

LATERAL INTERNAL SPHINCTEROTOMY; (FOR THE TREATMENT OF FISSURE IN-ANO) (SIX YEARS EXPERIENCE)

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ABSTRACT... **Objective:** To evaluate the efficacy of lateral internal sphincterotomy in fissure in-ano. **Design:** This study is a prospective clinical trial. **Place and Duration:** It was conducted initially at D.H.Q./ Allied Hospital (PMC) Faisalabad and then other centers from November 2001 to onward for the period of six years. **Patients and Methods:** 140 patients, in urgency due to sever pain, non-compliance to conservative and pharmacological management, or their preference were treated by lateral internal sphincterotomy. The patients were followed up at 1st to 12th weeks. The extent of improvement in presenting symptoms and complications were noted on questionnaires. **Results:** Lateral internal sphincterotomy relieved 140 (100%) patients. Transient incontinence of flatus was present in 64.3%, at 1st week that was resolved at 8-12th weeks. There was no recurrence in other complications included infection 7.1%, abscess 7.1% and anesthesia related problems in 14.2 %. **Conclusion:** Lateral internal Sphincterotomy may be regarded as "The Gold Standard"

Key words: Fissure in-ano, Incontinence, Lateral internal sphincterotomy

INTRODUCTION

An anal fissure is a unnatural linear crack or tear in the skin of the distal anal canal. Anal fissures usually extend from the anal verge upto dentate line. The majority (90 %) of fissures are located posteriorly in the midline, probably because of the relatively unsupported nature of the anal wall in that location¹. In rare cases multiple fissures or a fissure at an unusual position(e.g. lateral) should alert the clinician to the possibility of other diagnosis e.g. inflammatory bowel disease, T.B., trauma, syphilis, neoplasia, HIV/ immuno-suppressive diseases or as a result of previous ano-rectal surgery¹. Fissure depth may be superficial in acute condition but in chronic cases it goes down to the underlying sphincter muscle. Fissure-in-ano is a common benign proctologic problem, affecting all age groups but seen particularly in young and middle aged, with nearly equal incidence in either sex. It accounts for up to 10% of new referrals to colorectal clinics². Nothing is more distressing and disappointing than a painful anal problem. Anal fissures may be noticed by bright red anal bleeding on the toilet

paper, sometimes in the toilet. If acute they may cause severe periodic pain during/ after defecation but with chronic fissures pain intensely is often less¹. Other complaints may be constipation but not always the rule, discharge and pruritus-ani. Pain is often moderate to severe and may last for minutes to hours. Many cases of acute fissure in-ano heal spontaneously but others enter into a vicious cycle of anal pain, fear of defecation, constipation, the passage of hard stool, faecal trauma and sphincter spasm. Treatments are aimed at breaking this cycle^{1,3}.

The pathogenesis of fissure-in-ano is not yet fully explained; however increased tone of internal sphincter and poor perfusion of anterior and posterior anoderm

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have been implicated^{1,4}. Although the condition is never life threatening, a fissure-in-ano causes immense discomfort and therefore, deserves a serious review to improve the quality of life in these patients. Similarly on the other hand ominous anorectal pathology presents with simple fissure-in-ano.¹ Various conservative modalities like stool softener, bulk laxatives, local anesthetics, self anal dilation, glycecril trinitiate/ diltazim ointment, and botulinum toxin are being practiced to relieve pain^{1,2,5-10}. Unfortunately none of these modality proved as effective as surgical treatment. On the other hand invasive modality is blamed to be risky regarding continence¹¹⁻²².

PATIENTS AND METHODS

140 patients who presented with chronic anal fissure at DHQ / Allied Hospitals (PMC) Faisalabad and other centres were included in the study from November 2001 onward for the period of six years, after taking written informed consent from each patient for the study.

Thorough history and clinical evaluation was done. The diagnosis of chronic fissure in-ano was made on the basis of usual clinical symptoms, presence of an elongated ulcer/crack in the long axis of lower anal canal, sentinel pile and the presence of usual symptoms for more than two months.

