ORIGINAL ARTICLE

Lateral internal anal sphincterotomy, an experience at Khyber Teaching Hospital, Peshawar

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Abstract

Objective: To determine the outcome in terms of complications, symptoms abolition and long term recurrence.

Study design: Prospective observational study.

Setting and duration: Surgical D unit, Department of Surgery, Khyber Teaching Hospital, Peshawar from October 2012 to September 2013.

Methodology: In this study 201 consecutive patients who were subjected to lateral internal sphincterotomy for chronic anal fissure were included. This was a prospective study and patients were followed up postoperatively for six months to determine the outcome in terms of complications, symptoms abolition and long term recurrence.

Results: A total of 201 patients were included in the study. The overall mean age of patients was 35.37 ± 8.91 years. There were 121 (60.2%) female patients compared to 80 (39.8%) male patients. Clinical examination revealed the most common location to be posterior which was found in 118 (58.7%) patients. Considering the therapeutic outcomes, sufficient pain relief (measured on visual analogue scale) was achieved post operatively in 177 (88.1%) patients within 48-72 hours. The fissure was completely healed in 192 (95.5%) patients in 8-10 weeks postoperative follow up. The most common complication which occurred was bleeding which was observed in 15 (7.4%) patients. Incontinence was noticed in 6 (3%) patients. Recurrent fissure was observed in 5 (2.5%) patients.

Conclusion: Lateral internal anal sphincterotomy is a safe and effective treatment option in the management of chronic anal fissures.

Keywords: Anal fissure, lateral internal anal sphincterotomy, internal sphincter, recurrence

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Introduction:

Anal fissure is a common clinical condition which usually manifests as painful defecation and rectal bleeding. Constipation with passage of hard stool is often vowed off as the causative factor for anal fissures[1,2]. Anal fissure can be classified as acute and chronic and is characterized by a split in the skin of the anal canal distal to the dentate line[3]. It is a condition which is probably underreported with an equal incidence in both sexes[4].

Anal fissures are most commonly located in the posterior midline which approximates 90% of fissures with 10% being anterior in location. Around 1% fissures are atypical in location being multiple or away from midline which points to being secondary to other systemic disorders. Acute fissures are associated with a favorable outcome when treated conservatively for 4 to 6 weeks in contrast to chronic fissures with poor response to medical management[3].

Lateral internal sphincterotomy which involves division of the internal sphincter is considered as the gold standard treatment for chronic anal fissures as only 50% of these fissures respond to conservative medical measures[5]. Though highly effective in symptom abolition and ulcer cure there are some downsides to this modality such

as long term recurrence (10%), temporary anal incontinence (30%), anesthetic and post surgical complications[6].

In our setup lateral internal sphincterotomy is routinely carried for the treatment of chronic anal fissures. This study would help determine the outcome of lateral sphincterotomy for chronic fissures in terms of symptom abolition and ulcer healing which in a way would help the choice of therapy so far management of this chronic condition is concerned.

Methodology:

In this study 201 consecutive patients who were subjected to lateral internal sphincterotomy for chronic anal fissure were included. This was a prospective study and patients were followed up to six months to determine the outcome in terms of complications, symptoms abolition and long term recurrence. The study was carried out at surgical D unit, Khyber Teaching Hospital, Peshawar from October 2012 to September 2013. The study was approved from the Medical Ethics committee of the hospital.

All patients with symptoms of painful defecation or bleeding with defecation of more than six weeks and on clinical examination a visible skin break in distal anal canal associated with a sentinel tag, visible underlying scar tissue were labeled as having chronic anal fissure and were included in the study. Any patient with recurrent fissure, fissures due to any systemic or local disease, was excluded from the study. All the included patients were explained the risks and benefits of lateral internal sphincterotomy and a written informed consent was obtained.

The patients were admitted in surgical D unit through OPD and were evaluated with detailed history, physical examination and were subjected to examination under anesthesia (EUA) to confirm the diagnosis. All the patients underwent open lateral internal sphincterotomy (LIS) under general anesthesia by consultant surgeons. Postoperatively patients were given oral analgesics, antibiotics, stool softeners, bulk laxatives and pyodine sitz bath for 7 days. All the patients were assessed postoperatively for outcome of lateral internal sphincterotomy such as pain relief, constipation, bleeding, incontinence, wound infection and recurrent fissure.

The collected data was analyzed with Statistical Package for Social Sciences (SPSS version 16). Frequency and percentages were computed for categorical variables such as gender, site of fissure. Mean ± SD was calculated for numerical variables such as age.

Results:

A total of 201 patients justifying the selection criteria and who underwent open lateral internal sphincterotomy were included in the study. The overall mean age of patients was 35.37 ± 8.91 years. There were 121 (60.2%) female patients compared to 80 (39.8%) male patients with a male to female ratio of (1:1.5).

