Comparison of open and closed Lateral Sphincterotomy in patients with chronic Anal Fissure

ABSTRACT

Background: The results and complications of open versus closed lateral sphincterotomy in patients with chronic anal fissure were compared in this prospective study. Materials and Methods: This study included a total of 80 patients with chronic anal fissures. Closed sphincterotomy. They were monitored for eight months after surgery. The two groups' There are 40 patients who will get an open lateral sphincterotomy and 40 who will have a c outcomes and complications were compared and statistically analyzed. Result: The two groups were compared on post-operative complications such as pain, bleeding, infection, incontinence, and recurrence. The Closed Group Experienced Less Pain, Bleeding, and Incontinence to Flatus (P 0.04), but there was no difference in the incidence of infection or recurrence between the two group. Conclusion: In the treatment of chronic anal fissures, closed lateral internal sphincterotomy is superior than open sphincterotomy. Chronic Fissure, Closed Method, Lateral Sphincterotomy, Open Method. Key Words: Chronic Fissure, Closed Method, Lateral Sphincterotomy, Open Method

INTRODUCTION

The Closed Method entails a subcutaneous approach to dividing the internal sphincter. The tip of a #11 Blade Scalpel is inserted into the right lateral intersphincteric groove and turned toward the Lumen Of The Anus using a Hill-Ferguson Retractor in the Anal Canal. In the Anus, a gentle sawing motion toward the fingertip cuts the muscle fibers in a controlled manner, preventing injury to the skin. Mucosa. Both techniques are suitable for use in an outpatient setting and provide quick pain relief. Sphincterotomy heals around 98 percent of fissures. However, a small percentage of patients experience fecal incontinence after the procedure, thus careful patient selection is required. There Is A Chance Of Analgesia During a closed sphincterotomy, the tip of the scaler breaks the mucosal surface of the anal canal, resulting in a fistula. It's also possible for an open sphincterotomy to become infected and act like a perianal abscess (9). Anal Fissure Is A Common Proctological Problem That Causes Pain In The Anal Region During And After Sexual Activity. Following a Defecation (13). A Linear Tear At The Anal Verge Is Called An Anal Fissure. It's more common in women than men, and it can appear in the anterior or posterior midline, just distal to the dentate line (6). Females have 89 percent of fissures on the posterior midline and just ten percent on the anterior midline. Males have 98 percent posterior fissures and only 1% anterior fissures. Less than 1% of the population Both sexes have a fissure in the lateral position (2) The Pathogenesis Of This Illness Is Still Unknown, But It Appears To Be Connected To The Passage Of Hard Stool Or Prolonged Diarrhea, Which Causes The Anal Canal To Stretch, Resulting In A Split In The Anoderm. The Anatomic And Functional Explanation For This Phenomenon The Anoderm's Posterior Commissure Is Not As Well Perfused As Other Ano Dermal Regions (7).The posterior anal midline is the most common place for primary of the posterior anal midline (3). A fissure in the anterior midline is seen in only 10% of females and 1% of men (4,11).

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 benign painful anoderm diseases produced by increased internal sphincter spasm and decreased tissue perfusion (8). Anoderm discomfort is caused by the usual vicious cycle produced by pain and, as a result, internal sphincter spasm that leads to fissure development (1). As a result, the treatment's goal is to break this vicious cycle. Sentinel Tag, Hypertrophic Anal Papillae, Anal Sphincter Spasm, and Fibrosis are all symptoms of chronic fissures. In a recumbent position, the Chronic Fissures are most commonly seen posteriorly at 6 o'clock and occasionally at 12 o'clock. Conservative Treatment Is More Difficult For Chronic Fissures (10). Topical Glyceryl trinitrate (0.2%), Topical Diltiazem, Botulinum Toxin Injection, and Surgical Internal Sphincterotomy are all options for relaxing the hypertonic internal anal sphincter (5). Surgical Sphincterotomy Has The Highest Healing Rate With Low Recurrence Among These Methods (12). Anal Dilatation, Fissure Excision, Fissure Excision With Sphincterotomy, Open Lateral Anal Internal Sphincterotomy, And Closed Anal Internal Sphincterotomy Are Some Surgical Methods For Treating Anal Fissure. The purpose of this study was to compare the outcomes of the open and closed lateral internal sphincterotomy techniques in terms of post-operative complications and outcomes.

