e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2025; 17(1); 959-961

Original Research Article

Study of Open versus Closed Lateral Internal Sphincterotomy in Chronic Anal Fissures

Manish Kumar[1], Pankaj Kumar[2], Manoj Kumar[3]

[1]Senior Resident, Department of General Surgery, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar

[2]Senior Resident, Department of General Surgery, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar

[3]Professor and HOD, Department of General Surgery, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar

Received: 25-10-2024 / Revised: 23-11-2024 / Accepted: 26-12-2024

Corresponding Author: Dr. Pankaj Kumar

Conflict of interest: Nil

Abstract:

Background: Fissure-in-ano is a frequent anal condition that primarily manifests as excruciating pain. Currently, the primary therapeutic method is lateral internal sphincterotomy. Either an open or closed strategy can be used for this, or each has its own set of challenges. This study compares the open and closed lateral sphincterotomy techniques in patients with persistent anal fissures.

Methods: Present study was conducted at Department of Surgery, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar from August 2023 to January 2024. This study included 64 participants who had chronic anal fissures. Of these, 30 patients had closed sphincterotomy and 34 patients had open lateral sphincterotomy. After surgery, they were monitored for six months. The two groups' outcomes and issues were contrasted and statistically analyzed.

Results: The two groups were compared in terms of post-operative complications, including pain, bleeding, infection, incontinence, and recurrence. There was no difference in the frequency of infection and recurrence between the two groups, although the closed group experienced significantly reduced pain, bleeding, and incontinence to flatus ($P < 0.05$).

Conclusion: When treating persistent anal fissures, closed lateral internal sphincterotomy is a better option than open sphincterotomy.

Keywords: Chronic fissure, closed method, Lateral sphincterotomy, Open method.

Introduction

Fissure in ano refers to a longitudinal ulcer in the anal canal. There are two types of anal fissures: acute and chronic. It is one of the mildly painful anoderm diseases that is brought on by increased internal sphincter spasm and decreased tissue perfusion. Anoderm discomfort is caused by the usual vicious cycle of pain and internal sphincter spasm, which in turn produces fissure formation. [1,2]Therefore, ending this vicious cycle is the goal of the treatment. Fibrosis, anal sphincter spasm, hypertrophy anal papillae, and sentinel tag are characteristics of chronic fissures. The chronic fissure is typically observed posteriorly about 6 o'clock and occasionally at 12 o'clock when the patient is in a reclined position. Conservative treatment of chronic fissures is more challenging. [3] The hypertonic internal sphincter can be relaxed by a variety of techniques, including topical glyceryltrinitrate (0.2%), topical diltiazem, injections of botulinum toxin, and surgical internal sphincterotomy. Surgical sphincterotomy offers the best healing rate and the lowest recurrence rate of all these techniques. [4-6] Anal dilatation, fissure excision, fissure excision with sphincterotomy, open lateral anal internal sphincterotomy, and closed anal internal sphincterotomy are among the surgical techniques used to treat anal fissures. The purpose of this study was to assess the outcomes and post-operative complications of lateral internal sphincterotomy performed using the open and closed techniques.

Material and Methods

This prospective study was conducted from August 2023 to January 2024 in Department of General Surgery, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar. In total, 64 patients were included in our study. A thorough history and

physical examination were used to analyze these patients and determine that they had a persistent anal fissure. Two groups of these patients were created at random. Thirty patients had closed lateral sphincterotomy (CLS) in Group B, while thirty-four patients received open lateral sphincterotomy (OLS) in Group A.

Prior to surgery, data on each patient's age, sex, discomfort, bleeding, perianal edema, constipation, and pruritus were gathered. The location of each patient's anal fissure was noted. Prior to surgery, both patient groups' anesthetic fitness was assessed. Participants in the study were not allowed to have hemorrhoids, fistulas, or any other anorectal conditions.

After making a 1 cm incision at 3 o'clock, the internal sphincter was clearly identified in Group A while the patient was in the lithotomy position. Curved artery forceps were used to hook the sphincter segment, then scissors or electrocautery were used to separate it. After then, pressure was kept constant for a few minutes to guarantee effective hemostasis. Secondary intention was used to keep the wound open for healing.

An anal retractor was used to retract the anal canal in Group B. One feels the internal sphincter as a constricted band. Using palpation, the intersphincteric groove was located. At three o'clock, an 11-size scalpel was inserted into the perianal skin to reach the intersphincteric groove. The rear of the grasping forceps was used to support the anal canal, and the blade was rotated inside and forward to cut the internal anal sphincter when it reached the dentate line. For a few minutes, pressure was used to stop the bleeding.

In both methods, about ⅓ to ½ of internal sphincter was divided. Patients were followed up for 6 months after surgery to assess the results and complications such as pain, bleeding, infection, incontinence, and recurrence.

Statistical analysis was performed using SPSS software version 20. The Chi -square test was used to analyze statistical significance of results. $P< 0.05$ is considered as statistically significant.

