ORIGINAL ARTICLE

Lateral internal sphincterotomy-still the gold standard treatment of chronic anal fissure

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Abstract:
Objective: To determine the efficacy of lateral internal sphincterotomy in treating chronic anal fissure refractory to pharmacological treatment (Chemical Sphincterotomy,) in terms of healing time, recurrence rate and complications.
Study design: This was a prospective descriptive study.
Setting and duration: Department of Surgery, Jinnah Medical College from January 2009 to June 2011.
Material & mathods: A total of 74 patients irrespective of age and sex were included with clinical diagnosis of chronic anal fissure after history and examination. All these patients after consent and routine workup were operated under spinal or general anaesthesia. Lateral internal sphincterotomy was done and patients followed in OPD far 6-8 weeks to establish the benefits of procedure.
Results: Fifty two male and twenty two female patients (M: F ratio 2.3:1) with history of pain during defecation, bleeding, discharge with or without sentinel tag were participated in the study. The mean age was 38, ranging from 18 to 56 years. In most of the patients fissure was located at 6 O'clock (male 96.15% & female 50%). Duration of symptoms was more in females because of social issues. LIS was performed on all patients. Patients were followed in OPD on 1st, 2nd, 4th & 6th weeks. Most of the patients (60.81%) achieved complete healing at 4 weeks. Ten males (19.23%) and five females (22.72%) reported anal incontinence which was transient and resolved within three weeks. All patients were free of recurrence at 4 months.
Conclusion: As long as the patient is willing to accept the risk of transient fecal incontinence, we can justify that gold standard therapy (LIS) as the first line treatment for chronic anal fissure.

Keywords: Lateral internal sphincterotomy, chronic anal fissure, fecal incontinence

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Introduction:

Anal fissure is a linear ulcer of the anoderm, distal to the dentate line, generally located in the posterior midline[1]. Superficial fissures look much like a paper cut and they usually self heal within a few weeks, but some anal fissure become deep and don't heal. Anal fissure are considered chronic if they have been present for more than 6 weeks and have keratinous edges, if there is a sentinel tag and a hypertrophied anal papillae and if the fibers of internal anal sphincter are visible[2,3]. Chronic anal fissure is a common benign anorectal condition that causes significant morbidity. Anal fissures are frequent in young adults of both sexes[4]. Fissures are predominantly located in the posterior midline in 80-90% of cases, but 25% of women and 10% of men have anterior fissures[5]. Multiple or other locations should raise the suspicion of inflammatory bowel disease, tuberculosis, leukemia or infection with HIV.

Anal fissures are extremely painful which occurs during and after defecation accompanied by the passage of bright red blood[6]. The pain may be less intense during defecation, but increases af-

ter that. Perianal eczema is often associated with chronic anal fissure. Symptoms from fissures cause considerable morbidity and reduction in quality of life in otherwise healthy young individuals.[7]

Anal fissure has been associated with increased anal tone. This increased intra anal pressure at rest might contribute to an ischemic state of the anal sphincter muscles. Indeed, the anodermal blood flow of the posterior midline has been shown to be reduced[8] .The paucity of blood flow prevents healing of anal fissure until the cycle of internal sphincter hypertonia and decreased blood flow is broken by pharmacological agents or surgery. Conventional pharmacological treatment involves use of topical GTN, calcium channel blockers, Botulinum toxin, alpha adrenoreceptor antagonists, beta adrenoreceptor agonists, and newer agent like gonyautoxin a paralytic neurotoxin derived from shelfish[9]. Conventional surgical therapy involves finger anal dilatation and lateral sphincterotomy.

The resting anal pressure is decreased by the lateral sphincterotomy which is the most common operation performed for chronic anal fissure[10]. This operation was described in 1951 and 1959. Among many treatment, it remains the first line of treatment [11].

This study aims to determine the healing rate of chronic anal fissure after lateral internal sphincterotomy, the median time of fissure healing and the recurrence rate.

