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# Outcomes of Lateral Internal Sphincterotomy for Chronic Anal Fissure

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## Abstract

**Background:** To assess outcomes of lateral internal sphincterotomy for chronic anal fissure. **Subjects and Methods:** Seventy- six adult patients age ranged 18- 70 years with anal fissures of either gender underwent lateral internal sphincterotomy for chronic anal fissure under general anesthesia and involved incision at the anoderm and division of a segment of the internal sphincter with electrocautery. Outcome of the treatment was evaluated. **Results:** There were 42 (55.2%) males and 34 (44.8%) females. Common complaint noticed in patients was pain during defecation in 78%, rectal bleeding in 44%, perianal discharge in 32, pruritis in 27 and constipation in 60%. Pain relief in 1st week was seen in 65%, in 2nd week in 72%, in 4th week in 89% and in 8th week in 95%. The difference was significant (P< 0.05). Common complications seen among patients was rectal bleeding in 3, recurrence in 2, incontinence in 1, perianal abscess in 3 and perianal hematoma in 2 patients. The difference was non- significant (P> 0.05). **Conclusion:** Lateral internal sphincterotomy for management of chronic anal fissure found to be effective with high healing and patient satisfaction rates and only few complications.

**Keywords:** Chronic anal fissures, Lateral internal sphincterotomy, patient satisfaction.

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## Introduction

Chronic anal fissures are often associated with high resting anal pressures at manometry, suggesting underlying hypertonia of the internal anal sphincter.[1,2] The exact cause of anal fissures is unknown but many factors appear likely, such as the passage of large, hard stools, which may be the initiating factor; inappropriate diet; previous anal surgery; childbirth and laxative abuse and in patients with hypothyroidism.[3] Secondary fissures may occur as a result of either an anatomic anal abnormality or inflammatory bowel disease, particularly Crohn's disease, previous anal surgery, especially Hemorrhoidectomy, fistula-in ano surgery may result in distortion of the anal canal with scarring and fixation of the anal skin. This decreased elasticity of the anal canal may then predispose to fissure formation. Some of the anterior fissures occurring in women result from childbirth.[4] Perineal trauma leads to scarring and abnormal tethering of the anal submucosa, thus rendering it more susceptible to fissure because of its loss of laxity and mobility. Individuals with a long-standing condition of loose stools, usually resulting from chronic laxative abuse, may develop an anal stenosis with scarring, again predisposing to fissure formation.[5]

Surgical intervention is required for the effective treatment of chronic anal fissures or for fissures that do not respond to medical therapy or botulinum toxin injections.[6] Surgical options include fissurectomy, advancement flaps, and Lateral internal sphincterotomy (LIS). Sphincterotomy had been proven to be the most effective modality of treating anal fissures, it provides symptomatic relief and has a greater cure rate with 0% to 3% recurrence rate.[7] Considering this, the present study assessed outcomes of lateral internal sphincterotomy for chronic anal fissure.

## Subjects and Methods

After considering the utility of the study and obtaining approval from ethical review committee of the institute, we selected seventy- six adult patients age ranged 18- 70 years with anal fissures of either gender.

Demographic data such as name, age, gender etc. was recorded. A thorough physical examination was carried out. All underwent lateral internal sphincterotomy for chronic anal fissure under general anesthesia and involved incision at the anoderm and division of a segment of the internal sphincter with electrocautery. The extent of the sphincter division was equal to the length of the fissure and, the anoderm was partially closed with interrupted absorbable suture. Outcome of the treatment was evaluated. The results were compiled and subjected for statistical analysis using Mann Whitney U test. P value less than 0.05 was set significant.

## Results

**Table I Patients distribution**

| Total- 76 | | |
|---|---|---|
| **Gender** | **Male** | **Female** |
| Number (%) | 42 (55.2%) | 34 (44.8%) |

There were 42 (55.2%) males and 34 (44.8%) females (Table I).

**Table II Assessment of complaints**

| Variables | Percentage | P value |
|---|---|---|
| Pain during defecation | 78% | 0.12 |
| Rectal bleeding | 44% | |
| Perianal discharge | 32% | |
| Pruritis | 27% | |
| Constipation | 60% | |

Common complaint noticed in patients was pain during defecation in 78%, rectal bleeding in 44%, perianal discharge in 32, pruritis in 27 and constipation in 60%. The difference was significant (P< 0.05) (Table II).

**Table III Assessment of pain relief after treatment**

| Period | Percentage | P value |
|---|---|---|
| 1st week | 65% | 0.05 |
| 2nd week | 72% | |
| 4th week | 89% | |
| 8th week | 95% | |

Pain relief in 1st week was seen in 65%, in 2nd week in 72%, in 4th week in 89% and in 8th week in 95%. The difference was significant (P< 0.05) (Table III).

