

Outcome of lateral internal anal sphincterotomy for the management of chronic anal fissure

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Abstract

Objective: The objective of this study was to evaluate the outcome of lateral internal anal sphincterotomy for anal fissure in terms of symptomatic improvement, rate of recurrence and rate of complication especially fecal incontinence in different patients after surgery.

Materials and methods: This prospective study was conducted in surgical unit of Saidu teaching hospital Saidu Sharif Swat from 1st January 2008 to 31st March 2009. Fifty consecutive patients with age range of 20 to 60 years were selected who presented with chronic anal fissure. Among these 50 patients 38(76%) were male and 12(24%) were female. Posterior anal fissure was observed in 48(96%) of the patients, while 2(4%) patient presented with anterior anal fissure. All the patients were admitted in the ward and treated by lateral internal anal sphincterotomy (LIAS).

Results: All the 50 patients underwent LIAS under general anaesthesia. Among these 50 patients 48(96%) were totally symptom free during the follow-up period and were satisfied with the results of the surgery. 2 (4%) were still complaining of mild to moderate pain. They were not willing for further operation.

Conclusion: From our study we concluded that lateral internal anal sphincterotomy is a simple and very effective procedure with a very low complication rate and low morbidity.

Keywords: Anal Fissure, Lateral Sphincterotomy.

Introduction:

Anal fissure is a deep tear through the skin of the anal margin extending in to the anal canal. Anal fissure was first recognized as a clinical entity in 1934¹. It is an elongated ulcer in the long axis of the lower anal canal². Fissure usually occurs in the posterior midline (90%) and the second most common location is on the anterior midline³. It equally affect both sexes and commonly the young and otherwise healthy individual. Symptoms include tearing pain with defecation and blood usually on the toilet paper⁴. Mucus discharge may increase and perineal moisture cause itching. Although the exact etiology is not known, anal fissure is believed to be caused by a hard large fecal mass which overstretch the anal epithelium. Recent studies show that interaction of the immune component with endothelium produce ischemia and hypertonia in anal

fissure, as antiendothelial cells antibodies have been detected in patients with anal fissure and haemorrhoids⁵.

Ninety percent of the anal fissures heal with medical treatment that include fibers in diet, stool softeners and sitz bath⁶. Topical nitroglycerine ointment is effective in up to 50% of the patients with chronic anal fissure⁷. Botulinum neurotoxin is more efficacious than nitrate application and does not require patient's compliance to complete the treatment⁸.

Operative treatment includes anal dilatation, lateral anal sphincterotomy, dorsal fissurectomy and sphincterotomy. Lateral internal anal sphincterotomy is effective in 98% of patients with a very low complication rate⁹. Anal fissure has been traditionally treated by anal dilatation

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and it is still practiced by many surgeons.

From literature review it is clear that anal dilatation is associated with a high incidence of recurrence and fecal incontinence than lateral internal sphincterotomy. The aim of our study is to evaluate the outcome of lateral internal anal sphincterotomy in patients with chronic anal fissure in terms of recurrence rate and fecal incontinence.

Materials and methods:

This study was conducted in surgical unit of Saidu teaching hospital Swat. The duration of study was fifteen months i.e from 1st January 2008 to 31st March 2009. Fifty patients were selected from those patients who came to surgical OPD to seek treatment for chronic anal fissure. The age range was from 20 years to 60 years after excluding acute anal fissure and other disease like tuberculosis etc by clinical history, examination and specific investigations when required they were offered lateral internal anal sphincterotomy for their condition and willing patients were admitted to surgical unit. All the patients having chronic anal fissure who were fit and willing for lateral internal sphincterotomy were selected for the study. Patients with acute anal fissure and fissure secondary to some underlying disease like crohn s disease and those who were treated by other procedure by choice were excluded from the study. After admitting patients in the ward detailed history was taken from the patients. A specially designed proforma was filled for each one of these patients which included name,age,sex,address, ,presenting complains, local examination (DRE/proctoscopy)findings, clinical diagnosis , procedure performed, and symptoms during the next 3 month after surgery.

