

A comparative study of the results of the anal fissurectomy and lateral internal sphincterotomy for chronic anal fissure

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ABSTRACT

Objective: To compare the results of surgical treatment of chronic anal fissure resistant to conservative management, after anal fissurectomy or lateral internal sphincterectomy.

Methodology: One hundred forty five patients with chronic anal fissure failed to heal with medical treatment admitted in the Department of Surgery Unit II Liaquat University Hospital Jamshoro Sindh Pakistan, from January 2007 to June 2009 were studied. Patients were divided into two groups, 67 patients underwent Fissurectomy (F), and 78 patients underwent open lateral internal sphincterotomy (LIS). We assessed the patients after median follow up of 12 months, for persistence of symptoms (pain, bleeding), complications and recurrence.

Results: All patients become symptoms free within 10 days of surgery. Urinary retention was noted in 3(2.06%) patients, 2(2.98%) in fissurectomy (F) and 1(1.28%) in lateral internal sphincterectomy (LIS) group. Incontinence to flatus was noted in 2(2.98%) patients of 'F' group and 1(1.28%) patient of 'LIS' group. Faecal soiling was noted only in 1(1.49%) patient of 'F' group. Recurrence occurred in 3(4.41%) patients of 'F' group, no recurrence seen in 'LIS' group. Wounds healed within six weeks. Sixty two (91.17%) patients of 'F' and 77(98.71) patients of 'LIS' group were satisfied with treatment.

Conclusion: In the treatment of chronic anal fissure lateral internal sphincterectomy is the best surgical technique with very few complications and better patient satisfaction.

KEY WORDS: Chronic anal fissure, Fissurectomy, Lateral internal sphincterotomy.

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INTRODUCTION

The anal fissure is a small spilt in the distal anoderm, and it most commonly occurs in the posterior midline of anal canal. Anal fissure causes

severe sharp pain on defaecation, occasionally accompanied by streak of blood on out side of stool or blood on toilet tissue.¹ Pain may persist for many hours after defaecation that is much distressing to patients. The pain of anal fissure causes proportionate worsening of quality of life.²

Fissures are classified as acute or chronic, acute fissure usually heal spontaneously within six weeks. Conversely chronic anal fissure persist much longer, and do not heal without intervention. The chronic anal fissures are wider and deep than acute fissures. The edges of chronic anal fissure are often indurated and there may be a skin tag distally and a hypertrophied papilla proximally.^{3,4}

In 90% of patients typical anal fissure occur in posterior midline and remaining 10% in anterior

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midline.⁵ Atypical anal fissure can occur any where in anal canal and these re associated with other diseases (Crohn's disease, HIV infection, cancer, syphilis, and Tuberculosis). Anterior anal fissure occur more commonly in females.⁵

Incontinence to flatus and faecal soiling are distressing complications of surgical techniques.⁶⁻⁸ Surgical techniques that preserve the anal sphincters should reduce the possibility of post operative faecal incontinence.

The purpose of this study was to compare the results of fissurectomy (F) and lateral internal sphincterectomy (LIS) in terms of relief of symptoms, postoperative complications and recurrence.

METHODOLOGY

This study was conducted at Department of Surgery Unit-II of Liaquat University Hospital Jamshoro/Hyderabad Pakistan from January 2007 to June 2009. A total of 145 patients of chronic anal fissure with pain and bleeding not responding to conservative treatment for at least six weeks were included. The mean age of patients was 36 year, ranging from 22 year to 58 years. In all patients location of fissures was posterior midline. Patients with co morbid diseases, multiple fissures, and local pathology such as carcinoma and haemorrhoids were excluded from study.

All patients had classical symptoms of chronic anal fissure, unresponsive to medical treatment for at least six weeks. All patients had skin tag or sentinel pile. All patients were operated on elective list under spinal or general anaesthesia in lithotomy position. Irrespective of the method of surgery, prior to and after the operation we made a questionnaire for patients, including specifications of the patients, pre and post operative symptoms and post operative complications. Stool bulking agent was started to all patients 48 hours before surgery and all patients were kept on liquid diet 24 hours before surgery.

Out of 145 patients 67(36 male 31 female) patients underwent fissurectomy and 78(44 male 34 female) underwent lateral internal sphincterotomy. In 'F' group, the excision of fissure with margin of healthy mucosa down to the level of internal sphincter carried out. In LIS group the internal anal sphincter was partially divided, away laterally from fissure mostly on left by making a small radial incision in the inter sphincteric groove, and dividing the internal sphincter under direct vision up to the height of fissure. Gauze lubricated with poly fax ointment and lignocain ointment was

placed and pad was applied, which was removed 24 hours after surgery or when patient desires to pass stool. Most of the patients were discharged with in 48 hours after surgery and advised warm sitz bath, analgesics, and stool bulking agent for two to three weeks. Median follow up of 12 month (8-16 month) was advised. During follow up the rest of questionnaire concerning post operative complications, persistence of symptoms, and recurrence was filled out.

