



A comparative study of the results of the lateral internal anal sphincterotomy vs manual dilatation of anus for chronic anal fissure.

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ABSTRACT... Objectives: To compare the results of surgical treatment of chronic anal fissure after lateral internal sphincterotomy with manual dilatation of anus. **Study Design:** Randomized Controlled Prospective study. **Setting:** Department of Surgery District Teaching Hospital Sargodha, Pakistan. **Period:** April 2018 to Feb 2019. **Material & Methods:** Patients were divided into two groups by lottery method. The procedures were performed using standard protocols after obtaining written informed consent. 50 patients underwent lateral internal anal sphincterotomy (Group 1) and 50 patients manual dilatation of anus (Group 2). Patients having atypical anal fissures associated with other diseases were excluded from this study. We assessed both groups for persistence of symptoms, complications and better satisfaction in terms of surgical techniques. **Results:** All patients became symptoms free within 07-14 days of surgery. Urinary retention was noted in 2(4%) patients in lateral internal sphincterotomy and 2(4%) in manual dilatation of anus. Temporary flatus Incontinence was noted in 2(4%) patient of lateral internal sphincterotomy and 2(4%) in manual dilatation of anus. Faecal soiling was observed in 1(2%) patient of lateral internal sphincterotomy. No recurrence, anal stenosis, hemorrhage, infection of wound, pain and bleeding associated with defecation was seen in both groups. **Conclusion:** Both lateral internal sphincterotomy and manual dilatation of anus techniques are effective.

Key words: Anal Sphincter, Chronic Anal Fissure, Lateral Internal Anal Sphincterotomy, Manual Dilatation of Anus.

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INTRODUCTION

The anal fissure is a longitudinal bust in the mucosa of the distal anal canal which extends from the anal verge proximally but not extending up to the dentate line. Acute anal fissures have short history less than 6 weeks and is characterized by drastic anal pain associated with defecation. Chronic fissures are characterized by a longer history usually more than 6 weeks. Chronic anal fissure have hypertrophied anal papilla internally and a sentinel tag externally between which lies the slightly indurated anal ulcer overlying the fibers of the internal sphincter.

The exact cause of anal fissures is not known. Anal fissures usually appear with local trauma caused by strenuous defecation due to hard stools. Internal sphincter hypertonia caused by continuing of these conditions. 40% with acute

anal fissure will convert to chronic one.^{1,2} It has been observed that constipation is the primary and sole cause of commence of a fissure. Transit of hard stool, irregularity of diet, use of spicy and pungent food, flawed bowel habits and deficiency of local hygiene can contribute for initiation of the pathology. In females the ailment is usually triggered during pregnancy and following childbirth.³ Manifestations from anal fissure causes considerable morbidity and reduction in quality of life in otherwise healthy individuals.

When chronic, patients may also complain of itching secondary to irritation from the sentinel tag or discharge from the ulcer. In 80% of patients classic anal fissure occur in posterior midline and remaining 20% in anterior midline.⁴ Atypical anal fissure or ectopic locations suggest a more sinister

cause (Tuberculosis, cancer, Crohn’s disease sexually transmitted, human immunodeficiency virus (HIV)-related ulcers syphilis, Chlamydia, chancroid, venereum, HSV, cytomegalovirus, Kaposi’s sarcoma, B-cell lymphoma and squamous cell carcinoma. Mostly anal fissures are clinically diagnosed and there are several ways to treat them medically and surgically.^{5,6,7}

Healing of chronic fissure by conservative treatment occurs in about 50% of the patients. Surgical treatment is associated with the highest likelihood of prompt healing and low risk for recurrence. First internal sphincterotomy was initiated in 1951 by Eisenhammer who endorsed total division of internal anal sphincter. He amended this technique in 1959 narrating lesser division to dentate line. Which is safe and adequate.

