



## A COMPARATIVE STUDY OF ANAL DILATATION UNDER GENERAL ANAESTHESIA VS TOPICAL APPLICATION OF 0.2% GLYCERYL TRINITRATE OINTMENT IN THE TREATMENT OF FISSURE IN ANO.

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### ABSTRACT

In this study we compared the results of anal dilatation under general anaesthesia and topical application of 0.2 % glyceryl trinitrate ointment for the management of fissure in ano.

50 patients diagnosed with anal fissure were divided in two groups randomly. First group was treated with anal dilatation while second group was treated with 0.2% glyceryl trinitrate.

Topical glyceryl trinitrate is a good alternative to the time tested anal dilatation for the treatment of fissure in ano.

**KEYWORDS** : Fissure in ano, anal dilatation, Glyceryl trinitrate

### INTRODUCTION

Anal fissure is a common benign condition characterized by severe anal pain. It consists of a linear crack or tear in the distal anoderm. It is usually encountered in young or middle aged adults and is equally common in both sexes. Anal fissures occur most frequently in the midline posteriorly. Trauma to the anal canal during passage of a hard motion is responsible for initiating this condition. Anal stretching under general anaesthesia was first advocated by Recamier<sup>1</sup> in 1829. Glyceryl trinitrate when applied to the anus causes a lowering of internal sphincter pressure, thus reducing pain and promoting healing of anal fissure<sup>2</sup>. It acts as a chemical sphincterotomy. Hence we designed the study to compare the results of anal dilatation with topical glyceryl trinitrate for the treatment of fissure in ano.

### MATERIAL AND METHODS

This study was conducted from March 97 to March 98 . Fifty cases clinically diagnosed as fissure in ano were taken irrespective of age and sex, from the surgical out patient department of Guru Nanak Dev Hospital, Amritsar . These were divided into two groups each containing twenty five cases. In Group 1, cases were treated by anal dilatation under short general anaesthesia, in group 2 cases were treated by topical application of 0.2 % glyceryl trinitrate ointment, twice a day for 6 weeks. All these cases were examined again at one week, three weeks, 6 weeks and three months. Cases with associated diseases like Crohn's disease, Ulcerative colitis, Haemorrhoids, or post haemorrhoidectomy anal stenosis, tuberculosis, hypertension, pregnant females, venereal diseases were excluded from the study. The criteria for assessment of results were relief of pain and healing with re epithelization.

### RESULTS

Fissure in ano was found to be the commonest in fourth decade of life ( 36% ). No patient was below 17 years and none was above 70 years in this study. Out of 50 cases, 22 were females and 28 were males. Fissure in ano was found to be common in farmers and labourers (15 cases) and house wives ( 11 cases ). Majority of the patients ( 48% ) had pain of one to three months duration. 56% cases complained of bleeding in the form of streaking of the stools. Constipation was present almost in all ( 94% cases ). Anal discharge and pruritis was present in 8% cases. And anal tag was present in 40% cases. 94% cases had posterior anal fissure and 6% had both

anterior and posterior anal fissure. There was complete relief of pain in 96% patients after 6 weeks in group 1. While in group 2, 84% of the patients were relieved of pain in 6 weeks. 96% patients of group 1 showed healing of fissure at 6 weeks while 84% patients of group 2 showed fissure healing at 6 weeks. One patient (4%) in group 1 had permanent anal incontinence. Two patients (8%) developed severe headache and dizziness and discontinued treatment in group 2.

### DISCUSSION

Anal fissure is a remarkably painful condition in an otherwise healthy population. The patient asks for relief but is reluctant to accept the treatment that demands absence from day to day activities for a prolonged duration of time. Stretching of anal sphincter was first advocated by Recamier<sup>1</sup> in 1829 and later by others. Lund et al. and others advocated the use of glyceryl trinitrate in the treatment of anal fissure<sup>2,3,4,5,6,7</sup>. In our study we found that there was complete relief of symptoms at 6 weeks in 96% cases treated by anal dilatation and 84% in cases treated by glyceryl trinitrate ointment topical application. Average time for healing of fissure was 6 weeks in both the groups. Hospital stay varied from one to two days in group one, while no hospitalization was required in group 2 cases.

Failure of fissure healing at the end of follow up period was seen in one case in group 1, while 4 cases in group 2. One patient of group 1 developed permanent anal incontinence. In group 2 two patients developed severe headache and dizziness and left the treatment.

### CONCLUSION

From the study it can be inferred that anal dilatation under short acting general anaesthesia gives good results in majority of cases for fissure in ano, while treatment with glyceryl tri nitrate ointment has comparable results and moreover it avoids hospital stay , general anaesthesia and disturbance of anal continence. It is a painless, non surgical procedure giving relief of symptoms to the patients in a simple way with no blood loss, no anaesthesia required, no operative trauma, domiciliary treatment and negligible chances of side effects. However if the symptoms are not relieved, patient may undergo other forms of treatment . So we conclude that chemical sphincterotomy with the topical application of glyceryl tri nitrate is a good treatment for fissure in ano.

	Table no. 1 Relief of pain							
	after 1 wk		after 3 wks		after 6 wks		after 3 mths	
	group 1	group 2	group 1	group 2	group 1	group 2	group 1	group 2
complete	12(48%)	13(52%)	22(88%)	20(80%)	24(96%)	21(84%)	24(96%)	21(84%)
partial	10(40%)	8(32%)	3(12%)	1(4%)	1(4%)	0	1(4%)	0
no relief	3(12%)	4(16%)	0	4(16%)	0	4(16%)	0	4(16%)

	Table no.2 Healing of Fissure					
	after 3 wks		after 6 wks		after 3 mths	
	group 1	group 2	group 1	group 2	group 1	group 2
complete	24(96%)	20(80%)	24(96%)	21(84%)	24(96%)	21(84%)
incomplete	1(4%)	1(4%)	1(4%)	0	1(4%)	0
no healing	0	4(16%)	0	4(16%)	0	4(16%)

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