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Research Article

A COMPARATIVE STUDY OF LATERAL INTERNAL SPHINCTEROTOMY VERSUS FISSURECTOMY IN THE TREATMENT OF CHRONIC ANAL FISSURE

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ABSTRACT:
Background: An anal fissure is linear tear extending from mucocutaneous junction to the dentate line which is a very common problem in general population. Anal fissures are either acute or chronic. Chronic fissures not responding to conservative treatment typically require surgical treatment. The surgical options include lateral internal sphincterotomy (LIS) and fissurectomy. The aim of the study is to compare lateral internal sphincterotomy and fissurectomy in terms of postoperative pain relief, healing of fissure, and postoperative complications. **Methods:** A randomized control trial was conducted in Department of surgery, Dr D Y Patil Medical College, Kolhapur from March 2022 to February 2024 on 100 patients operated for chronic fissures who were not responding to conservative treatment. Out of 100 patients 50 were included in LIS group and 50 were included in fissurectomy group.Postoperative outcome was compared in terms of pain relief, fissure healing, patient satisfaction and postoperative complications like incontinence. **Results:** In this study healing of fissure was seen in 98% patients in LIS group while healing was 94% in fissurectomy group. Postoperative flatus incontinence was seen in 2% in LIS group as compared to 6% in fissurectomy group. Overall patient satisfaction was 98% in LIS group and 88%in fissurectomy group. **Conclusion:** LIS is simplest and most effective in treatment of chronic anal fissure due to overall higher patient satisfaction, lower incidence of complications and better healing rates.
Key words: Anal fissure, Lateral internal sphincterotomy (LIS), Fissurectomy, Postoperative flatus incontinence.

INTRODUCTION

Fissure is painful slit in epithelium extending from mucocutaneous junction to dentate line.[1] Acute fissure occur with sudden onset and usually heal within two weeks whereas anal fissure that fail to heal within eight weeks are chronic fissure.[2] The etiology of fissure is unclear. Acute anal fissures are due to constipation with hard stools and diarrhoea. The

relative ischaemia due to less blood flow in posterior midline with internal sphincter spasm may be reason for posterior midline fissure.[3] Primary fissures are commonly seen in posterior midline (90%) and about 10% in anterior midline. Anterior fissures are more commonly seen in females.[4] Fissure is seen more commonly in about 18% of patients with anorectal symptoms.[5] Fissure can be managed conservatively and surgically. Initially conservative treatment in form of lifestyle modifications, laxatives, topical GTN or diltiazem, botulinum injection in sphincter is given in acute and chronic fissures.[6] Surgical options include LIS, Fissurectomy, Advancement flaps for chronic anal fissures. Boyer first described the treatment of anal fissures by sphincterotomy in1818[7]. Patients with resistant chronic anal fissures respond well to fissurectomy[8]. Therefore this study was conducted to compare postoperative pain relief, healing of fissure, patient satisfaction level, and postoperative complications following LIS and fissurectomy. The aim of this study is to provide evidence of which surgical procedure is better in treatment of chronic anal fissures.

METHODS

The randomized control trial was conducted for two years from March 2022 to Feb 2024 in Dept of Surgery Dr D Y Patil Medical college, Kolhapur after approval from Ethical committee and research department. A study of 100 patients was conducted. The patients were operated for chronic anal fissures not responding to conservative treatment. The patients were randomly divided into two groups, Group A operated with LIS and Group B operated with Fissurectomy. Patients of both genders with age groups from 20 to 60 years with chronic anal fissures not responding to conservative treatment were included in this study. Patients with hemorrhoids, rectal cancer, previous faecal incontinence, bleeding disorders were excluded. Also patients with multiple fissures, secondary fissure due to other diseases like chron's, Tuberculosis, HIV were excluded in this study. Written informed cosent was taken from all patients. Both types of procedures were done under regional anaesthesia.

In Group A (LIS group)- LIS was done with open technique. In this intersphincteric groove was palpated between thumb and index finger. A lateral incision through anoderm was taken across intersphincteric groove at 4 o'clock position. The internal sphincter fibres were identified. The internal anal sphincter was divided upto the dentate line with electocautery. The anoderm was not sutured, kept open to heal by secondary intention.

In Group B (Fissurectomy group)-The fissure was excised using a scalpel or scissors. The scarred superficial skin around the fissure was excised. The wound was not sutured and allowed to heal by secondary intention.