Manual dilatation of anus is usually done to relax internal sphincter and to relieve symptoms of chronic anal fissure. Historically, under regional or general anaesthesia manual anal sphincter dilatation is done to reduce sphincter tone. Previously it was very a popular procedure in the treatment of chronic anal fissure.⁸ The purpose of this study was to compare the results of total lateral internal anal sphincterotomy and manual dilatation of anus in terms of symptoms and postoperative complications

MATERIAL & METHODS

This randomized controlled prospective Cohort study. The sample size of this study was calculated using a sample size calculator $N = \frac{Z^2 \sigma(1-\sigma)}{E^2}$ Based on $\alpha = 0.05$ with $\sigma = 0.2$, power of test $p = 0.9$ to detect a significant. It was conducted at Department of Surgery District Teaching Hospital Sargodha, Pakistan from April 2018 to Feb 2019. Approval for this study was taken from Research desk of Sargodha medical college and DHQ Hospital administration. 100 patients of chronic anal fissure with pain and bleeding in whom conservative treatment failed were selected by lottery method. Atypical fissures due to chronic causes like T.B, inflammatory bowel diseases, malignancy etc were excluded from study. The

mean age of patients was 35 year ranging from 20 to 58 years. 90 patients location of fissures was posterior midline and in 10 it was located in anterior midline. Table-I

All patients had symptoms of chronic anal fissure for at least six weeks duration with sentinel pile or skin tag. Operations were performed on elective list under spinal or general anesthesia in lithotomy position after taking informed consent. 100 patients divided into two groups with Group A, 50 (36 male 14 female) patients underwent lateral internal sphincterotomy and Group B 50 (40 male 10 female) underwent manual dilatation of anus. In lateral internal sphincterotomy the internal anal sphincter was divided up to dentate line and in manual dilatation of anus the sphincter was dilated with gradual four finger technique to relax it. In LIAS technique we made the radial incision in inter-sphincter groove at 3 o’ clock position. Gauze lubricated with mycetracin cream was placed and pad was applied which was removed on next morning after surgery. Most of the patients were discharged within 24 hours after surgery and were advised warm sitz baths, stool softeners agent for two weeks. Median follow up of 3 months was advised. During follow up the post-operative complications, persistence or relief of symptoms were recorded. Data was analyzed by using independent T test.

RESULTS

Among 100 patients with chronic anal fissure which were studied, 76 were male and 24 were female with male to female ratio 3.1:1. The mean age was 35 year ranging from 20 years to 58 years. In 50 patients (36 male, 14 female) lateral internal anal sphincterotomy and in other 50.

	Anterior Midline	Posterior Midline	Total
Group A	6	44	50
Group B	4	46	50

Table-I. Anatomical site of anal fissure.

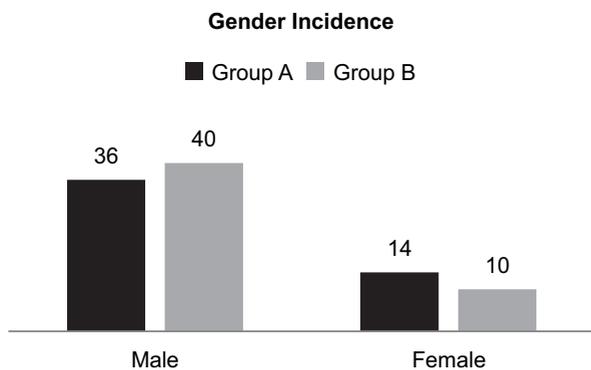


Table-II. Gender incidence.

Complications	Technique/ Operation		
	*LIAS ¹ n=50 (Group 1)	**MAD ² n =50 (Group 2)	p- Value
Haemorrhage	-	-	-
Urinary retention	2(4%)	2(4%)	0.5
Perianal abscess	-	-	-
Perinal fistula	-	-	-
Pain and bright-red bleeding on defaecation	-	1(2%)	0.15625
Flatus incontinence	2(4%)	2(4%)	0.5
Infection of wound	-	-	-
Faecal incontinence / soiling	1(2%)	-	0.15625
Fissure recurrence	-	-	-
Anal stenosis	-	-	-

Table-III. Postoperative complications.

