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Original Research

Topical 2% Diltiazem gel versus lateral internal sphincterotomy in the treatment of chronic fissure in ano

[1]Abid Manzoor Wani, [2]Akhilesh Shekhawat

[1,2]Assistant Professor, Department of General Surgery, F H Medical College, Tundla, U.P., India

ABSTRACT:

Background: One of the most frequent reasons for excruciating anal pain is thought to be anal fissures. A longitudinal rip or ulcer in the distal anal canal is called an anal fissure. The present study was conducted to compare topical 2% Diltiazem gel and lateral internal sphincterotomy in the treatment of chronic fissure in ano. **Materials & Methods:** 56 patients with chronic fissure in ano of both genders were divided into 2 groups of 28 each. Group I was given topical 2% Diltiazem gel and advised to apply 1.5 to 2 cms length of gel twice daily at least 1.5 cm into the anus for 6 weeks and group II patients underwent lateral internal sphincterotomy under spinal anaesthesia. Patients were followed for 6 weeks and parameters such as site of fissure, healing and pain was recorded. **Results:** Group I had 16 males and 12 females and group II had 13 males and 15 females. In 11 cases in group I and 10 in group II, the common site was anterior whereas in 17 in group I and 18 in group II was posterior. The difference was non- significant (P> 0.05).87% in group I and 100% in group II showed healing after 6 weeks and 79% in group I and 86% patients in group II were pain free. The difference was non- significant (P> 0.05). **Conclusion:** The first line of treatment for persistent anal fissures should be chemical sphincterotomy along with topical 2% diltiazem. Patients who have experienced recurrence and therapeutic failure from previous pharmaceutical treatment should be administered internal sphincterotomy.

Keywords: lateral internal sphincterotomy, Diltiazem gel, anterior

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Corresponding author: Akhilesh Shekhawat, Assistant Professor, Department of General Surgery, F H Medical College, Tundla, U.P., India

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INTRODUCTION

One of the most frequent reasons for excruciating anal pain is thought to be anal fissures. A longitudinal rip or ulcer in the distal anal canal is called an anal fissure. It stretches from the level of the dentate line to the anal verge and is typically found in the posterior or anterior midline.[1] Acute fissures appear three to six weeks after the onset of symptoms.

It appears to be a neat longitudinal tear in the anoderm with minimal inflammation around it. Acute fissures typically mend on their own in six weeks. When symptoms persist for more than six weeks, a chronic fissure is typically deeper and has exposed internal sphincter fibers at its base. It usually has a sentinel pile at the top and a hypertrophy anal papilla at the top.[2]

It is categorized as primary (idiopathic) based on its etiologyor secondary. Secondary fissures are ones brought on by another illness, such as AIDS, Crohn's disease, or anal tuberculosis.[3] Patients typically complain of pain when passing bright red blood via their anus and during faeces. It is unknown exactly what causes anal fissures. The most frequent cause of fissure is trauma from passing a large, hard stool, though it can also occur following severe episodes of diarrhea. Involuntary internal sphincter spasms with elevated resting pressure in the anal canal are typically linked to painful fissures.[4] Thus, it appears that the internal sphincter's persistent overactivity could be the reason. Various pharmacological agents such as nitrates (glyceryl trinitrate, isosobide dinitrate), calcium channel blockers (nifedepine, diltiazem) have been shown to lower resting anal pressure and heal fissures without threatening anal continence.[5]The present study was conducted to compare topical 2% Diltiazem gel and lateral internal sphincterotomy in the treatment of chronic fissure in ano.

MATERIALS & METHODS

The study was carried out on 56 patients with chronic fissure in ano of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Patients were divided into 2 groups of 28 each. Group I was given topical 2% Diltiazem gel and advised to apply 1.5 to 2 cms length of gel twice daily at least 1.5 cm into the anus for 6 weeks and group II patients underwent lateral internal sphincterotomyunder spinal anaesthesia. Patients were followed for 6 weeks and parameters such as site of fissure, healing and pain was recorded. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II
Method	2% Diltiazem gel	lateral internal sphincterotomy
M:F	16:12	13:15

Table I shows that group I had 16 males and 12 females and group II had 13 males and 15 females.

