



SURGICAL VS MEDICAL MANAGEMENT OF ANAL FISSURE: A COMPARITIVE STUDY

Surgery

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ABSTRACT

Anal fissure is a very common surgical problem presented with severe pain during defecation along with bleeding per anum and constipation. The aim of study is to compare the management and outcome between lateral sphincterotomy and diltiazem application in anal fissures at Sushila Tiwari Hospital.

METHODS: We included 100 patients of diagnosed anal fissure of age group 20 to 80 yrs who were randomized blindly into two group : Group 1 (Surgical) vs. Group 2 (Medical). Group 1 undergone lateral sphincterotomy while Group 2 were advice application of 2% Diltiazem gel three times a day into the anus for 6 consecutive weeks. Both groups were followed up at 2 week, 4 weeks, and 6 weeks, after the treatment.

RESULT: Among all the 100 patients, all patients had come with complaint of pain whereas 75 patients had bleeding per rectum and 42 had constipation. On clinical examination, 90 patients had posterior anal fissure. Each group had 50 patients. Comparison between internal sphincterotomy and Diltiazem gel therapy showed a difference in pain relief ($P < 0.00001$) and fissure healing ($P = 0.00001$) which is statistically significant. But there was no significance regarding bleeding ($p = 0.68$) as both are showing similar results.

CONCLUSION: This prospective study, demonstrates that open lateral internal sphincterotomy is superior to topical Diltiazem application in the treatment of anal fissure with good symptomatic pain relief, high rate of healing.

KEYWORDS

Anal fissure, Sphincterotomy, Diltiazem

INTRODUCTION

An anal Fissure (synonym: fissure-in-ano) is a longitudinal split in the anoderm of the distal anal canal which extends from the anal verge proximally towards, but not beyond, the dentate line. It is usually located in the posterior or anterior midline and extends from the level of dentate line to the anal verge¹. It is one of the most common differential diagnosis in painful defecation . It typically causes episodic pain that occurs during defecation and persists for hours afterward and passage of 'bright red blood per anus'.

Anal fissure is of two types acute and chronic .Acute fissure is one which presents within 3-6 weeks of symptom onset. It has the appearance of a clean longitudinal tear in the anoderm with little surrounding inflammation. Acute fissure usually heals spontaneously within 6 weeks. A chronic fissure, with more than 6 weeks of symptoms, is usually deeper and generally has exposed internal sphincter fibres in its base. It is frequently associated with a hypertrophic anal papilla at its upper aspect and sentinel pile at its distal aspect.

It can be primary (idiopathic) or secondary . Secondary fissures are those that occur due to some other pathology such as Crohn's disease, anal tuberculosis, AIDS.

AIMS AND OBJECTIVES

The aim of study is to compare the management and outcome between lateral sphincterotomy and diltiazem application in anal fissures at Sushila Tiwari Hospital.

Objective of study

1. Assessing pain relief, fissure healing, regression of bleeding per anum.
2. Detecting various side effects of medical and surgical treatment

Patients and Methods

It is a prospective longitudinal study. A total 100 patients who were diagnosed as a case of anal fissure were included in the study who were randomized blinding into two group – Group 1 (Surgical) vs. Group 2 (Medical). The patients of age group 20 to 80 were included in the study. Patients with anal fissure coming to the outpatient department in Sushila Tiwari Hospital during the period of July 2015 to December 2017.

Sample size: 100 patients (50 in each group)

INCLUSION CRITERIA:

- 1) Patients with pain during defecation
- 2) Patients with frank bleeding during defecation
- 3) Patients with skin tags {sentinel pile}

EXCLUSION CRITERIA:

- 1) Patients with signs of haemorrhoids
- 2) Patients with signs suggestive of fistula
- 3) Fungating mass or advanced malignancy of anal canal.
- 4) Patients with rectal prolapsed, fissures secondary to specific diseases like Tuberculosis, Crohn's disease etc., and pregnant women

Procedure

Group 1 patients underwent left lateral internal sphincterotomy under spinal anaesthesia.

Group 2 advice for use of 2% Diltiazem gel three times a day into the anus for 6 consecutive weeks.

Both groups were asked to take high fiber diet, use warm seitz baths, mild laxatives like cremaffin 15ml at bedtime.