* LIAS¹ (lateral internal anal sphincterotomy)
 ** MAD² (manual anal dilatation)

Patients manual dilatation of anus was done, (40 male, 10 female) table-II. Mean hospital stay was 17 hours ranging from 12 to 24 hours. All patients of both groups became Symptoms free within one week of operation. Urinary retention was noted in four 4% patients 2 (4%) in LIAS and 2(4%) in manual dilatation of anus which was transient and managed with conservative

measures all were male and age was > 55 years. Temporary flatus Incontinence was noted in 2(4%) patient of lateral internal sphincterotomy and 2(4%) in manual dilatation of anus. Faecal soiling was observed in 1(2%) patient of lateral internal anal sphincterotomy. All with temporary incontinence of flatus and faeces were female and had delivered children in near past and these patients recovered from this within one month of surgery with conservative measures. one patient suffered from bright red bleeding in manual dilatation of anus group. No patient suffered from recurrence, anal stenosis, wound infection and pain associated with defecation. 48 (96%) Patients in LIAS and 49% (98%) in manual dilatation of anus group were satisfied with their operation.

DISCUSSION

The effectiveness of both techniques in chronic anal fissure treatment mainly rely on the relief of symptoms and post-operative complications. This small ulcer usually disturbs the routine activities so main focus of clinician should be to make patient symptom free. Both these procedures are very much effective in this regard.

Although all age groups and both gender are effected Kumar reported that the mean age of patient were 49.5 years⁹ while Ebinger and other reported that it effects all age groups especially youngers.^{10,11} Our study included both age groups with more male than females and the mean age was 35 years which is also younger group.

The main aim of the study was to use best technique for the treatment of chronic anal fissure. We have adopted both techniques in this study with favorable results that is approximately 98- 100% cure rate regarding symptoms relief complications.

Aftab et al said that In addition to pain, chronic anal fissure influences psychological, social and physical well-being of the effected individuals. Lateral internal sphincterotomy not only eliminates anal pain but it also restores many aspect of quality of life.¹²

Zubair et al described that a variety of surgical procedures have been employed to treat chronic anal fissure however the best results have been reported with subcutaneous lateral internal sphincterotomy (SLIS) with a success rate of 90–95% which are comparable with our results.¹³ Beside LIAS various other surgical procedures employed for managing chronic anal fissures which include manual anal stretch, controlled intermittent anal dilatation and fissurectomy. The manual anal stretch had been also common practice in the past. The major drawbacks of these surgical procedures have been the higher rates of fissure persistence and greater risk of incontinence.

Lateral internal sphincterotomy is an effective techniques but with a risk of temporary or permanent incontinence to flatus and feces. Popat reported flatus in continence in 2% population which is comparable with our study.¹¹ Temporary incontinence to flatus occurred in 4 patients 2(4%) in lateral internal anal sphincterotomy and 2(4%) in manual dilatation of anus.

Hareesh et al in a comparative study described that in Manual anal dilatation 3(10%) patients were experienced nocturnal soiling whereas in lateral anal sphincterotomy only 1 (3.3%) patients had this complication. Sanni Yasin et al concluded 9% incontinence rate in both open and closed method. We find fecal incontinence in 1 (2%) from LIAS which was female probably with weaker and shorter sphincter complex. one study showed favorable results in manual dilatation of anus as in our study¹⁴ but vaithiancithan reported one patients with this complications.¹⁵ In our study we did not faced fecal incontinence in manual dilatation of anus.

Closure of wound results in wound infection and abscess formation especially in closed methods of lateral internal sphincterotomy¹⁶ but we did not found such complications.

Recurrence rate is 4-6% in difference studies.^{17,18,19} But we did not received any patients with such complications it may be due to poor follow up.

Four patients were having transit urinary retention 2 in both procedures which may be due to spinal/saddle anaesthesia²⁰ mostly improved after warm sitz bath. Our results are compatible with international studies. We can't operate all patients without informed consent and the type of procedure selected for their treatment.

CONCLUSION

Because of approximately 95-98% cure rate with lower rate of complications in both techniques and the greater satisfaction of the patient's. Both lateral internal anal sphincterotomy and manual dilatation of anus are the best treatment for chronic anal fissure.

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2	Khalid Mahmood	Data collection, review of material.	
3	Nazim Hayat	References collection, writing, editing, and submission of article.	
4	Ahmad Hassan Khan	Data collection, review of materials.	
5	Asad Rizwan Rana	Data collection, review of materials.	
6	Raza Farooq	Data collection, review of materials.	