Table II Assessment of parameters

Site	Group I	Group II	P value
Anterior	11	10	0.62
Posterior	17	18	

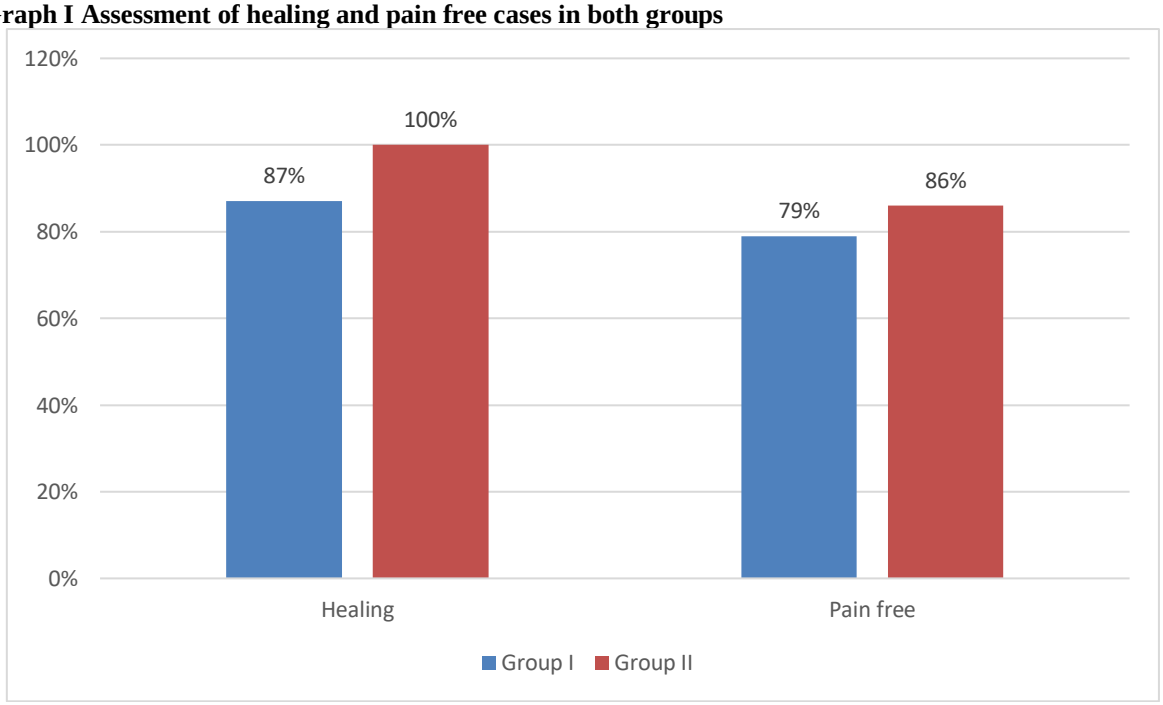
Table II shows that in 11 cases in group I and 10 in group II, the common site was anterior whereas in 17 in group I and 18 in group II was posterior. The difference was non- significant (P> 0.05).

Table III Assessment of healing and pain free cases in both groups

Parameters	Group I	Group II	P value
Healing	87%	100%	0.17
Pain free	79%	86%	0.25

Table III, graph I shows that 87% in group I and 100% in group II showed healing after 6 weeks and 79% in group I and 86% patients in group II were pain free. The difference was non- significant (P> 0.05).

Graph I Assessment of healing and pain free cases in both groups



DISCUSSION

Anal fissures are a prevalent issue worldwide. It has a negative impact on quality of life and causes significant morbidity. Anal fissure is equally common in both sexes and typically occurs in young or middle-aged adults.[6] While anterior fissures are rather prevalent in females, posterior fissures are more frequently encountered. The goal of therapy is to interrupt the cycle of ischemia, pain, and spasm that is assumed to be the cause of ano fissure formation.[7]Surgical techniques like manual anal dilatation or lateral internal sphincterotomy,

effectively heal most fissures within a few weeks.The agents that have been used are glycerol trinitrate ointment (GTN), botulinum toxin, diltiazem hydrochloride (DTZ), and bethanechol.[8]All of these agents have been shown to uniformly reduce the resting anal pressure and increase the vascularity of anal canal.[9,10]The present study was conducted to compare topical 2% Diltiazem gel and lateral internal sphincterotomy in the treatment of chronic fissure in ano.

We found that group I had 16 males and 12 females and group II had 13 males and 15 females.Giridharet al[11]compared symptomatic relief, healing and side effects of topical 2% Diltiazem gel and lateral internal sphincterotomy in the treatment of chronic fissure in ano. In this prospective trial, 60 surgical out patients and/or admitted patients with chronic fissure in ano were randomly divided into Group 1 (Diltiazem gel) and Group 2 (internal sphincterotomy) with 30 patients in each Group. Patients were followed up at weekly intervals for six consecutive weeks and biweekly for subsequent 3 months. Fissure was completely healed in 88.46% of patients in Group 1 and in 100% in Group 2. The mean duration required for healing of fissure was 5.04 weeks in Group 1 and 3.6 weeks in Group 2. 78.26% patients were free from pain in Group 1 whereas 85.18% patients were free from pain in Group 2. No patient had any side effects in either group

We found that in 11 cases in group I and 10 in group II, the common site was anterior whereas in 17 in group I and 18 in group II was posterior. UK Srivastavaet al[12] conducted a study in which ninety patients with a symptomatic anal fissure were randomly divided into three groups. Group I was treated with 2% diltiazem ointment, Group II was treated with 0.2% glyceryl trinitrate (GTN) ointment, and Group III was kept as the control group. The improvement in the signs and symptoms, the time taken for healing, and side effects were recorded in each group. The patients were followed up monthly and then every 3 months for any recurrence of fissure. Comparative evaluations of the three groups regarding an improvement in symptoms, progress in healing, appearance of side effects, and recurrence were made.Diltiazem ointment was found to be superior regarding pain relief, fewer side effects, and late recurrence as compared with GTN ointment.

