

A Comparative Study of Tailored Lateral Sphincterotomy versus Lateral Sphincterotomy for Chronic Fissure in Ano

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Abstract: Aim of the Study: To compare outcomes like fecal incontinence, recurrence rate in patients undergoing tailored lateral sphincterotomy and lateral sphincterotomy for chronic fissure in ano. Methodology: Under regional anaesthesia, lithotomy position. An incision made in the 3'o clock position using 15 blade in the intersphincteric groove and turned medially, Internal sphincter palpated and hooked out using artery forceps. Length of the fissure is measured and the fibres of internal sphincter are cut upto length below the dentate line. Results: No patients who underwent tailored lateral sphincterotomy developed flatus incontinence, p value(0.040). patients who underwent lateral sphincterotomy developed recurrence p value(0.046). patients who underwent lateral sphincterotomy the mean pain score on day 1 was 5.6 when compared to 5.6 in other group p value(-0.975). Mean pain score on day3 for patients who underwent lateral sphincterotomy was 2.8 when compared to 2.7 in other group p value(-0.139). Mean pain score on day5 for patients who underwent lateral sphincterotomy was 1.2 when compared to other group being 1.2 p value(-0.375). Conclusion: Due to Significant reduction in faecal incontinence, flatus incontinence and recurrence this present study concludes that the tailored lateral sphincterotomy can be considered as the primary treatment of choice in the management of Chronic fissure in ano

Keywords: tailored lateral sphincterotomy, lateral sphincterotomy

1. Introduction

Fissure in ano is the most common painful condition of perianal region, characterized by longitudinal ulcers affecting the distal part of the anal canal. It's so common that it affects 1 in 10 people and causes very disabling symptoms such as severe cutting type perianal pain & bleeding per rectum making the diseased to suffer intense mental & physical agony in spite of rest and analgesics. Also the chronic fissures behave more differently in that way they are more persistent and relapsing than the acute fissures which are self-healing.

Much has been already discussed in the literature regarding the aetiology of Fissures though the Persistent Hypertonia of the anal sphincters is claimed to be the well-established cause. And so the available standard treatment options targets at relieving the spasm of the internal anal sphincter with surgical or chemical methods. Gold standard in the management of the chronic fissure in ano is the time proven, Lateral Internal Sphincterotomy with healing rates above 95%. The incidence of fecal incontinence following lateral internal sphincterotomy is about 0 to 35 %, and recurrence of fissure ranges from 0 to 2%. To reduce the incidence of fecal incontinence, flatus incontinence and recurrence rates Tailored lateral sphincterotomy is used. In which the fibres of internal sphincter are divided upto the length of the fissure below the dentate line. By dividing the internal sphincters below the dentate line upto the length of fissure more internal sphincter is preserved which plays an important role in maintaining resting anal pressures thereby reducing the incontinence rates.

This study compares the efficacy of tailored lateral sphincterotomy and lateral sphincterotomy in chronic fissure in ano in healing, incontinence rates and recurrence

2. Review of Literature

Most fissures heal spontaneously, but conservative management with ointment and fiber supplementation will relieve the pain and promote healing of those that do not. Up to 70% of acute fissures will heal without intervention and Frezza *et al* reported that 90% of acute fissures heal with conservative treatment measures only. Surgical intervention is reserved for patients in whom conservative treatment fails.

According to A Aziz *et al*, with lateral internal sphincterotomy, 140 out of 146 patients had completed healing of fissure by 3 months out of which 124 patients healed by 6 weeks, 12 patients healed by 7 and 4 patients by 3 months. The overall healing rate was 97.5%. But 4.1% experienced transitory flatus incontinence.

Nitric oxide is a neurotransmitter mediating the relaxation of the internal sphincter. Glyceryl trinitrate is a potent nitric oxide donor used for the treatment of chronic anal fissure. 0.2% glyceryl trinitrate ointment applied 2-3 times daily to the distal anal canal for upto 6 weeks has been shown to heal two thirds of chronic fissures, but over one half of these patients develop headache as a side effect of this treatment. The headache may be sufficiently severe to reduce compliance or lead to cessation of treatment in some cases.

Topical calcium channel blockers (nifedipine, diltiazem) offer a very attractive alternative to nitroglycerine for the treatment of anal fissures. Nifedipine and diltiazem act by blocking L-type calcium channels in smooth muscle causing

relaxation of the internal sphincter. They also dilate the blood vessels of the anoderm and increase the flow of blood. Healing rates of chronic fissures has been reported in upto 73%.

The first clinical study of the role of calcium antagonists on the anal canal pressure was conducted by Chrysos and colleagues. An oral dose of 20 mg twice daily was used to treat 15 patients with chronic anal fissure.

Topical 2% Diltiazem has been used to treat chronic anal fissures that have failed to heal with glyceryl trinitrate. It was found to be effective in 75% of patients previously treated unsuccessfully with glyceryl trinitrate ointment.

According to Carapeti et al, Diltiazem gel produced a dose dependent reduction of the anal pressure; with a maximum effect of 28% reduction, the effect lasting three to five hours. Jonas and Scholefield randomized patients with chronic fissure to oral and topical diltiazem twice daily for 8 weeks. Anal resting pressure was reduced by 15% and 23% respectively and healing was achieved in 38% and 65% respectively. Oral diltiazem causes adverse effects in a third of the patients whereas topical diltiazem caused in none of the patients.

Bhardwaj et al and Carapeti et al, treated patients with chronic fissure with topical diltiazem three times daily for 16 and 8 weeks respectively. Mean anal resting pressure was reduced by 24% in both studies and fissure healing occurred in 73% and 67% of the patients respectively.