The diagnosis was confirmed on examination under anaesthesia. Sigmoidoscopy was done in some cases to look for any evidence of Crohn's disease, proctitis and carcinoma etc. and biopsy of the fissure was taken in doubtful situations and dealt separately.

Patients for surgical sphincterotomy were admitted in the ward from outpatient department. Lateral internal sphincterotomy was always performed on the left lateral side with the patient in the lithotomy position. A small incision was made lateral to the lower edge of internal

anal sphincter, which was located by the finger. Sharp-Mayo's scissors were introduced and passed up between the internal sphincter and the mucous membrane with the left index finger inserted into the anus, and the inter-sphincter groove was identified and inter-sphincter plane separated, with the help of scissors. The internal sphincter was then cut with the scissors up to the level of dentate line. The division of internal anal sphincter was confirmed by inserting the pulp of index finger into the defect felt from the anus. The skin incision was closed with a single catgut 2/0 suture; skin tags were excised. All the patients underwent sphincterotomy, became free of pain in the ward. Their average stay in the ward was 3 + 1 days. A follow-up was done after 1st, 2nd, 4th, 6th and 12th weeks.

RESULTS

In this prospective study, mean age of patients was 30 years. (Range 16 to 58 years). Male to female ratio in this study is 3:1. Fissure-in-ano was present at 6'O clock position in 89.3% and 12'O clock in 10.7%. Patients discomfort/pain on defecation was present in all the patients, constipation in 96.4%, staining of paper/bleeding per rectum in 88.6%, sentinel pile in 85.7%, discharge per rectum in 31.4% and pruritus-ani in 21.4% patients.

Satisfactory relief of pain and healing of fissures were achieved in lateral internal sphincterotomy table II. None of the patients treated by this modality suffered from recurrence 7.1% patients treated by lateral internal sphincterotomy developed a small abscess in the wound during 1st week of operation. Incision and drainage of the abscess was done and the wound healed satisfactorily. Another 7.1% patients developed infection that was treated conservatively. 14.2% patients suffered anesthesia related complications.

Table-I. Pain/discomfort associated with defecation

Duration	Absent	Mild	Moderate	Severe	Total
After 1 st week	140 (100%)	0 (0%)	0 (0%)	0 (0%)	140
2 nd - 4 th weeks	140 (100%)	0 (0%)	0 (0%)	0 (0%)	140
6 th - 8 th weeks	140 (100%)	0 (0%)	0 (0%)	0 (0%)	140
9 th - 12 th weeks	140 (100%)	0 (0%)	0 (0%)	0 (0%)	140

Transient incontinence of faeces and flatus was reported in 7.1% and 64.3% patients respectively which resolved

by the end of two months, while permanent incontinence of faeces was present in 1.4% patient (Table II).

Table-II. Incontinence

Duration	Absent	Flatus	Faeces	Total
After 1 st week	40 (28.6%)	90 (64.3%)	10 (7.1%)	140
2 nd - 4 th weeks	90 (64.3%)	40 (28.6%)	10 (7.1%)	140
6 th - 8 th weeks	105 (75%)	31 (22.2%)	4 (2.8%)	140
9 th - 12 th weeks	136 (97.2%)	2 (1.4%)	2 (1.4%)	140

DISCUSSION

The pathogenesis of chronic anal fissure is poorly understood. Physiological studies have yielded fruitful results about sphincter pressures in this disease. Sphincter spasm is constant in anal canal in patients of fissure in-ano^{1, 3, 12, 17}. Anal manometric studies had been carried out by many workers with different techniques^{14, 15, 18}. Difference in anal pressure was noted pre-operatively and post-operatively, immediately and during the follow up¹². Increased internal sphincter activity is probably an etiological factor in fissure-in-ano, while successful management especially lateral sphincterotomy improves anal sphincter function^{1, 3, 8, 12, 13, 16}. Sphincter spasm and increase sustained tone of the internal anal sphincter leads to ischemia of ano-derm^{1, 2, 14, 15, 17}. In this ischemic situation anal fissures are refractory to heal. Therapeutic approaches, such as anal dilatation and internal sphincterotomy, have generally been aimed at overcoming this spasm^{12, 13, 19}. Various conservative modalities like stool softener, bulk laxatives, local anesthetics, self-anal dilation, glycerol trinitrate ointment, and botulinum toxin are being practiced to relieve

