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Fissure in ANO: Comparison between Lateral Sphincterotomy and Glyceryl Trinitrate (0.2%)

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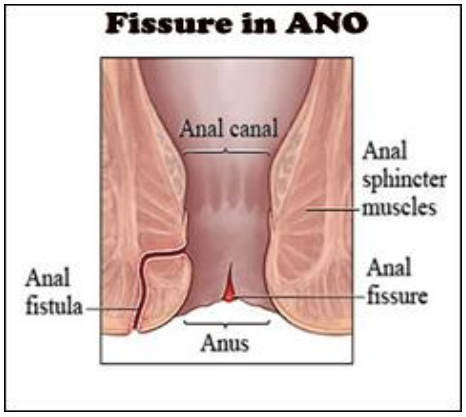
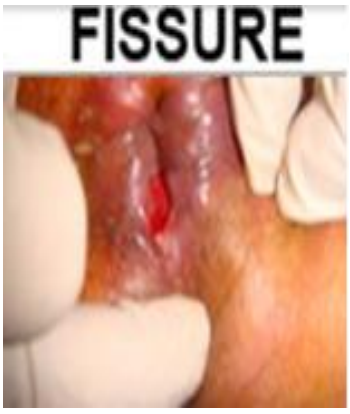
ABSTRACT
Anal fissure is a painful lesion involving Anal canal. Most of them subside spontaneously. Some Acute anal fissures become chronic and will not heal. Chronic fissure is treated usually by dilatation of anus and lateral sphincterotomy. Both surgical procedures may cause some degree of incontinence in some patients. Recent studies have shown that Local Glyceryl trinitrate can reduce Sphincter pressure and more than 80% Fissures heal.





INTRODUCTION

Anal fissure is a difficult and painful condition affecting patient. It is a frequently seen condition in OPD. Every General Surgeon Face Innumerable cases with this complaint in his practice. After treatment often patients get endless satisfaction. Disatrous complications are also seen because of surgery, which causes long term distress to the

patient. Anal fissure is a breach of the skin at the anal verge. Posterior fissures are more common .Anterior fissures are only seen in 8-10% cases. Although Anterior midline fissures are seen in 25% of affected women and 8 % of affected Men [Hananel 1997][1]. About 35 of patients have both Anterior And Posterior Fissures, Fissures – of the Midline- are to be suspected for Underlying pathology like HIV, TB,CROHNS,CA of Anal canal.

Intially fissures present as a small breach in Anodermal region later skin margins get thickened and internal anal sphincter become visible at the base. In case of chronic fissures Sentinel skin tag (distal fissure margin) and Hypertrophied Anal papillae (proximal to the fissure) are seen. Though fissure in ano is a common disorder, exact incidence is not known. It is frequently misdiagnosed for haemorrhoids by primary care providers. Clinical features of anal fissure are pain during and after defecation, some patients may experience rectal bleeding. Pain persists for hours in case of chronic fissure while in case of acute fissures pain is of short duration

Digital Rectal Examination is avoided in these patients because the pain is so Severe. In some cases anal fissure is associated with haemorrhoids and recognised on table, when sphincter is relaxed so hemorrhoidectomy should also be done in such cases.

There are different modalities of treatment for anal fissure which include

- Conservative/medical
- Surgical

Conservative (Medical) treatment of Anal fissures:

In About half of the patients healing occurs with conservative management.

In a Retrospective review Shub HA et al [2] reported that 44% of fissure patients healed with Sitz bath, psyllium fiber supplement and Emollient Suppositories

Anal Dilators coated with topical anaesthetic agents like 2% lignocaine have been used by few for treatment of anal fissures.