Patients & methods:

This prospective descriptive study was conducted in the department of surgery at Jinnah Medical College Hospital Korangi, over a period of two and half year i.e. January 2009 to June 2011. The patients were followed up for a period of four months. A total of 74 consecutive patients with chronic anal fissure (defined as anal fissure, with more than 6 weeks symptoms duration), with failed medical treatment and long history were included in this study. Detailed history and clinical examination were performed in all patients. Anorectal examination revealed a sentinel tag and button hole crater of chronic ulcer. Patients with anal pain due to acute fissure thrombosed hemorrhoids, anorectal abscess, ca anal canal and history of previous anorectal surgery were excluded from the study.

All patients were operated under spinal or general anaethesia in lithotomy position. Park's anal retractor introduced to stretch anal canal and identify intersphincteric groove. A circumferential incision of 0.5cm made with No.11 blade at 3 o clock position. A plane created between anal mucosa and internal sphincter. Internal sphincter cut upto 1 cm either with scissors or diathermy. Sentinel tag also excised if present. Patients were discharged after removal of pack and sitz bath. They were followed for 4 month postoperatively for pain relief, healing of fissure, complications as well as recurrence of fissure.

Results:

A total of 74 patients with age ranging from 18-56 years (mean age 38 years) with diagnosis of chronic anal fissure were included in this study. All patients under gone lateral internal sphincterotomy (LIS) under spinal or general anaesthesia. Among 74 patients, 52 (70.27%) were male and 22 (29.72%) were female (male to female ratio 2.3:1). This ratio differs from a local study by Usman and Jahangir(12) where most of the patients were female. All patients gave the history of painful defecation (100%) but bleeding and discharge was present in 20 males (38.46%) and 10 females (45.45%). Duration of symptoms was 2 months to 1 year in male cases and 1½ months to 6 years in female patients. 29 (55.76%) male patients and 9 (40.90%) female patients were constipated on and off. Examination revealed ulcer crater in all 74 patients. In 50 male patients (96.15%) fissure was located in posterior midline and anterior in 2 patients (3.84%). Half of female patients had anterior fissure while remaining half had posterior fissure.

Sentinel tag was seen in 43 (82.69%) males and 18 (81.81%) females. 44 (84.61%) male patients and 17 (77.27%) female patients reported failed medical treatment. After surgery patients were advised follow up in OPD at 1st,

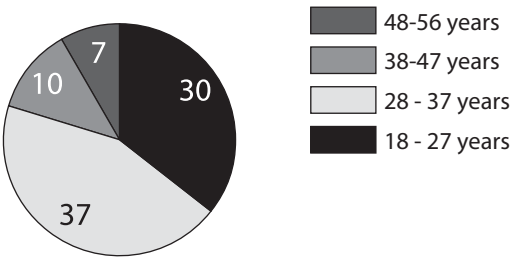

Figure 1: *Age wise distribution of patients*

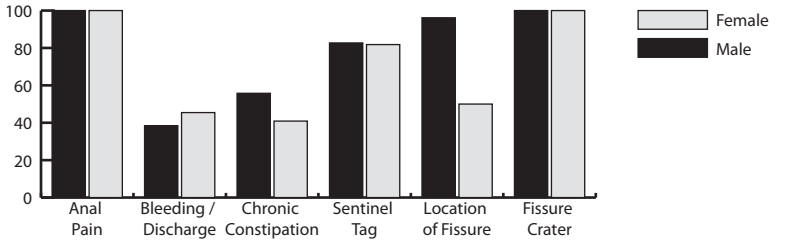

Figure 2: *Clinical features of chronic anal fissure*

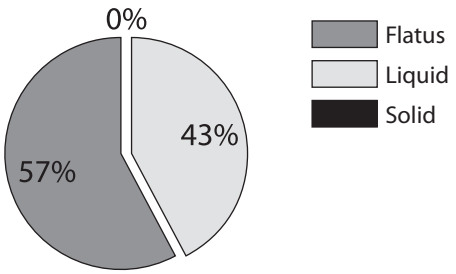

Figure 3: *Fecal incontience*

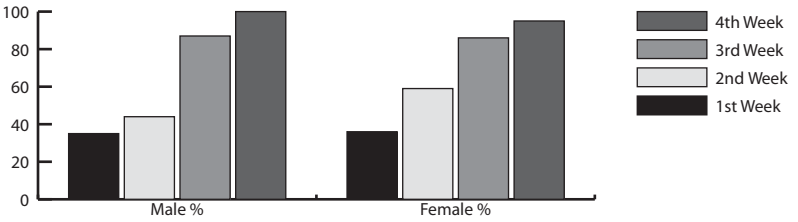

Figure 4: *Wound healing on follow up*

2nd, 4th and 6th week. Almost all patients got quick symptomatic relief of painful defecation and discharge after surgery.