RESULTS

One hundred forty five patients with chronic anal fissure were studied. Eighty patients were male, and 65 were female with male to female ratio 1.23:1. The mean age was 36 year, ranging from 22 years to 58 years. In 67 patients (36 male, 31 female) anal fissurectomy (F), 26 patients (8 male, 18 female) under went general anaesthesia, and 41(28 male, 13 female) under spinal anaesthesia. In 78 patients lateral internal sphincterectomy was done, 28 patients (9 male, 19 female) had general anaesthesia, and 50 patients (35 male, 15 female) had spinal anaesthesia. Mean hospital stay was 3 days, ranging from 1 to 6 days.

All patients of both group ('F' and 'LIS') got rid of symptoms (pain and bleeding), within 10 days of operation. Urinary retention was noted in three patients, 2(2.98%) in 'F' and 1(1.28%) in LIS, which was transient and improved after warm sitz bath, all were male and age was > 40 year. Faecal soiling was seen in 1(1.49%) patient of 'F' group, it was temporary and last up to 8 weeks. Incontinence to flatus occur in 3(2.06%) patients, 2(2.98%) in 'F' and 1(1.285) patient in 'LIS' group. All these three patients recovered from this complication within three month of surgery, by conservative measures. There were 3(4.41%) patients with anal fissure recurrence, with in 8 month in 'F' group, but none in 'LIS' group, in two patients fissure was healed conservatively within six weeks, and other one

Table-I: Postoperative complications.

Complications	Operation		
	'F' n=67	'LIS' n=78	P-Value
Persistence of symptoms	-	-	
Urinary retention	2(2.98%)	1(1.28%)	0.04
Faecal incontinence	1(1.49%)	-	
Flatus incontinence	2(2.98%)	1(1.28%)	0.04
Infection (wound)	-	-	
Fissure recurrence	3(4.41%)	-	

lateral internal sphincterotomy was done, after that fissure was healed.

In either group no patient suffered from anal stenosis or perianal infections. 63(92.64%) patients in 'F', and 77(98.71%) patient in 'LIS' group were satisfied with their operation. All wounds were healed, within 6 weeks.

DISCUSSION

Anal fissure is a small tear in anoderm extending from anal verge to dentate line. At present exact etiology is uncertain, anal mucosal ischemia secondary to sphincter hypertonia may be one possible cause, it is accepted that is responsible for poor healing and recurrence of anal fissure.⁹ Posterior anal canal is more prone to develop ischemia as compared to other area of anal canal.¹⁰ Fissure fails to heal when it occur in that area. Lateral internal sphincterotomy produces a long lasting fall of anal resting pressure¹¹, that restore mucosal perfusion resulting in healing, but actual initiative mechanism is unknown, and the mechanism that transit from acute to chronic fissure remain obscure. Repeated passage of large (diameter) and hard faecal bolus may cause defect in the anal lining that heal poorly.

Main aspect of our study is that, it deals with a single procedure without any combination with other modalities, like botulinum toxin injection, topical nitrate, calcium channel blocker. There are various techniques for internal sphincterotomy, ranging from total sphincterotomy¹², to sphincterotomy limited to dentate line, and a tailored approach, where the length of sphincterotomy is limited to the length of fissure.^{13,14} We have adopted a tailored technique in this study.

Like this, in other studies, fissurectomy had been used as separate technique in the treatment of chronic anal fissure with favourable result.⁶ Mousavi et al, also compared the results of fissurectomy to lateral internal sphincterectomy and they reported, faecal soiling in 2(6.2%), and fissure recurrence in 1(3.1%) patient of fissurectomy group, While no recurrence of fissure and faecal soiling occur in lateral internal sphincterotomy group.¹⁵ In other studies fissurectomy has been combined with posterior midline sphincterotomy.^{16,17} The main disadvantage of fissurectomy with posterior midline sphincterotomy is 'keyhole' deformity, which may lead to faecal soiling. While after only fissurectomy this complication does not occur like this and Mousavi et al study.¹⁵

Daniel O, and colleagues in their study of different medical and surgical options of treatment of chronic anal fissure, found that Internal anal sphincterotomy is an effective operation with a high rate of resolution of symptoms, but at the price of an increased risk of temporary or permanent incontinence.¹⁸ E. Granero and colleagues in their study of "Ideal lateral internal sphincterotomy" demonstrate 100% cure rate when a complete lateral internal sphincterotomy is performed. With increase in height of sphincterotomy, the cure rate increases together with the incidence and severity of incontinence.¹⁹ Incontinence after lateral internal sphincterotomy has also been found to be directly related to the length of sphincterotomy.²⁰

In our study faecal soiling and incontinence to flatus, occurred in few patients, while Mousavi et al reported no incidence in their series.¹⁵ Garcia et al reported incontinence to flatus and faeces varying from 16.1 to 26.7% in patients undergoing lateral sphincterotomy.⁷ Some other series reported post sphincterotomy incontinence rate variedly between 0% and 35%^{8,18}, faecal or flatus incontinence seem to be related to the length of internal anal sphincterotomy.

CONCLUSION

Because of lower rate of embracing complication, especially incontinence to faeces and flatus, recurrence of fissure, and the greater satisfaction of patients, lateral internal sphincterotomy is simple and best treatment for chronic anal fissure resistant to medical treatment.

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