We found that 87% in group I and 100% in group II showed healing after 6 weeks and 79% in group I and 86% patients in group II were pain free. E Carapeti et al[13],two studies were conducted, each involving 15 patients with chronic anal fissure. In each study patients underwent anal manometry and laser doppler flowmetry before treatment. They were treated with either 2 percent diltiazem gel or 0.1 percent bethanechol gel three times daily for eight weeks. Assessment every two weeks was by clinical examination, repeat anal manometry, and laser doppler flowmetry. Daily pain was assessed by linear analog charts.Fissures healed in 10 of 15 (67 percent) patients treated with 2 percent diltiazem gel and in 9 (60 percent) patients treated with 0.1 percent bethanechol gel. There was no significant difference in the pretreatment maximum resting sphincter pressure (MRP) between responders and nonresponders in either group. There was significant reduction in the pain score after treatment with diltiazem ($P = 0.002$) and bethanechol ($P = 0.005$) compared with that before treatment. MRP was significantly lower after diltiazem ($P = 0.0001$) and bethanechol ($P = 0.02$) compared with pretreatment MRP. No headaches or side effects were reported.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that the first line of treatment for persistent anal fissures should be chemical sphincterotomy along with topical 2% diltiazem. Patients who have experienced recurrence and therapeutic failure from previous pharmaceutical treatment should be administered internal sphincterotomy.

REFERENCES

1. Adriano Tocchi, Gianluca Mazzoni, Michelangelo Miccini, Diletta Cassini, Elia Bettelli, Stefania Brozzetti. Total lateral sphincterotomy for anal fissure. International Journal of Colorectal Disease. 2004; 19(3): 245-49.
2. Jonas Marion, Scholefield JH, Anal fissure and chemical sphincterotomy. Taylor I, Johnson CD. Recent advances in Surgery. Churchill Livingstone, 24th Edition, 2001, 115.
3. John Goligher, Anal Fissure, John Goligher, Surgery of the Anus, Rectum & Colon. AITBS, 5th Edition, 1992, 150.
4. Udwadia T.E., The prophylaxis of fissure in ano. Indian Journal of Surgery. 1978; 40(11): 560.
5. Boulos PB, Araujo JGC, Adequate internal sphincterotomy for chronic anal fissure: subcutaneous or open technique? British Journal of Surgery. 1984; 71 (5): 360-62.
6. J. S. Knight, M. Birks, R. Farouk, Topical Diltiazem ointment in the treatment of chronic anal fissure. British Journal of Surgery. 2001; 88 (4): 553-56.
7. R. Bhardwaj, M. C. Parker, Modern perspectives in the treatment of chronic anal fissures. Annals of the Royal College of Surgeons of England. 2007; 89 (5): 472- 78.
8. Z Haq, M Rahman, RA Chowdhury, MA Baten, M Khatun, Chemical sphincterotomy – first line of treatment for chronic anal fissure. Mymensingh Medical Journal. 2005; 14(1): 88-90.
9. GF Nash, K Kapoor, K Saeb-Parsy, T Kunanadam, PM Dawson, The long term results of Diltiazem treatment for anal fissure. International Journal of Clinical Practice. 2006; 60(11): 1411-13.
10. R Dasgupta, I Franklin, J Pitt, PM Dawson, Successful treatment of chronic anal fissure with Diltiazem gel. Colorectal Disease. 4: 20-22.
11. Giridhar CM, Babu P, Rao KS. A comparative study of lateral sphincterotomy and 2% diltiazem gel local application in the treatment of chronic fissure in ano.

Journal of clinical and diagnostic research: JCDR. 2014 Oct;8(10):01.
12. UK Srivastava, BK Jain, Praveen Kumar, Yusuf Saifee. A comparison of the effects of Diltiazem and Glyceryl trinitrate ointment in the treatment of chronic anal fissure: A randomized clinical trial. Surgery Today. 2007;37(6): 482-85.
13. E Carapeti, M Kamm, B Evans, R Phillips, Topical Diltiazem and Bethanechol decrease anal sphincter pressure and heal anal fissures without side effects. Diseases of the Colon and Rectum. 1999; 43 (10): 1359-62.