

ORIGINAL RESEARCH

Comparison of effect of zinc oxide cream and lidocaine ointment in acute anal fissures

¹Dr. Jitendra Singh Dangi, ²Dr. Sunil Kumar Saxena, ³Dr. Aakash Jain, ⁴Dr. Sharad Kumar Sahu, ⁵Dr. Preeti Sahu

^{1,4}Assistant Professor, ²Professor, Department of Surgery, Bundelkhand Medical College, Sagar, Madhya Pradesh, India

³Assistant Professor, Department of Surgery, Atal Bihari Vajpayee Government Medical College, Vidisha, Madhya Pradesh, India

⁵Assistant Professor, Department of Anaesthesiology, Bundelkhand Medical College, Sagar, Madhya Pradesh, India

Corresponding Author

Dr. Sharad Kumar Sahu

Assistant Professor, Department of Surgery, Bundelkhand Medical College, Sagar, Madhya Pradesh, India

Received: 23 August, 2023

Accepted: 29 September, 2023

ABSTRACT

Background: Anal fissure is a common problem that causes substantial morbidity in who are otherwise healthy. The present study was conducted to compare the effect of zinc oxide cream and lidocaine ointment in acute anal fissures. **Materials & Methods:** 118 patients with acute anal fissures of both genders were divided into 2 groups of 59. Group I patients were given 15% of zinc oxide cream twice a day and group II patients were given 5% of lidocaine ointment twice a day. Healing rates, pain relief, recurrences, changes in symptoms after the treatment, and complications were recorded. **Results:** In group I, males were 39 and females were 20 and in group II, males were 32 and females were 27. Common clinical features were bleeding per rectum in 42 and 53, constipation in 37 and 41, pain in 12 and 28 and discharge in 25 and 34 in group I and II respectively. The difference was significant ($P < 0.05$). In group I and group II, bleeding per rectum was present in 19 and 5 patients and absent in 40 and 54 patients respectively. Constipation was present in 13 and 6 and absent in 46 and 53, pain was present in 17 and 10 and absent in 42 and 49, discharge was present in 6 and 1 and absent in 53 and 58, fissure healing was present in 23 and 15 and absent in 36 and 44 patients respectively. The difference was significant ($P < 0.05$). **Conclusion:** Lidocaine ointment in acute anal fissures were found to be better than zinc oxide cream. Hence, conservative management is better treatment option for acute fissure-in-ano.

Key words: Acute anal fissures, Lidocaine ointment, zinc oxide cream

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

INTRODUCTION

Anal fissure is a common problem that causes substantial morbidity in who are otherwise healthy. Anal fissure is an elongated ulcer in the long axis of lower anal canal. The most frequent site for anal fissure is midline posteriorly followed by midline anteriorly.¹ The disease is more common in men while it is uncommon in children and elderly. It causes severe pain during defecation and rectal bleeding that stains the tissue or streaks the stools. The pathogenesis of chronic anal fissure remains incompletely understood but most are associated with a high resting anal pressure and reduced perfusion at the fissure site due to persistent hypertonia and spasm of the internal anal sphincter.²

A non-healing tear of the distal anal mucosa below the dentate line is called a chronic anal fissure. 10% of visits to colorectal clinical units are reported to be for anal fissures, with a higher frequency of visits occurring in individuals aged 20-39. Constipation, diarrhea, and surgery are common causes, as they all result in stress to the anal canal. The internal anal sphincter spasms as a result of the anoderm tear.³ This spasm consequently results in more rips, discomfort, and a reduction in the anoderm's blood supply. This vicious cycle of ischemia, discomfort, and spasm may result in persistent anal fissures that may not heal. More than four weeks of fissures usually result in chronicity. The existence of internal sphincter fibers at the base and, the presence of sentinel polyp, or fibro-epithelial polyp findings in

favor of fissure chronicity.⁴The present study was conducted to compare the effect of zinc oxide cream and lidocaine ointment in acute anal fissures.

MATERIALS & METHODS

The present study consisted of 118 patients with acute anal fissures of both genders. All gave their written consent to participate in the study.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II
Agent	15% of zinc oxide	5% of lidocaine
Male: Female	39:20	32:27

Table I shows that in group I, males were 39 and females were 20 and in group II, males were 32 and females were 27.