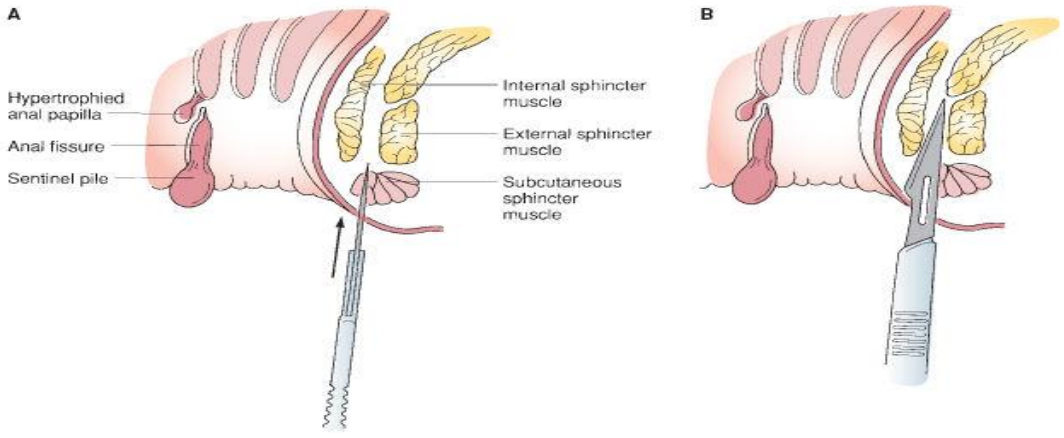
Two Randomized control studies comparing medical therapy with or without an Anal dilator showed no benefit with self Dilatation [Mc Donald, Gough MJ][3,4]

Pharmacological sphincter Relaxants

Pharmacological Sphincter Relaxants like Nitric Oxide are used. NO(NITRIC OXIDE) is a Principle Nonadrenergic Noncholinergic Neurotransmitter in Internal Anal Sphincter[5,6], and its release results in Decreased Cytosolic Calcium levels which in turn causes Relaxation of Anal Sphincter.

Topical Nitrates: (0.2% Glyceryl Trinitrate):- Topical nitrates release nitric oxide invivo,studies demonstrated that 2% Glyceryl Trinitrate leads to decrease in Resting Anal Sphincter

SURIGICAL THERAPY FOR ANAL FISSURES:



Anal Dilatation [Lord's Dilatation]: It used as treatment for anal fissure[7] with a success rate of 85-100%.the recurrence rate is more variable ranging from 0-60%[8-15]. Neilsen etal[16] performed Endoanal USG and found 65% of the cases having Sphincter defects.

Sphincterotomy: Eisenhammer [17,18] popularised Lateral Sphincterotomy for management of fissure in ano during 1950. Lateral Sphincterotomy is better than Posterior Sphincterotomy because of better wound healing. In a Retrospective study Abcarian[19] and Hawly[20] in a randomised trial , both of them concluded that Lateral internal Sphincterotomy was preferred surgical option for Fissure in Ano.

Aetiology of Anal Fissure

Aetiology of anal fissure is debated for many years. Hard stools has been thought to be a common cause, but some patients give no such history .According to observation probable cause of Anal fissure is Raised Resting Anal pressure [Nothmann 1974, Hancock 1977][21,22]. After successful surgery like Anal Dilatation, Lateral Internal Sphincterotomy resting Anal pressure is decreased, so elevated Anal pressure may be the cause of anal fissure. Studies using Ambulatory Manometry have confirmed sustained resting hypertonia with few episodes of internal sphincter relaxation in chronic fissure patients [Farouk, 1994][23]

OBJECTIVES

Objectives of our study is to compare which method is best among local glyceryl trinitrate and lateral sphincterotomy in treating patients with chronic fissure in ano in M N R medical college & hospital during the year 2014 to 2015.

MATERIALS AND METHODS

Our study is on 80 of chronic anal fissure from out patients and in patients of General surgery department of M N R medical college & hospital, Sanga Reddy, Hyderabad.

Study group 1

Patients who are treated with local GTN, 3 times a day, are followed weekly for 6 weeks to see the response in reduction of symptoms (pain and bleeding PR)

Study group 2

Patients who are treated by lateral internal sphincterotomy and followed weekly for 6 weeks to see the response in reduction of symptoms

INCLUSON CRITERIA

- Patients more than 18 years of age -Both Males and Females
- Fissures present both Anteriorly or Posteriorly or Both
- Presence of Pain, Spasm of Sphincter And Sentinel Pile At the Anal Verge

EXCLUSION CRITERIA

- Fissures present in lateral positions
- Fissures due to any underlying pathologies like TB,HIV, Crohns disease
- Presence of Hemorrhoids and Anal fistulas

RESULTS

AGE AND SEX DISTRIBUTION OF PATIENTS

- Total 80 patients with posterior anal fissure were studied, all were presented with pain, bleeding and constipation.
- Among the 80 patients, 60 were male and 20 were female patients.
- 40 patients were treated with lateral internal sphincterotomy and remaining 40 were treated with topical nitroglycerine ointment application 3 times a day.