All patients were discharged one day after surgery. They were advised oral antibiotics for 5days and analgesics as per need. All patients were advised warm seitz bath, laxatives for 3 weeks. The follow up of patients was done at 1 week postop, 4 week postop and after 6 months. At follow up pain relief, healing, overall patient satisfaction level, and continence were analysed. Postop pain relief was analysed by using Visual Analogue Scale(VAS).Postop overall patient satisfaction was determined using simple numerical scale from 0 (not satisfied) to 10 (completely satisfied). Postop continence was determined in terms of flatus or faecal incontinence on history and per rectal examination.

RESULTS

The age group in this study was 20 to 60 years with mean age of 35.50 +/- 5.8 years in LIS group and 34.9+/- 5.6 years in Fissurectomy group.

Male gender was dominant in both groups with 64% in LIS group while 60% in Fissurectomy group. While females were 36%in LIS group and 40% in Fissurectomy group [Table 1]. Postoperative flatus incontinence was reported by history in 1 patient (2%) in LIS group

while no incontinence in 49 patients (98%) in LIS group. While in Fissurectomy group 3 patients (6%) reported flatus incontinence and 47 patients (94%) had no incontinence[Table 2] P Value-0.61. No patient in either group had faecal incontinence.

Overall patient satisfaction was 98% in LIS group while 88% in fissurectomy group [Table 3] P Value-0.12.

Post-operative pain was seen in 1 patient (2%) in LIS group while 49 patients (98%) had no pain at end of 4 week follow up in LIS group. While in Fissurectomy group 3 patients (6%) had pain and 47 patients (94%) had no pain at end of 4 week follow up [Table 4]. P Value-0.61.

Healing of fissure was seen in 48 patients (96%) in LIS group.While healing was in 44 patients (88%) at end of 4 week followup [Table 4] P Value-0.27.

Table 1: Percentage of gender in both groups

Gender	LIS n=50	Fissurectomy n=50
Males	32(64%)	30(60%)
Females	18(36%)	20(40%)
Total	50(100%)	50(100%)

Table 2: Comparison of postop flatus incontinence.

	LIS group n=50	Fissurectomy group n=50	P Value
Present flatus incontinence	1 (2%)	3 (6 %)	0.61
No flatus incontinence	49 (98 %)	47 (94 %)	

Table 3: Comparison of satisfactory outcome

Satisfactory outcome	LIS group n=50	Fissurectomy group n=50	P value
Yes	49 (98%)	44 (88%)	0.12
No	1 (2%)	6 (12 %)	

Table 4: Comparison of outcome at end of six months

Outcome	LIS group n=50	Fissurectomy group n=50	P value
Pain			0.61
Yes	1 (2 %)	3 (6 %)	
No	49 (98%)	47(94 %)	
Healing			0.27
Yes	48 (96 %)	44 (88 %)	
No	2 (4 %)	6 (12 %)	
Flatus incontinence			0.61
Yes	1 (2 %)	3(6 %)	
No	49 (98%)	47 (94 %)	

DISCUSSION

Anal fissure is a painful split in epithelium extending from the mucocutaneous junction to the dentate line. Anal fissure may be acute or chronic. Majority of fissures are posterior midline. Anterior anal fissures affect women more than men.[9]. The surgical options for chronic fissure are LIS and Fissurectomy. In our study none of patients in either group had postoperative bleeding after 1 week followup and patients in both age groups had significant pain relief.

Moosavi *et al.* [10] has similar results as in our study. In his study of 62 patients LIS was found better than fissurectomy.

Shukla *et al.* [11] studied that 26.7% of incontinence postoperatively in fissurectomy group whereas only 3.3% in LIS group.

A study done by Hoffman and Goliger showed that patients with LIS had occasional incontinence to flatus and faeces.[12]

Saeed *et al.* found transient postoperative incontinence for flatus in 6.97% and faecal incontinence in 4.65% patients after fissurectomy as compared to none in LIS group.[13]

Granero *et al.*, in study of 'Ideal lateral internal sphincterotomy' showed 100% cure rate when complete LIS was performed.[14]

CONCLUSION

In conclusion,LIS is a simple and effective surgical treatment for chronic anal fissures due to better pain relief,better healing rate, higher patient satisfaction, lowest risk of incontinence and lower incidence of complications.

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