Patients and Procedures

From December 29, 2019 to December 20, 2020, this prospective clinical trial was conducted in the Surgical Department of Nangarhar University Hospital. The study included 80 patients with chronic anal fissure, ranging in age from 25 to 60 years old in both sexes. All patients were admitted to Nangarhar University Hospital's Surgical Ward and given a full medical history and physical examination. The patient was then placed in the lithotomy, lateral (side) or Jack-knife positions, and a local inspection of the anal region was performed to see the sites of anal fissure, induration (acute, chronic), skin tag, bleeding, and digital palpation (PR) of the anus. Investigations were completed (HB, WBCs, GUE, FBS, CXR, ECG, etc.). Only patients with chronic anal fissure were included in our study, and all patients undergoing surgery were divided into two groups: group-A included Underwent surgery using the open method; in the operating room, each patient was given two cards, one written closed and the other written open, and lateral internal sphincterotomy was performed in 40 (50 percent) of patients using the closed method (Group A) and 40 (50 percent) of patients using the open method (Group B) (Group B). A detailed history and physical examination were used to evaluate and diagnose these patients as having chronic anal fissures. These Individuals Underwent surgery using the open method; in the operating room, each patient was given two cards, one written closed and the other written open, and lateral internal sphincterotomy was performed in 40 (50 percent) of patients using the closed method (Group A) and 40 (50 percent) of patients using the open method (Group B) (Group B). A detailed history and physical examination were used to evaluate and diagnose these patients as having chronic anal fissures. These Individuals Position of Lithotomy After making a 1 cm incision in the 3 o'clock position, the Internal Sphincterotomy was clearly identified. Curved Artery Forceps were used to hook the sphincter segment, which was then divided using electrocautery or scissors. Then, for a few minutes, pressure was maintained to ensure good 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. The Internal Sphincter Has A Tight Band Feel To It. Palpation revealed the Intersphincteric Groove. To enter the Intersphincteric Groove, an 11-size Scalpel was inserted through the perianal skin at 3 o' clock. Hemostasis was achieved by applying pressure for a few minutes. About 13 to 12 percent of the internal sphincter was

divided in both methods. Patients were followed for 8 months after surgery to assess outcomes and complications such pain, bleeding, infection, incontinence, and recurrence. SPSS Software Version was used to conduct the statistical analysis. The Statistical Significance Of Results Was Analyzed Using The Chi-Square Test. Statistical significance is defined as a P value of less than 0.05.

Surgical technique

Under direct vision, radial incision of the anoderm over the intersphincteric groove and restricted division of the internal sphincter only up to the proximal ex tent of the fissure. To minimize bleeding, a thicker strip of autonomic muscle is introduced into the wound through a curved clamp and separated with electrocautery. To avoid infection, the incision is left open and the patient is started on warm tub soaks. The wound will shut naturally in a few days.

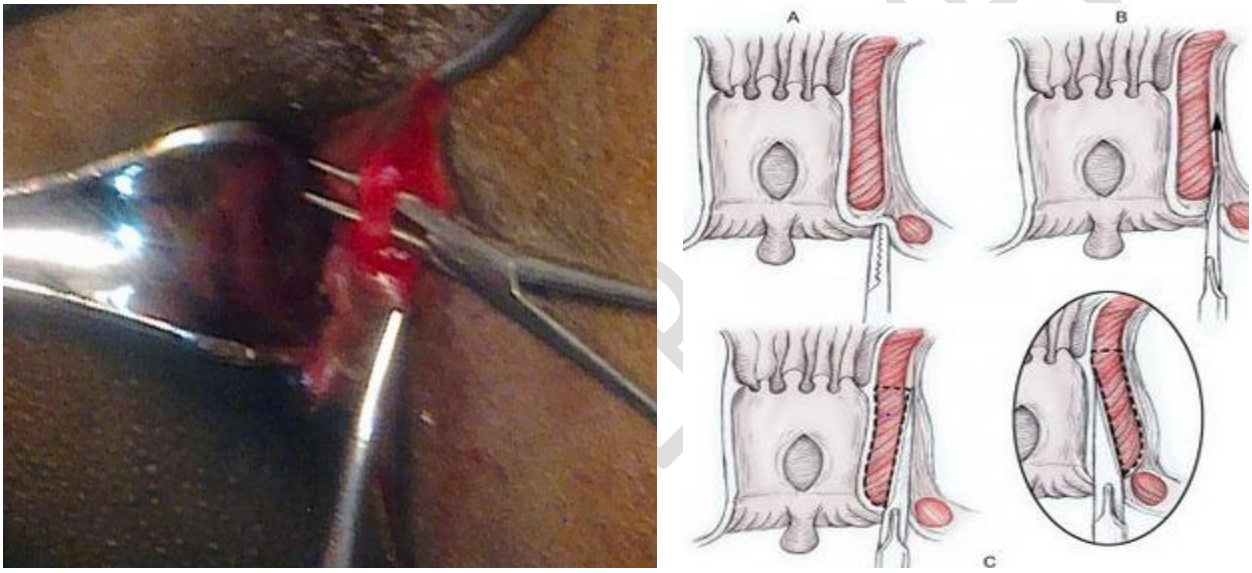

Figure 1 . Lateral Internal Sphincterotomy (open) vs. Lateral Internal Sphincterotomy (closed)

RESULTS

This study included 80 patients with chronic anal fissure. From December 29, 2019 to December 20, 2020, this prospective clinical trial was conducted in the Surgical Department of Nangarhar University Hospital. Table 1 showed that 16 patients (20%) were between the ages of 25 and 36, 36 patients (28.80%) were between the ages of 37 and 48, and 27 patients (21.60%) were between the ages of 49 and 60. The average age was 42 years.

Table 1 shows the age distribution of patients.