Table 1. NITRO GLYCERINE GROUP

S.NO	AGE IN YEARS	MALES	FEMALES
1	25-29	0	0
2	30-34	10	2
3	35-39	14	5
4	40-44	03	0
5	45-49	06	0
	TOTAL	33	07

Table 2 LATERAL SPHINCTEROTOMY GROUP

S.NO	AGE IN YEARS	MALES	FEMALES
1	25-29	03	0
2	30-34	08	06
3	35-39	11	05
4	40-44	05	02
5	45-49	0	0
	TOTAL	27	13

It is evident from the above information that majority of patients were males and age between 30 -40 years

Table 3 SYMPTOMS DURATION IN BOTH THE GROUPS before presenting to hospital:

DURATION	GTN	SPHINCTEROTOMY
3 MONTHS	12	17
3.5 MONTHS	18	17
4 MONTHS	09	04
4.5MONTHS	01	02

Symptom duration in both the groups appears to be almost similar. Average duration of symptoms before presenting is 3.38 months

Among the 40 patients with GTN, 9 patients were discontinued from therapy because of headache, as a side effect of GTN,(due to central vasodilatation), which could not be controlled with analgesics. Only 1 patient continued treatment after analgesics and reduced dose of GTN.

Patients were followed for duration of 6 months. Pain, bleeding, and sphincter spasm were recorded at durations of 6 weeks and 6 months.

Table 4 PERSISTANCE OF COMPLAINTS AFTER 6 WEEKS:

PATIENT GROUP	PAIN PERSISTED IN (No of patients)	SPASM PERSISTED (No of patients)	BLEEDING (No of patients)	NO HEALING (No of patients)
GTN	06	23	02	23
SPHINCTEROTOMY	02	0	0	10

From the above statistics it is evident that lateral sphincterotomy is better compared to GTN in relieving pain, decreasing spasm, reduction of bleeding and also healing of the anal fissure at the end of 6 weeks of treatment.

Table 5 PERSISTANCE OF SYMPTOMS AT 6 MONTHS FOLLOW UP:

PATIENT GROUP	PAIN PERSISTED IN (No of patients)	SPASM PERSISTED (No of patients)	BLEEDING (No of patients)	NO HEALING (No of patients)
GTN	2	21	0	0
SPHINCTEROTOMY	0	0	0	0

Even at 6 months follow up pain relief, decrease in spasm, reduced bleeding and healing were better with sphincterotomy. In both the groups, bleeding was absent in all patients, and all fissures were healed in both groups after 6 months.

CONCLUSIONS

- Lateral sphincterotomy provides complete relief of symptoms and healing of chronic fissures in most of the patients.
- Sphincterotomy results in anatomical correction, which relieves the etiological factor (high sphincter tone).
- Though sphincterectomy has minimal complications, the most distressing is faecal incontinence.
- Glyceryl trinitrate ointment application is inferior to sphincterotomy in relieving symptoms and also healing.
- But majority of patients on GTN are benefited in pain relief, without going to surgery.
- GTN therapy have minimal side effects, mainly head ache, which can be relieved by NSAIDS.
- GTN plays major role in management of acute fissures, prevent from going into chronic fissure.
- GTN is a good alternative for patients who prefer medical therapy over surgey.

SUMMARY

Lateral sphincterotomy offers complete relief of symptoms and healing of chronic fissure in ano in a majority of patients, and results in anatomical correction of the etiological factor of increased sphincter pressure. Complications of lateral sphincterotomy are minimal.