All patients in both groups were followed up at 2 weeks, 4 weeks and 6 weeks after the treatment with consideration to pain relief, spasm, bleeding, healing of fissure, and side effects of treatment.

RESULT

Group 1 included 30 females and 20 males with a mean age of 32 ± 4.5 whereas in group 2 consist of 32 females and 18 males with a mean age of 33.4 ± 7.5 there was no significant difference in terms of genders or age of the patients as shown in table 1.

Table 1: Demographic data.

	Group 1 (Surgical) (n=50)	Group 2 (Medical) (n=50)	P value
Age in years	32 ± 4.5	33.4 ± 7.5	< 0.253
Sex	30(females) 20(males)	32(females) 18(males)	< 0.305

All 100 patients presented with chief complaint of painful defecation (100%), constipation was found in 42(42%) cases and 75 (75%) presented with bleeding per rectum as shown in (Table 2).

Table 2: Symptomatology of patients.

Symptoms of patients	Number of patients
Painful defecation	100
Bleeding Per Rectum	75
Constipation	42

Per rectal examination reveals, 35 patients had sentinel skin tag, 78 patients have hypertonic anal sphincter (Table 3). When come to the location of fissure most of the patients, fissure was situated posteriorly, between 5 to 7 o'clock positions. Patients with anterior fissure were 10 and rest all had posterior fissure (Table 3).

Table 3: Clinical examination findings

Clinical examination findings	Sentinel skin tag	Spasm	Position of fissure	
			Anterior	Posterior
Group 1 (surgical)	20	36	4	46
Group 2 (Medical)	15	42	6	44

As noted in table 4, there is no clinically significant difference in both the groups for bleeding per rectally

Table 4: Outcome of therapy in terms of bleeding per rectally both groups during follow up period.

Bleeding	Group 1 (Surgical)	Group 2 (Medical)
At 2 weeks	22(23.06) [0.05]	15 (13.94) [0.08]
At 4 weeks	15(15.58) [0.02]	10 (9.42) [0.04]
At 6 weeks	10 (8.10)[0.44]	3 (4.90) [0.73]
Persistent bleeding	1 (1.25) [0.05]	1 (0.75) [0.08]
Column totals	48	29

The chi – square statistic is 1.4964. The p-value is 0.683113. The result is not significant at p<.05

As noted in Table 5, in Group 1, 45 patients were pain-free at the end of 2 weeks. An additional of 3 patients was free of pain by 4 weeks and 1 more patients by 6 weeks. 1 patient was not relieved of pain even at the end of 6 weeks. In Group 2, 15 patients were relieved of pain by 2 weeks and 4 patients were not relieved of pain by 6weeks time.

Table 5 Outcome of therapy in terms of pain relief in both groups during follow up period

Pain relief	Group 1 (surgical)	Group 2 (Medical)
At 2 weeks	45 (30.00) [7.50]	15(30.00) [7.50]
At 4 weeks	3 (12.50) [7.22]	22 (12.50) [7.22]
At 6 weeks	1 (5.00) [3.20]	9 (5.00) [3.20]
No relief	1 (2.50) [0.90]	4 (2.50) [0.90]
Column total	50	50

The chi – square statistic is 37.64. The p-value is < 0.00001. The result is significant at p<.05

As noted in Table 6, Out of the 50 patients who underwent treatment surgery (Group 1), fissures in 48 patients healed completely between 4-6weeks. Of the 50 patients who underwent medical treatment (Group 2), 20 patients had complete resolution at the end of 6 weeks

Table 6 Outcome of therapy in terms of healing in both groups during follow up period

Healing	Group 1 (surgical)	Group 2 (Medical)
At 2 weeks	14 (8.00) [4.50]	2 (8.00) [4.50]
At 4 weeks	24 (17.00) [2.88]	10 (17.00) [2.88]
At 6 weeks	10 (9.00) [0.11]	8 (9.00) [0.11]
No healing	2 (16.00) [12.25]	30 (18.00) [12.25]
Column total	50	50

The chi – square statistic is 39.4869. The p-value is < 0.00001. The result is significant at p<.05