pain^{1, 2, 7, 8, 9}. Unfortunately none of these modality proved as effective as surgical treatment^{13, 16}. On the other hand invasive modality is blamed to be risky regarding continence^{8, 11, 12, 14-19, 21-23}.

Anal stretch for the treatment of anal fissure was very popular until mid of 18th century. Surgery for anal fissure is associated with several complications^{11, 16-19, 22, 23}. These can be prevented by the use of judicious surgical techniques and of course, by familiarity with anorectal anatomy. In this study permanent incontinence of faeces in 1.4% and transient incontinence of flatus / faeces in 64.3% occurred, which resolved up to 8 weeks. Although, the incidence of complications was relatively lower in this study as compared to others. Flatus control problems occurred in 35 % and soiling in 22 % has been found in many studies. Flatus incontinence rate upto 30 % of patients after lateral sphincterotomy and 40 % of patients after the posterior procedure has been found¹³. In a retrospective study of 1313 patients who underwent closed or open lateral sphincterotomy, 21 cases of flatus or liquid incontinence and 18 cases of recurrence of anal fissure as a late complication were observed¹⁹ in another

report, 2 % incidence of major complications and an 8 % incidence of incontinence were also observed²⁰. A comparative study to evaluate the relationship between the extent of internal anal sphincter division following open and closed sphincterotomy, as assessed by anal endosonography, with fissure persistence / recurrence rate and faecal incontinence was carried out. Closed lateral internal anal sphincterotomy was associated with a trend towards higher fissure persistence/ recurrence rates than open lateral internal anal sphincterotomy. Moreover later was significantly associated with a higher proportion of complete sphincterotomy thus, higher incontinence rate as well¹⁶. Thus length of sphincterotomy directly correlates with healing of fissure and incontinence. In a prospective study of extent of internal anal sphincterotomy division using anal endosonography, it has been suggested that more of the internal anal sphincter, than intended was divided¹⁷. It is a major drawback of a invasive modality especially in multiparous women, who may already have an unrecognized obstetric-related sphincter injury^{14,21,22,23}. An anal canal ultrasound study is mandatory in multiparous women without continence problems in whom internal sphincterotomy is planned because, in the presence of an already existing sphincter defect, this procedure may result in severe fecal incontinence. Another study showed that postpartum anal fissure is associated with reduced anal canal pressures; in this condition further surgical damage to the anal sphincter mechanism is a clear risk for incontinence²². Obviously, performing anal endosonography in a patient with an anal fissure may not be easy¹¹. However, surgeon's awareness and patient's education may help these high-risk patients¹⁷.

Manual dilatation of anus though simple but warrants consequences of incontinence and high recurrence rate²⁴. Khalid have excellent results as 100% healing and 0% recurrence with lateral internal sphincterotomy as compare to less favorable results of manual dilation of anus¹⁰. In another local study by Arshad⁹ unsatisfactory results of anal dilation has been observed. New invasive out patient based modality with the use of endoscopes is getting popularity but requires special skill and expertise²⁴. In this study we achieved similar results of lateral internal sphincterotomy as in the local setup. In

present study a low incidence of complications was observed.

Although conservative modality has some place in the management of chronic anal fissure especially in those patients who tend to avoid, are unfit for surgery or high risk of incontinence, but the lateral internal sphincterotomy remains the "gold standard" treatment for chronic fissure due to symptomatic improvements in short time.

CONCLUSION

In patients with chronic fissure-in-ano, Lateral Internal Sphincterotomy remains 'the gold standard' with least complications and recurrence rate in an expert surgeon's hand.

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