**Table IV Assessment of post- operative complications**

| Complications | Percentage | P value |
|---|---|---|
| Rectal bleeding | 3 | 0.05 |
| Recurrence | 2 | |
| Incontinence | 1 | |
| Perianal abscess | 3 | |
| Perianal hematoma | 2 | |

Common complications seen among patients was rectal bleeding in 3, recurrence in 2, incontinence in 1, perianal abscess in 3 and perianal hematoma in 2 patients. The difference was non- significant (P> 0.05) (Table IV).

## Discussion

Anal fissure is a common problem that causes substantial morbidity in who are otherwise healthy.[8] Anal fissure is an elongated ulcer in the long axis of lower anal canal. The most frequent site for anal fissure is midline posteriorly followed by midline anteriorly. The disease is more common in men while it is uncommon in children and elderly.[9] It causes severe pain during defecation and rectal bleeding that stains the tissue or streaks the stools. Non-surgical treatment modalities are performed to reduce the pressure in the anal canal.[10,11] This includes topical Glyceryl Trinitrate (GTN), calcium channel blockers, with variable successful healing rate (68% to 80%).[12] Botulinum toxin injection has been used with comparable success rates but it remains an invasive procedure that carries the risk of infection, hematoma, pain and transient incontinence.[13,14] The present study assessed outcomes of lateral internal sphincterotomy for chronic anal fissure.

Our results revealed that there were 42 (55.2%) males and 34 (44.8%) females. Nessar et al[15] in their study lateral internal partial sphincterotomy was performed in 43 patients. The patients were questioned about their bowel habitus and any problem with anal control before the operation. Postoperatively, the patients were followed up by office visits and telephone calls at 1 week, 1 month, and 6 months. Data were collected prospectively. Forty of the patients (93 %) were pain free in 1 week after the operation. Further sphincter fibers were divided in three patients (7 %) because of the persistent pain. The most common complication was the sensation of burning (n = 9, 20.9 %) around the anus. Bleeding in three patients, itching around the anus in two patients, and incontinence to flatus in one patient were the other complications. None of the patients developed faecal incontinence in the follow-up period. Lateral internal partial sphincterotomy is a safe, effective, and reproducible technique for the management of chronic anal fissure pain.

We found that common complaint noticed in patients was pain during defecation in 78%, rectal bleeding in 44%,

perianal discharge in 32, pruritis in 27 and constipation in 60%. Pain relief in 1st week was seen in 65%, in 2nd week in 72%, in 4th week in 89% and in 8th week in 95%. Acar et al[16] aimed to evaluate the safe and adequate option of lateral internal sphincterotomy (LIS) in chronic anal fissure treatment. Of 417 patients included in the study, 228 (54.7%) were female and the mean age was 36.1 years (ranging from 17 to 73 years). Major complaints of patients; pain, bleeding, constipation, pruritus, perianal discharge. Recurrence occurred in 15 patients (3.6%) (12 males, three females) and eight patients (1.9%) developed incontinence (four with gas, four with soiling and seven females, one male). The complaints of all patients with gas incontinence and a patient with fluid incontinence regressed, whereas three patients had permanent fluid incontinence.

Our results showed that common complications seen among patients was rectal bleeding in 3, recurrence in 2, incontinence in 1, perianal abscess in 3 and perianal hematoma in 2 patients. Celik et al[17] evaluated charts of patients who have undergone the operation for chronic anal fissure. A total of 123 patients were separated into two groups as partial Lis+anoplasty (group-I, n:76) and only partial Lis (group-II, n:47) groups. Age, sex, follow up time, anal examination findings, pain, bleeding, constipation score, patient satisfaction score, VAS pain score during rest or stooling, and recurrence and continence rates of patients were recorded. 61 male (49,59%) and 62 female (50,41%) total 123 patients were included. The mean age of the patients was 42,87±11,69 years. The duration of the operation was 28.50±11.61 min. The hospital stay was 1,50±0,70 days. The mean follow-up time was 24±10 months. In group-II patients (15.22%), the recurrence was higher than group I. Similarly, bleeding (10.87%), pain (13.04%), and discomfort (15.22%) were higher in group-II compared to group-I. Bleeding, constipation score, VAS stooling and resting scores were higher in group-II, while the satisfaction score was found higher in group-I. There was no difference between the two groups in terms of incontinence rate.

## Conclusion

Lateral internal sphincterotomy for management of chronic anal fissure found to be effective with high healing and patient satisfaction rates and only few complications.

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