Results

Defecation discomfort was the most prevalent anal fissure manifestation in our research group. The gender distribution of the 64 patients was almost 2:1, with 41 being men and 23 being women. 34 ± 5 years was the average age.

A posterior fissure was seen in around 60% of the individuals, while an anterior fissure was present in about 36%. Anterior and posterior fissures were present in only two patients. This is comparable to what Gupta et al. observed [7]. Nearly 85% of patients had no symptoms on the second post-operative day following surgery. Table 1 lists post-operative discomfort and other problems.

Table 1: Comparative table of OLS versus CLS

Factors	Group A (OLS)	Group B (CLS)	P value
Number of patients	34	30	
Pain	9	2	0.036
Bleeding	5	0	0.028
Infection	3	0	0.095
Incontinence	11	3	0.031
Recurrence	2	3	0.75

Only two patients in the CLS group experienced substantial day two post-operative discomfort, compared to nine in the OLS group. This difference is statistically significant ($P = 0.036$). Five patients had post-operative bleeding, and all of the patients in the OLS group had this condition ($P = 0.028$).

Three patients in the OLS group had wound infections, whereas none in the CLS group. This difference is not statistically significant ($P = 0.095$). Three patients in the CLS group and eleven in the OLS group had incontinence to flatus, with a P value of 0.031. Two patients in the OLS group and three in the CLS group experienced recurrence at the 6-month mark ($P = 0.75$), out of the 48 patients who reviewed.

Discussion

Chronic anal fissure can be easily managed by surgical treatment. OLS and CLS are the two effective methods commonly performed for fissure in ano. In our study, anal pain (69%) and bleeding (60%) are the most common modes of presentation. In the study by Hananel and Gordon [8], 90.8% presented with pain and 71.4% with bleeding.

In our study, post -operative pain relief was present in 87.5% of patients in CLS group and 75% in OLS group, which is similar to Hiltunen and Matikainen. [9]

Regarding post-operative complications, pain, bleeding, and incontinence were significantly lesser in the CLS group, while infection and recurrence were similar in both the groups.

Pernikoff et al. have reported that the complication rate is relatively higher in OLS. [10] Kortbeek et

al.[11] and Ullah and Nadeem[12] also observed that closed sphincterotomy is associated with lesser complications when compared to open method.

Conclusion

For persistent anal fissures, closed lateral internal sphincterotomy is the preferred therapeutic option. Compared to the open sphincterotomy procedure, it is safer, more successful, and has a lower rate of complications.

References

1. McNamara MJ, Percy JP, Fielding IR. A manometric study of anal fissure treated by subcutaneous lateral internal sphincterotomy. Ann Surg 2020; 211:235-8.
2. Xynos E, Tzortzinis A, Chrysos E, Tzovaras G, Vassilakis JS. Anal manometry in patients with fissure-in-ano before and after internal sphincterotomy. Int J Colorectal Dis 2013; 8:125-8.
3. Vila S, García C, Piscoya A, De Los Ríos R, L Pinto J, Huerta Mercado J, et al. Use of glycerol trinitrate in an ointment for the management of chronic anal fissure at the National Hospital "Cayetano Heredia". Rev Gastroenterol Peru 2019; 29:33-9.
4. Wiley M, Day P, Rieger N, Stephens J, Moore J. Open vs. closed lateral internal sphincterotomy for idiopathic fissure-in-ano: A prospective, randomized, controlled trial. Dis Colon Rectum 2014; 47:847-52.
5. Hyman N. Incontinence after lateral internal sphincterotomy: A prospective study and quality of life assessment. Dis Colon Rectum 2014; 47:35-8.
6. Hasse C, Brune M, Bachmann S, Lorenz W, Rothmund M, Sitter H. Lateral, partial sphincter myotomy as therapy of chronic anal fissue. Long-term outcome of an epidemiological cohort study. Chirurg 2014; 75(2):160-7.
7. Gupta V, Rodrigues G, Prabhu R, and Ravi C. Open versus closed lateral internal anal sphincterotomy in the management of chronic anal fissures: Aprospective randomized study. Asian J Surg 2014; 37:178-83.
8. Hananel N, Gordon PH. Lateral internal sphincterotomy for fissure-in-ano - revisited. Dis Colon Rectum 2007; 40:597-602.
9. Hiltunen KM, Matikainen M. Closed lateral subcutaneous sphincterotomy under local anaesthesia in the treatment of chronic anal fissure. Ann ChirGynaecol 2021; 80:353-6.
10. Pernikoff BJ, Eisenstat TE, Rubin RJ, Oliver GC, Salvati EP. Reappraisal of partial lateral internal sphincterotomy. Dis Colon Rectum 2004; 37:1291-5.
11. Kortbeek JB, Langevin JM, Khoo RE, Heine JA. Chronic fissure-in-ano: A randomized study comparing open and subcutaneous lateral internal sphincterotomy. Dis Colon Rectum 2012; 35:835-7.
12. Ullah S, Nadeem M. Closed versus open lateral internal sphincterotomy in chronic anal fissure: A comparative study of postoperative complications and results. Pak J Med Res 2014; 43:1-4.