Glyceryl trinitrate ointment application is inferior to lateral sphincterotomy for the treatment of chronic fissure in ano with respect to both symptoms relief (pain, bleeding), sphincter spasm and healing. It is a good alternative therapy for patients who refuse surgery and prefer medical treatment, with minimal side effects.

REFERENCES

1. Hananel N, Gordon PH. Re Examination of Clinical Manifestations and response to Therapy of Fissure in Ano. Dis Colon Rectum 1997;40;229-233. A Prospective Randomized Study.BMJ (Clin Res Ed) 1984,289:528-530
2. Shub HA, Salvati EP, Rubin RJ. Conservative Treatment of Anal Fissure: An Unselected Retrospective and continous study. Dis Coln Rectum 1978,21:582-583.
3. McDonald P, Driscoll AM, Nicholls RJ . The Anal Dilator in the Conservative Management of Acute Anal Fissures. BJS 1983,70: 25-26.
4. Gough MJ,Lewis A.The Conservative Treatment of Fissure in Ano.BJS 1983,70:175-176
5. Frenckner B,Ihre T. Influence of autonomic nerves on Internal Anal Sphincter. Gut 1976,17:306-312.
6. Frenckner B.Function of Anal Sphincters. Gut 1975,16:638-644
7. Watts JM,Bennett RC,Golingher JC. Stretching of Anal Sphincters in Treatment of Fissure in Ano.BMJ 1964:342-343
8. Isbister WH, Prasad J. Fissure in Ano .Aust N Z J Surg 1995;65:107-108.
9. Marby M,Alexander Williams J,Buchmann P,Arabi Y, Kappas A,

Minervini S,Gatehouse D,Keighley M. A Randomized Control Trial to compare Anal Dilatation with Lateral Subcutaneous Sphincterotomy for Anal Fissure. Dis Colon Rectum 1979;22:308-311.
10. O'Connor JJ,Lord Procedure for Treatment of Postpartum Hemorrhoids and Fissures. Obs&Gyn 1980,55:757-758
11. Jensen SL,Lund F,Neilsen OV, Tange G. Lateral Subcutaneous Sphincterotomy Vs Anal dilatation in the Treatment of Fissure in Ano in Out Patients:A Prospective Randomized study.BMJ(Clin Res Ed)1984,289:528-530
12. Gabriel WB 1945.The principles and practice of rectal surgery.Lewis: London
13. Lawrence H Bannister.Alimentary system in Gray's Anatomy 38th Edition.Churchill Livingstone. 1996:1683-1812.
14. Weaver RM, Ambrose NS, Alexander Williams J,Keighley MR.Manual Dilatation of Anus Vs Lateral Subcutaneous Sphincterotomy in the teeatment of chronic fissure in ano. Results of a prospective, randomized clinical trial. Dis Colon Rectum 1987,30:420-423.
15. McDonald A, Smoth A, Mc Neill, AD, Finlay, IG.Manual dilatation of the Anus.BJS 1992,79:1381-1382.
16. Neilsen MB, Rasmussen OO, Pedersen JF, Christiansen J. Risk of sphincter damage and anal incontinence after Anal dilatation for fissure in ano .An endosonographic study. Dis Colon Rectum 1993,36:677-680.
17. Eisenhammer S. The surgical correction of chronic internal anal sphincter contracture. S Afr Med J 1951,25:486-489.
18. Eisenhammer S. The evaluation of internal anal sphincterotomy operation with special reference to anal fissure. Surg Gyn&Obg 1959;109:583-590.
19. Abcarian H. Surgical correction of chronic Anal fissure :Results of lateral internal Sphincterotomy.
Dis Colon Rectum 1980;23:31-36.
20. Hawley PR. The treatment of chronic fissure in ano. A trial of methods . BJS 1969;56:915-918.
21. Nothmann BJ, Schuster MM. Internal anal sphincter derangement with anal fissures. Gastroenterology 1974; 67: 216-220.
22. Hancock BD. The internal sphincter and anal fissure. BJS 1977; 64: 92-95.
23. Farouk R, Duthie GS, McGregor AB, Bartolo DC. Sustained internal sphincter hypertonia in patients with chronic anal fissure. Dis colon rectum 1994; 37:424-429.