Table II Assessment of clinical features

Clinical features	Group I	Group II	P value
Bleeding per rectum	42	53	0.81
Constipation	37	41	
Pain	12	28	
Discharge	25	34	

Table II shows that common clinical features were bleeding per rectum in 42 and 53, constipation in 37 and 41, pain in 12 and 28 and discharge in 25 and 34 in group I and II respectively. The difference was significant ($P < 0.05$).

Table III Assessment of parameters at 1 month follow up

Parameters	Variables	Group I	Group II	P value
Bleeding per rectum	Present	19	5	0.05
	absent	40	54	
Constipation	Present	13	6	0.02
	absent	46	53	
Pain	Present	17	10	0.03
	absent	42	49	
Discharge	Present	6	1	0.01
	absent	53	58	
Fissure healing	Present	23	15	0.05
	absent	36	44	

Table II, graph I show that in group I and group II, bleeding per rectum was present in 19 and in 5 patients and absent in 40 and 54 patients respectively. Constipation was present in 13 and 6 and absent in 46 and 53, pain was present in 17 and 10 and absent in 42 and 49, discharge was present in 6 and 1 and absent in 53 and 58, fissure healing was present in 23 and 15 and absent in 36 and 44 patients respectively. The difference was significant ($P < 0.05$).

DISCUSSION

The exact cause of anal fissures is unknown but many factors appear likely, such as the passage of large, hard stools, which may be the initiating factor; inappropriate diet; previous anal surgery; childbirth and laxative abuse and in patients with hypothyroidism.⁵ Secondary fissures may occur as a result of either an anatomic anal abnormality or inflammatory bowel disease, particularly Crohn's disease. Previous anal surgery, especially

Data such as name, age, gender etc. was recorded. Patients were divided into 2 groups of 59. Group I patients were given 15% of zinc oxide cream twice a day and group II patients were given 5% of lidocaine ointment twice a day. Healing rates, pain relief, recurrences, changes in symptoms after the treatment, and complications were recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

Hemorrhoidectomy, Fistula-in-ano surgery may result in distortion of the anal canal with scarring and fixation of the anal skin. This decreased elasticity of the anal canal may then predispose to fissure formation. Some of the anterior fissures occurring in women result from childbirth.⁶ Perineal trauma leads to scarring and abnormal tethering of the anal submucosa, thus rendering it more susceptible to fissure because of its loss of laxity and mobility. Individuals with a long-standing condition of loose stools, usually resulting from chronic laxative abuse, may develop an anal stenosis with scarring, again predisposing to fissure formation.⁷ Surgery may not always be necessary for the healing of acute fissures; the success rate in treating chronic fissures is significantly lower. Surgery is typically required for individuals who are deemed chronic and have not responded to medicinal therapy.⁸ Surgery has long been the accepted treatment for chronic anal fissures; it is a common, efficient technique that heals

90–95% of the time. Although many pharmacological sphincter relaxants have been developed and are said to work well, surgery is frequently required as a last resort.^{9,10} The present study was conducted to compare the effect of zinc oxide cream and lidocaine ointment in acute anal fissures.

We found that in group I, males were 39 and females were 20 and in group II, males were 32 and females were 27. Shukla et al¹¹ compared the effect of zinc oxide cream and lidocaine ointment in acute fissure and conversion of acute fissure into chronic fissure-in-ano requiring surgery in two hundred patients. There was no statistical difference among groups in terms of age and gender. The healing and symptomatic relief with the conservative method for acute anal fissure was significantly much more. The recurrence rate was very less in symptomatic group. There was a significant reduction in the conversion of acute anal fissure into chronic anal fissure with the use of conservative management.

We found that common clinical features were bleeding per rectum in 42 and 53, constipation in 37 and 41, pain in 12 and 28 and discharge in 25 and 34 in group I and II respectively. Dixit et al¹² compared the results of lidocaine ointment and zinc oxide cream for treating acute fissures and converting them into chronic fissures-in-ano that need surgery. Regarding age and gender, there was no statistically significant variation between the groups. For acute anal fissure, the conservative approach resulted in noticeably greater healing and symptomatic alleviation. The symptomatic group had a relatively low recurrence rate. Conservative care resulted in a considerable decrease in the conversion of acute anal fissure into chronic anal fissure.

