range 14-22). 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 two patients. Incontinence to flatus was seen in the LIS group in 4 patients (6.2%) but no incontinence was noted in the fissurectomy group. There was two patients (3.1%) with fissure recurrence in the LIS group after 20 months, but no one in the fissurectomy group ($P>0.05$).

Table No. 1: Sex distribution of the patients in the two groups ($P>0.05$).



No patient in either group suffered from anal stenosis or perianal infections. In patients who underwent

fissurectomy only two cases were affected with complications (3.3%) but in the LIS group 6 patients (9.3%) developed complications ($P>0.05$). In the fissurectomy group, 58 patients (96.6%) and in the LIS group, 56 patients (87.5%) described their operation as satisfactory ($P>0.05$). All wounds were healed within 6-8 weeks.

Table No. 2: Age distribution of the patients in the two groups ($P>0.05$).

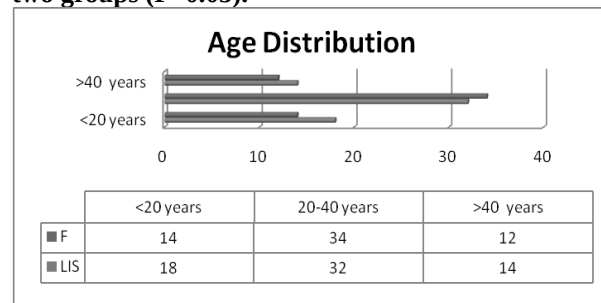
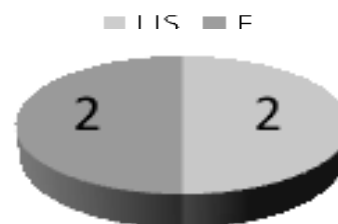


Table No. 3: Distribution of associated diseases in the two groups ($P>0.05$).

Associated Disorders (Hemorrhoids)



Operation	LIS	F
Associated disorders (hemorrhoids)	2	2

Table No. 4: Postoperative complications in F and LIS patients

Complication/ Operation	F	LIS
Persistence of pain	Nil	Nil
Persistence of bleeding	Nil	Nil.
Urinary retention	2(3.1%)	2(3.1%)
Incontinence of flatus or fecal soiling	Nil	4(6.2%)
Anal stenosis	Nil	Nil
Infection (abscess or fistula)	Nil	Nil
Total Complications	2(3.3%)	6(9.3%)

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 mechanism¹⁰. As long as the patient is willing to accept the risk of fecal incontinence, we can justify the gold standard therapy (LIS) as the 1st line treatment of chronic anal fissure¹¹. 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 thought¹².

To examine the more sparing surgical technique, it is important to look at the etiology of chronic fissure in ano. Both hypovascularization and hypo perfusion 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^{13, 14, 15}. It does not explain why anterior chronic fissure in ano occurs in at least 10% of female patients and why pain of 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^{4,5}. 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. Again in other studies, fissurectomy has been combined with posterior midline sphincterotomy^{16, 17, 18, 19, 20, 21, 22}. 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.

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, 58 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, incontinence as a complication of LIS operation is so disabling that even small differences between two methods of surgery seem to be significant.

CONCLUSION

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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