The patients had a mean duration of symptoms of 20.60 ± 2.43 months. Clinical examination revealed the most common location to be posterior which was found in 171 (85%) patients, as shown in Table 1. Considering the therapeutic outcomes, sufficient pain relief (measured on visual analogue scale) was achieved post operatively in 177 (88.1%) patients within 48-72 hours. The fissure was completely healed, determined on clinical examination, in 192 (95.5%) patients in 8-10 weeks postoperative follow up.

Variable complications occurred in 39 (19%) patients. The most common complication which occurred was bleeding which was observed in 15 (7.4%) patients. Minor surgical site infection occurred in 5 (2.4 %%) patients. Incontinence was noticed in 6 (3%) patients. Follow up of patients revealed recurrent fissures in 5 (2.5%) patients.

Discussion:

Internal anal sphincter spasm which causes high resting anal pressure (above 30 mmHg) and anal mucosal ischemia due to compression of passing vessels is considered the main causative factor in anal fissure[7,8]. The different varieties of treatment options that are there to treat anal fissure

Table 1: *Location/Position of chronic anal fissures*

Location	Number of patients (N)	Percentage (%)
Anterior	18	8.95
Posterior	171	85
Anteroposterior	6	2.98
Right Lateral	3	1.49
Left Lateral	1	0.49
Mixed	2	0.99

aim to curb this internal sphincter spasm which in turn improve anal mucosal blood supply leading to healing of mucosal cracks[9].

The mean age of patients in the present study was 35.37± 8.91 years. This is in consistence with the finding of other studies[10,11]. Others however failed to corroborate our results[12]. This study showed that there were 121 (60.2%) female patients compared to 80 (39.8%) male patients with a male to female ratio of (1:1.5). Syed SA et al, in a descriptive study, yielded similar results with 59% female patients and 41% male patients in their studied population having anal fissure[13]. Tayyab M and colleagues however, contrary to our findings, showed that anal fissure was more common in male patients compared to female patients with a male to female ratio of (2:1)[14]. This difference could possibly be explained by the smaller sample size in the said study.

The present study shows that majority of the patients lived with the agony of the problem for 20.60 ± 2.43 months. The findings of this study are endorsed by another study in which it was found out that up to 84% patients had duration of history of more than a year[15]. Such long duration before presentation can be explained by the socioeconomic conditions and readily available cheap treatment from quacks and hakims which benefit the patients only transiently. This delayed presentation also exhausts the option of conservative management of their disease.

The most common location of fissures in the present study was posterior which was documented in almost 171 (85%) patients. Variable figures are reported in the literature which is consistent with the findings of this study[14-16]. Syed SA et al, reported results which do not corroborate to the findings in the present study[13]. The water shed points in the anal canal are anterior and posterior midline in the female and posterior midline in the male population. These anatomically weak points, so far blood supply of anal mucosa is concerned, explains the fact that almost 90 % of primary anal fissures occur in the posterior midline in both the male and female population while up to 10% fissures occur anteriorly especially in females.

The great majority (88%) of patients were sufficiently relieved of pain after lateral internal anal sphincterotomy. Our findings are endorsed by others[15,17,18]. Surgical division of the internal sphincter to eliminate the sphincter spasm is vowed off by many as the gold standard treatment for chronic anal fissure which results in instant pain relief and better healing rates[19]. This fact is elaborated in our results.

Almost 95% patients had their fissures completely healed, confirmed on follow up, in our study. This finding in endorsed by others who yielded almost similar results to the findings of the present study[14,15,20]. In yet another study all the patients who underwent lateral internal sphincterotomy were completely cured of the disease21.

The various different complications that the patients developed were topped by bleeding in our study. Similar findings are reported in the surgical literature[15,21]. In a local prospective observational study 11 out of 45 (25%) patients presented with postoperative bleeding of various severity[14]. Majority of the patients in our study had minor bleeding which was controlled with pressure packing only. Only one patient required re exploration in the immediate postoperative period and suture ligation of a small bleeding vessel.

Incontinence was observed in 6 (3%) patients in this study. Memon MR et al, reported that only 2.57% patients developed transient flatus incontinence after lateral internal sphincterotomy in their studies population[21]. This is consistent

with the findings of the present study. Our findings are endorsed by yet another study which reported almost similar results[15]. The incontinence complained of by patients in the present study was only for flatus and resolved in variable time period in different patients but almost all of them had control over their flatus in two months postoperatively.

Conclusion:

Lateral internal anal sphincterotomy, as a treatment option for chronic anal fissures, has a low incidence of complications and good healing results. It can be safely utilized in the ultimate management of this very morbid painful condition.

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