No	Age (Years)	No. Patients	Percentage (%)
1	25-36	15	18.75%
2	37-48	37	46.25%
3	49-60	28	35.00%
4	Total	80	100%

A total of 61 male patients (76.25 percent) and 19 female patients were present (23.75 percent).

Table 2: Patient Sex Distribution

No	Sex	Patients No	Percentage(%)
1	Male	61	76.25%
2	Female	19	23.75%
3	Total	80	100%

There were 80 patients in the study, and the location of the anal fissure was as follows: 71 patients (88.75%) had posterior midline fissure (9.44%). Anterior Fissure affected 8 patients (10.25%). (0.09 percent Of Them Are Females). 1 patient (1.00%) had a lateral fissure.

Table 3 shows the patient distribution by anal fissure location.

N0	Fissure Position	Patients N0	Percentage (%)
1	Posterior	71	88.75%
2	Anterior	8	10.25%
3	Lateral	1	1.00%
4	Total	80	100%

The most common complaint of most patients was defecation pain. Pain During And After Defecation, Associated With Bleeding Per Rectum, Especially Streak Over The Stool, was reported by 43 patients (53.75 percent) out of 80. The main complaint of 28 patients (35%) was a little amount of rectal bleeding at the time of defecation, and 5 patients (6.25%) also had closed vs open lateral internal sphincterotomy. Perianal Swelling is a condition that occurs when there is a buildup of fluid in the This was Sentinel Pile, according to the examination. Due to discharge, only 4 patients (5%) developed Pruritis Ani.

Table 4: Patient Distribution Based On Signs And Symptoms.

N0	Chief Complaint	No. patients	Percentage (%)
1	Pain	43	53.75%
2	Bleeding	28	35%
3	Perianal Swelling	5	6.25%
4	Pruritis	4	5%

Complications that occur after surgery. In the closed method, 3 patients (7.5%) complain of pain, but in the open method, 4 patients (10%) complain of pain. In the closed method, 2 patients (5%) bled, while in the open method, 3 patients (7.5%) bled. Infection was found in 4 individuals (10%) with each method. In the closed method, 8 patients (20%) had flatus incontinence, but in the open method, 13 patients (32.5%) had flatus incontinence. Recurrence occurred in 3 patients (7.5%) in the closed method and 5 patients (12.5%) in the open method:

Complications Following Open And Closed Sphincterotomies (Table 5)

No	Operation & Complication	Closed Method	%	Open Method	%
1	Pain	3	7.5%	4	10%
2	Bleeding	2	5%	3	7.5%
3	Infections	4	10%	4	10%5
4	Incontinence	8	20%	13	32.5%
5	Recurrence	3	7.5%	5	12.5%
6	Total	21	49.5%	27	73%

Discussion

This study compares the two methods of open and closed sphincterotomy, as both have been used in the past and are being used in this one. Or maybe not. In this comparative study, 61 (76.25 percent) of the males and 19 (23.75 percent) of the women with chronic anal fissure who had both open and closed sphincterotomies were compared.In a study conducted by Nahass, 70 percent of males and 30 percent of females had chronic anal fissure, according to Mélange. Anal Fissure patients complain of pain, bleeding, discharge, and pruritus ani. In the other studies, 54 percent of patients reported pain during or after defecation, and 35 percent reported bleeding, which was very close to Hanel and Gorden's reports of 45.4 percent and 35.7 percent, respectively. In this study, 71 patients (88.75%) had posterior midline fissures, 8 patients (10.25%) had anterior anal fissures, and 1 patient (1.00%) had lateral fissures. According to Mazier and Levien, anal fissures are more common posteriorly (84 percent). Cushieri further said that the majority of the fissures are posteriorly midline (88 percent). Nahas reported an anterior fissure of 13.9 percent and a posterior midline of 86.1 percent. 1 It's possible that this is due to hypo vascularization and hypoperfusion in the posterior anal commissure. Combination Of These Factors With Internal Anal Sphincter Hypertonia, Causing Ischemia, Explaining Poor Wound Healing And Pain Ischemic In Nature, Occurs Only For A Limited Period After Defecation, Patients May Try To Avoid Defecation Because Of The Pain 13. Surgery is a highly effective treatment for a fissure, and it involves a little operation to cut a portion of the internal anal sphincter muscle, which aids in the healing of the fissure and reduces pain and spasm. When the results of open and closed techniques were compared in terms of pain (3 vs. 4%), it was discovered that the open technique caused less tissue dissection and more bleeding than the closed method (2 Vs 3 Per Cent) Due to more tissue damage, infection (4 Vs 4%), incontinence (8 Vs 13%) due to partial cutting of the internal sphincter in both methods and its minor kind (flatus incontinence), and recurrence (3 Vs 5%). In terms of recurrence rate, healing rate, and other complications, there was no significant difference between the open and closed methods of lateral internal sphincterotomy. Closed Lateral Internal Sphincterotomy Is The Treatment Of Choice For Chronic Anal Fissure, And It Can Be Performed Effectively And Safely With A Low Complication Rate. Our recommendations are that experienced surgeons should use the closed

technique, whereas those who are less experienced or trained should use the open technique to treat chronic anal fissure.

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