Griffin N et al, in a study on 47 patients showed that topical 2% Diltiazem is an effective and safe treatment for chronic anal fissure in patients who have failed 0.2% glyceryl trinitrate. The need for sphincterotomy can be avoided in upto 70% of cases.

3. Methodology

60 patients who came to out patient within the inclusion criteria department of General Surgery Department Of Govt Rajaji Hospital for a period of 1 year where included in our study after getting proper written informed consent. This patients was followed for 2 week period and were divided into two categories and followed up and findings were collected. A central randomization was performed. The randomization sequence was based on a computer-generated list.

In the control group, the conventional lateral internal sphincterotomy was done in which, Radial incision is made in the anoderm just distal to the dentate line and is carried across the lower border of the internal sphincter and the intersphincteric groove are identified.. The fibres of internal sphincter have a whitish hue. The lower portion of internal sphincter is divided up to a point level with the dentate line. Hemostasis is achieved with a eletrocautery. Dressing in applied.

In the test group our procedure, the tailored internal sphincterotomy was done in which, The patient is placed on the in the lithotomy position. An

incision made in 3'o clock position in the intersphincteric groove using 11 blade in intersphincteric groove and turned medially. Internal sphincter palpated and isolated using artery force. The fibres of internal sphincters are cut upto the length of fissure (apex of the fissure) below the dentate line. The tailored sphincterotomy should extend from the anal margin for the length of the fissure and then 2–3 mm proximally. Sterile dressing done

4. Method of Collection of Data

All patients undergoing surgery for fissure within the inclusion criteria was followed for 2 week period and were divided into two categories and followed up and findings were collected.

Eligibility Criteria

Inclusion criteria

- 1) All patients with evidence of chronic fissure in ano admitted in GRH madurai.
- 2) Patients above 18 years age
- 3) Patients consented for inclusion in the study according to designated proforma

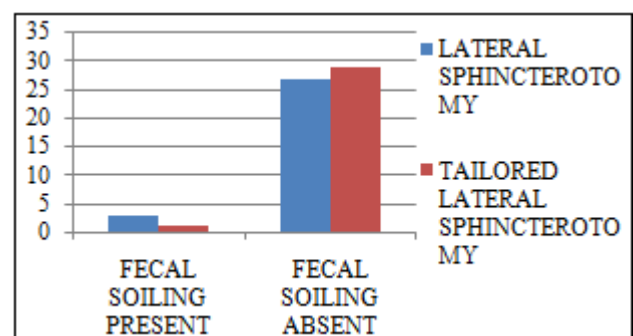
Exclusion criteria

- 1) Patients having acute fissure in ano
- 2) Patients having perianal abscess , fistula in ano

Fecal Soiling Comparison

In this study among the 30 patients who underwent LATERAL SPHINCTEROTOMY 3 patients developed fecal soiling when compared to those patients who underwent TAILORED LATERAL SPHINCTEROTOMY in which 1 patients alone developed. this didn't had any statistical significance (p value-0.305)

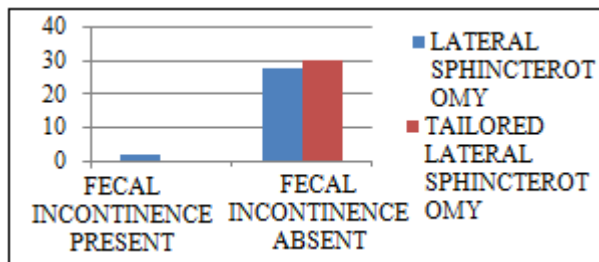
	Fecal Soiling Present	Fecal Soiling Absent
Lateral Sphincterotomy	3	27
Tailored Lateral Sphincterotomy	1	29



Fecal Incontinence

Among the 60 patients in our study No patients who underwent tailored lateral sphincterotomy developed fecal incontinence when compared to patient who underwent lateral sphincterotomy, 2 patients developed fecal incontinence, with a significant p value (0.040).

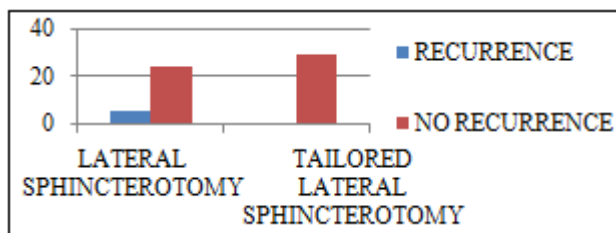
	Fecal Incontinence Present	Fecal Incontinence Absent
Lateral Sphincterotomy	2	28
Tailored Lateral Sphincterotomy	0	30



Recurrence

Among the 60 patients in our study 1 patients who underwent tailored lateral sphincterotomy developed recurrence when compared to patient who underwent lateral sphincterotomy, 6 patients developed recurrence, with a significant p value(0.046).

	Recurrence	No Recurrence
Lateral Sphincterotomy	6	24
Tailored Lateral Sphincterotomy	1	29



5. Conclusion

In present study it was observed that tailored lateral sphincterotomy in the management of Chronic fissure in ano in comparison with lateral sphincterotomy has :-

- 1) Significant reduction in faecal incontinence
- 2) Significant reduction in flatus incontinence
- 3) Significant reduction in recurrence
- 4) No Significant reduction in pain

This study concludes that the tailored lateral sphincterotomy can be considered as the primary treatment of choice in the management of Chronic fissure in ano, when compared to conventional lateral sphincterotomy.

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