The last part of the proforma left empty at the time of discharge and filled after 3 months during their follow up. In all the 50 patients closed subcutaneous LIAS was performed, after giving general anesthesia the patient was put in lithotomy position and a bivalve speculum was inserted into the anal canal. We removed any sentinel skin tag. Now the operating proctoscope

was rotated to demonstrate left lateral or right lateral position depending upon the surgeons wish. The lower border of the internal sphincter muscle was palpated, now the blade was inserted into the inter-sphincteric groove up to the level of or just above the pectinate line. The tip of the blade was now rotated medially at right angle. By mean of delicate stroke of the blade, the lower one third or one half of the internal sphincter was divided, taking care not to penetrate the anal mucosa as a precaution a few of the inner most fibers of the muscle were left undivided and after the knife had been withdrawn, they were ruptured by firm lateral pressure with the finger. The pressure was maintained for a few minutes. Then the bivalve speculum was removed and the finger was replaced by a small pad of sterile gauze which was kept in place by a firm T- bandage.

Results:

This study was conducted in Saidu teaching hospital Saidu sharif Swat from January 2008 to 31st March 2009. A total of fifty patients with chronic anal fissure were included in this study. All the patients were followed for three months.

The age was from 20-60 years. The maximum incidence of anal fissure noted was between 31 to 40 years (46%) followed by the age range between 21 to 30 years (34%). Among these 50 patients, 38(76%) were males and 12(24%) were females.(Table No 1) Posterior anal fissure was found in 48(96%) while anterior anal fissure was observed in only 2(4%) of the patients. Among these 50 patients no fissure was found in the other sites. The common presenting feature was severe pain in the anal region provoked by

Table 1: Age and sex distribution of the patients selected for LIAS

	No. of patients	Percentage
Age (Years)		
21-30	17	34
31-40	23	46
41-50	7	14
51-60	3	6
Sex		
Male	38	76
Female	12	24

defection and lasted for few hours afterwards. It was observed in all the 50(100%) patients. The second common finding was that of constipation noted in 41(82%) followed by bleeding per rectum in 33(66%) of them. 9(18%) out of 50 patients presented with symptoms in less than two weeks time. While 6(12%) patients presented in 2 to 4 weeks time. The remaining 35(70%) presented with history of anal fissure for more than 4 weeks.

The most consistent clinical sign noted in all the 50 patients was spasm of the internal anal sphincter. However with careful examination we were able to see the lower margin of the fissure in 43(86%) of the patients. Anal tag was noted in 39(78%) of the patients (Table No 2).

Among these 50 patients 48(96%) were totally symptom free during the follow-up period and were satisfied with the results of the surgery. 2(4%) were still complaining of pain although it had decreased in severity. They were not willing for further operation (Table No 3).

18 patients were discharged on the first post operative day while thirty were discharged on second post operative day after passing painless bowel motion. Only two patients stayed till the third day mainly because they were afraid of going home after the surgery.

Out of 50 patients only 6 patients were having minor post operative complications. Minor bleeding and haematoma formation was present in 13(26%) of the patients, mild soiling was present in 4 (8%) of the patients while only two were complaining of incontinence to flatus. Out of these 6 patients two improved with a passage of time while four were still complaining of mild soiling.

Discussion:

Anal fissure, a split in the skin of the distal anal canal, is a common problem that causes substantial morbidity in people who are otherwise healthy. Spasm of the anal sphincter has been noted in association with anal fissure¹⁰ and for many years treatment been focused on alleviat-

Table 2: Clinical sign present at the time of local examination

Sign	No. of patients	Percentage
Anal spasm	50	100
Fissure visible	43	86
Anal tag	39	78

Table 3: Results and complications of LIAS in anal fissure

	No. of patients	Percentage
Results		
Cured	48	96
Symptom remained or recurred	2	4
Complication		
Soiling (mild)	4	8
Incontinence for flatus	2	4