We found in group I and group II, bleeding per rectum was present in 19 and in 5 patients and absent in 40 and 54 patients respectively. Constipation was present in 13 and 6 and absent in 46 and 53, pain was present in 17 and 10 and absent in 42 and 49, discharge was present in 6 and 1 and absent in 53 and 58, fissure healing was present in 23 and 15 and absent in 36 and 44 patients respectively. Ay et al¹³ compared the effect of zinc oxide pomade, lidocaine pomade, hot water sitting bath and lateral internal sphincterotomy for treatment of chronic anal fissure in terms of healing and complications in one hundred and forty-five patients. All cases were randomized into four groups. Group 1: The patients would apply 15% of zinc oxide pomade twice a day after the 10 minutes of hot water sitting bath. Group 2: The patients would apply 5% of lidocaine pomade twice a day after the 10 minutes of hot water sitting bath. Group 3: The patients would make only 10 minutes of hot water sitting bath twice a day. Group 4: Lateral internal sphincterotomy was performed to the patients. There were not any differences within the groups in terms of age and gender. The healing in the Sphincterotomy group

significantly much more when compared to the other groups at both the third and the sixth weeks ($p < 0.05$). The limitation of the study is the small sample size.

CONCLUSION

Authors found that lidocaine ointment in acute anal fissures were found to be better than zinc oxide cream. Hence, conservative management is better treatment option for acute fissure-in-ano.

REFERENCES

1. Charles Orsay, Jan Rakinic, Brian Perry, et al. Practice parameters for the management of anal fissures (Revised). *Dis Colon Rectum* 2004;47:2003-7.
2. Lindsey I, Jones OM, Cunningham C, et al. Chronic anal fissure. *Br J Surg* 2004;91:270-9
3. Nivatongs S. Division of Colon and Rectal Surgery. Kelly AK, Sarr GM, Hinder AR, Mayo Clinic Gastrointestinal Surgery, First Edition, Saunders 2004;42:589-626.
4. Kocher HM, Steward M, Leather AJ, et al. Randomized clinical trial assessing the side effects of glyceryl trinitrate and diltiazem hydrochloride in the treatment of chronic anal fissure. *Br J Surg* 2002;89:413-7.
5. Tranqui P, Trottier DC, Victor C, et al. Nonsurgical treatment of chronic anal fissure: nitroglycerin and dilatation versus nifedipine and botulinum toxin. *Can J Surg* 2006;9:41-5.
6. Thornton MJ, Kennedy ML, King DW. Manometric effect of topical glyceryl trinitrate and its impact on chronic anal fissure healing. *Dis Colon Rectum* 2005;48:1207-12.
7. Arroyo A, Perez F, Serrano P, et al. Surgical versus chemical (botulinum toxin) sphincterotomy for chronic anal fissure: long-term results of a prospective randomized clinical and manometric study. *Am J Surg* 2005;189:429-34.
8. Dodi G, Bogoni F, Infantino A, et al. Hot or cold in anal pain? A study of the changes in internal anal sphincter pressure profiles. *Dis Colon Rectum* 1986;29:248-51.
9. Cevik M, Boleken ME, Koruk I, et al. A prospective, randomized, double-blind study comparing the efficacy of diltiazem, glyceryl trinitrate, and lidocaine for the treatment of anal fissure in children. *Pediatr Surg Int* 2012;28:411-6.
10. Tander B, Güven A, Demirbağ S, et al. A prospective, randomized, double-blind, placebo-controlled trial of glyceryl-trinitrate ointment in the treatment of children with anal fissure. *J Pediatr Surg* 1999;34:1810-2.
11. Shukla AK, Gautam A, Shrivastava S, Kaushal M, Kumar N, Dhakad S. Conservative management of acute fissure in ANO and conversion into chronic fissure: A comparative study. *Asian Journal of Medical Sciences*. 2023 May 1;14(5).
12. Dixit H, Sukhla V, Chouhan A, Deepak K. Conservative management of acute fissure in ANO and conversion into chronic fissure: A comparative study in Shyam Shah Medical College Rewa MP. *Pain*.;90:60.
13. Ay S, Eryilmaz MA, Oku A and Karahan O. Zinc oxide, lidocaine, hot water, and lateral internal sphincterotomy for fissure-in-ano: Randomized controlled study. *Ann Med Res*. 2019;26(3):355-359