Out of the 50 patients that were followed up in the surgical group, 18 patients experienced post-operative pain and transient incontinence for flatus was present in 1 patient, bleeding in 5 patients. Recurrence was seen in 15 patients in the Diltiazem group and none in the surgical group. Of the 50 patients that were followed up in the Diltiazem group, 5 patients experienced mild headache and local irritation was present in 8 patients (Table 7)

Table 7 Complication in both group

Group 1(Surgical)	Group 2 (Medical)
Post-operative pain (n=18)	Headache (n=5)

Incontinence for flatus (n=1)	Local irritation (n=8)
Bleeding (n=5)	
Discharge (n=3)	

Comparison between internal sphincterotomy and Diltiazem gel therapy showed a difference in pain relief (P<0.00001) and fissure healing (P= 0.00001) which is statistically significant. But there was no significance regarding bleeding (p=0.68) as both are showing similar results.

DISCUSSION

Anal fissure is a common surgical problem .Patient presented with severe pain in the anal region especially during defecation .Most fissure (85%) are located dorsally .Ventral fissure are less common (10%) and frequently occur in women .Lateral fissures occur in about 5%.

The dorsal location of most fissures was attributed to a lack of supportive tissues in a triangular zone dorsally in the anal sphincter, due to the elliptical arrangement of the sphincter fibres². Nowadays, most authors agree that a constantly elevated rest pressure in the anal sphincter plays a crucial role in the pathogenesis of anal fissures⁴.

The rationale of treating this condition lies in reducing the internal anal sphincter tone, relieving the spasm and thereby improving the circulation. Of the surgical modalities available, the gold standard procedure is lateral internal sphincterotomy wherein there is partial division of the internal anal sphincter away from the fissure site. Chemical sphincterotomy, which is a medical line of treatment, has now been accepted as treatment of anal fissures at various centers.

In our study there was no significant difference in terms of gender of the patients. In our analysis, painful defecation was a universal and the most common symptom (100%). This was followed by bleeding per anum and constipation 75% and 42% of the patients respectively. The overall incidence of posterior anal fissure was found to be 90 % making it the most common site involved. This is in conjunction with the study from Boulos ET al³ which says posterior fissure (85.7%) is more common than anterior fissure (14.2%).

In present study with respect to pain control in 45 patients (90%), 48 patients (96%) and 49 patients (98%) pain relief were seen at 2, 6 and 12 weeks respectively in lateral sphincterotomy group and Pain relief was in 15 patients (30%), 37 patients (74%), 46 patients (92%) at 2, 4 and 6 weeks of interval in medical group. So, pain relief was significantly reduced after surgery when compared to medical group at different interval of time. These results comparable with study conducted by Mishra et al⁶. This pain relief is due to reduction in the mean anal resting pressure.

Out of 50 patients who underwent treatment with 2% Diltiazem gel, 20 (40%) fissures healed completely between 4-6 weeks. In surgical group 1, out of 50 patients who underwent internal sphincterotomy, 48(96%) patients healed completely at the end of 4-6 weeks

Lateral sphincterotomy had excellent healing of fissure. This is in accordance with study conducted by Oettle et al⁷ and Mishra et al⁶ where healing rates were 80% and 92.5% respectively.

The most important and common side effect of GTN treatment was occurrence of headache, In our study headache was found in 5 patients (10%). Headache was mild degree and was controlled with using simple paracetamol. No other side effects like cardiac effects, flushing, and dizziness were observed in present study group. This was in accordance with study conducted by Lund et al⁵, and Oettle et al⁷.

Of the 50 patients that were followed up in the surgical group 18(36%) patients experienced post-operative pain and transient incontinence for flatus was present in 1(2%) patient. Adriano Tocchhi et al. report no longterm complication after internal sphincterotomy and patient satisfaction was 96%⁹.

Comparison between internal sphincterotomy and Diltiazem gel therapy showed a difference in pain relief (P<0.00001) and fissure healing (P= 0.00001) which is statistically significant. But there was no significance regarding bleeding (p=0.68) as both are showing similar result.

CONCLUSION

Present study demonstrate that open lateral internal sphincterotomy is better compared to medical treatment in terms of pain relief,rate of healing .But there is no significant difference in controlling bleeding per anum in both groups.Surgical management is better compared to medical treatment of anal fissure.

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