Healing of fissure was also quicker in patients after Lateral internal sphincterotomy. Most of the patients achieved complete healing at 4 weeks (male 100% and female 95%). At 6th week all male patients were completely healed. In one female patient fissure was not healed at 6th week.

Incontinence of feces is the major complication after LIS. In this series of patients, the assessment of fecal incontinence was based on detailed history and examination findings.

Ten (19.23%) males and five (22.72%) females reported incontinence of liquid feces, while 13 males (25.0%) and 7 females (31.81%) observed incontinence for flatus. The incontinence was temporary in both sexes and lasts 2 and a half weeks. None of the patients reported for recurrence of symptoms at 4 month follow up.

Discussion:

Anal fissure is a longitudinal defect of the anal canal mucosa anal anoderm, extending usually from the dentate line to the anal verge, and was recognized as a clinical entity in 1934[13]. Although a minor problem, it may pose a tremendous challenge for management if not diagnosed and treated well in time. Acute fissures usually heal with conservative treatment. Fissures lasting longer than 6 weeks with features of chronicity (sentinel skin tag, hypertrophied anal papillae and fibrous polyps, exposure of the underlying anal sphincter) are unlikely to heal with conservative management[14,15] .

Anal fissures affects all age groups, particularly young adults[16]. Mean age in our study was 38 years. Males are more commonly affected then females as observed in our study (70.27% of the patients were males) and some other studies.[17]

The exact etiology of anal fissures is unknown but trauma caused by hard fecal mass and hypertonicity of the internal sphincter are thought to be the initialing factors. Despite these findings only 25% patients with chronic anal fissure have constipation[18]. In our study association of constipation with fissure is higher i.e. 55.76%. The most common location for primary anal fissure is the posterior anal midline. Only 10% of females and 1 % of males have a fissure located in the anterior midline[19]. This posterior predilection of location is also noted in our study in males only i.e. 96.15%, while in females it was only 50%. Half of the female patients who have anterior fissure have history dated back to child birth. Skin tag was found in 82.69% male and 81.81% female patients, which has been ob-

served to be a usual finding overlying the fissure in various studies.[20]

Different options are available for treatment of chronic anal fissure starting from simple dietary adjustments, laxatives, topical application of GTN, Ca channel blockers to more invasive surgical intervention like lateral internal sphincterotomy. Various modalities of treatment have been designed to reduce the resting pressure of anal canal which ultimately results in healing of fissure. The goal of medical treatment is to achieve a temporary reduction of pressure of the anal canal (reversible sphincterotomy) there by reducing muscle tone.[21]

The gold standard for surgical treatment of anal fissure is LIS. The primary concern regarding sphincterotomy is anal continence rate, which has been reported in some studies to be as high as 30%. However long term incontinence (beyond 2 months) ranges from 3.3% to 7%[22]. In our study we observed transient incontinence for two to two and a half weeks. In addition, LIS has constantly provided better healing rates, decreased recurrence rates and better patient's satisfaction than pharmacological therapies. The cure rate is higher than 90% in some studies[23]. In this study, cure rate was almost 100% in males and 95.45% in females at four weeks. As compared to surgical sphincterotomy, chemical sphincterotomy seems to be less effective in curing chronic anal fissure due to side effects and the frequency of repeated doses.[24]

Conclusion:

Lateral internal sphincterotomy is the most commonly used operative technique for the treatment of anal fissure which is highly efficient and succeeds in curing the fissure in 90-100% of patients. In addition it is the treatment of choice when pharmacologic therapy fails, or fissures recur frequently. LIS is associated with acceptable temporary complications.

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