ing hypertonia of the sphincter. Since 1951 the commonest treatment for chronic anal fissure in the United States and Europe has been lateral internal anal sphincterotomy as described by Eisenhammer¹¹. LIAS is a simple and effective procedure that results in a healing rate of 90-95% of the cases⁴. Traditionally anal fissure was treated by anal dilation and is still practiced by some surgeons. Although in recent years a number of pharmacological sphincter relaxants have been introduced and have been claimed to show good results, lateral internal sphincterotomy is still the most reliable and simple method of relieving patients problem. There were 50 patients in our study who under went LIAS for anal fissure and followed up for 3 months. The age range of these 50 patients was from 20 to 60 years. Forty six percent of the patients were in 31 to 40 years of age group followed by 21 to 30 years age group with 34%. This finding of more common prevalence in younger age group is comparable with international studies⁶. In a study from Pakistan shafiq ullah et al¹² reported 32% in 20 to 30 years and 46% in 31 to 40 years age which is also very close to our observation. Mean age reported in different studies range from 30-45 years¹³⁻¹⁴. In our study 38 patients were male and 12 female with a male to female ratio of 3:1. Although anal fissure is known to have equal incidence in both sexes. In our study it was found with greater incidence in male. Probably it is because in our set

up (Pakistan and specially Khyber Pukhtune Khwa) female are very reluctant to seek treatment for anal problem. Shafiqullah¹² reported a 5:1 male to female ratio whereas Ajmal Farooq¹⁵ in Pakistan also reported 56% male and 44% female in his study. Among the 50 patients included in our study 48 had posterior midline fissure while only 2 were found to have anterior midline fissure. As anterior anal fissure is commonly found in female and our study included only 12 female, it is understandable to find a lower incidence of anterior anal fissure. Ajmal Farooq et al¹⁵. JCPSP 2003 reported anterior fissure in 17.85 and posterior fissure in 17.4% but their study included 44% female as compared to 24% in our study. Tariq saddique et al⁹ reported 12% anterior anal fissure and his study included 34% females. The patients suffering from anal fissure can present with pain, bleeding, constipation, discharge and pruritis ani. All the patients 100% included in our study complained of pain during and after defecation 82% had constipation and 66% with bleeding per rectum along with pain. Shafiq ullah et al¹² reported 88% with pain and 66% bleeding with or without pain. Haanel and Gordan¹⁴ reported 98.8% and 71.4% with pain and bleeding respectively. Our results are close to these results. 70% patients presented with a history of more than 4 weeks duration. It is because most patients with anal problem avoids to go to doctor and also because most patients seeks other treatment before coming to surgical OPD. The most consistent findings found in 100% of the cases were anal spasm while fissure itself was visible in 86% of the cases. In the selected fifty patients LIAS was performed and was followed for 3 Months. 48 (96%) were cured of their symptoms while in 2(4%) it failed to relieve the symptom completely, although the symptoms had decreased in severity and the patients were not willing for further operation.

Only four out of fifty patients complained of mild soiling, 2 of them improved with time while two are still complaining of the problem. Another 2(4%) have become incontinent to flatus. Minor bleeding was observed in 12(24%) of the patient and one patient developed haematoma. Hananel et al¹⁴ reported 98.6% success

rate with a recurrence rate of 1.4%, while Little John et al¹⁶ reported 99.7% healing rate with incontinence rate of 1.4% and recurrent rate of 1.4%. Nyam et al¹⁷ showed a success rate of 96 % but with higher recurrence rate of 8 percent and incontinence in 15%. All these results are very close to our results.

In other studies from Pakistan, Mohammad Saleem Arshad et al¹⁸ reported a 98% success rate with transient incontinence to flatus and soiling in 4% of the patients. In march 2003 Tariq sidique et al⁹ showed 98% healing rate in their study on fifty patients done under local anesthesia as a day case. Complication rate was only 8% and that also resolved with conservative treatment. Shafiqueullah et al¹² done a study to compare open and closed methods of LIAS and observed higher complication rate 30 percent in open method. As compared to 20% in closed method, the follow up period was 6 months they reported 92% success rate with open method and 88% with closed method. Naveed Ahmad et al¹⁹ conducted a study on 30 patients, in whom LIAS was performed in OPD under local anesthesia. Complications included soiling in 6.6 %, incontinence to flatus in 3.3%, and recurrence in 3.3%. All these results are very close to our results in terms of success rate and rate of complications.

Conclusion:

Anal fissure is a common, highly symptomatic disorder. Diagnosis is established by simple clinical examination and typical history. From our work we conclude that lateral internal anal sphincterotomy is a simple and very effective procedure with a very low complication rate and low morbidity

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