

**Research Article**

## **Outcome of Treatment of Anal Fissure by Closed Lateral Internal Sphincterotomy Operated With Von Greaves (Cataract Knife)**

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### **ABSTRACT**

**Objective:** To investigate whether the lateral internal anal sphincterotomy is minimally invasive in terms of symptomatic relief, continence and complications with the Von Greaves knife (cataract).

**Study design:** A case-control study.

**Place and Duration:** In the Surgical Unit II of Nishter Hospital, Multan for the duration of one year from June 2017 to June 2018 after the approval of the ethical committee.

**Methodology:** Patients with chronic anal fissures were included in the study after informed consent was obtained. Patients with other simultaneous ano-rectal pathologies, such as polyps other than hemorrhoids or growths, were excluded. All patients underwent a modified lateral internal anal sphincterotomy with a minimally invasive Von-Greaves knife (cataract).

**Results:** 250—220 men (75.3%) and 74 women (24.7%) who were between 18 and 70 years (mean age 39.2 years) of age partook in this study. Von-Greaves knife (cataract) was employed to perform internal sphincterotomy in all patients. Postoperative patients had demonstrably lower pain levels and were discharged the same day. Small complications were observed in 38 patients (12.6%). Hematoma was observed in 6 (2%) patients, impaired temporary control of flatus control was observed in 08 (2.6%) of the patients, fabric dirt was noted in 06 (2%), and 12 (4%) of the patients presented with urinary retention. Major complications such as bleeding in any patient, continuous incontinence of flatus and feces or recurrence were not reported.

**Conclusion:** The division of the inner sphincter with a minimally invasive Von-Greaves knife (V.G) yield lower pain-levels and minimizes postoperative complications.

**Key words:** anal fissure, CLIS (closed lateral Internal anal sphincterotomy), von-greaves knife.

### **INTRODUCTION**

Anal fissure, a split in the coating of the distal anal canal, is a common benign condition. It is a common peri-anal condition that presents with

bleeding, itching and pain of varying intensity. Traumatic or ischemic injury to the anal mucosa usually results in a superficial tear of the posterior

midline. The blood that supplies this region is understood to be provided by the terminal arteries passing through the internal anal sphincter before reaching the posterior commissure. <sup>1</sup>Hypertonia of the internal anal sphincter produces ischemia of the posterior commissure, which produces severe pain (ischemic by nature) and explains the priority for the posterior midline and poor recovery. Laser Doppler flowometry and postmortem angiographic studies divulge a relatively poor perfusion site in the posterior commissure, usually where fissures are seen. <sup>2</sup>

These symptoms of anal fissure cause severe morbidity and poor quality of life. The procedure for treating this condition should preferably be a means that results in an optimal clinical outcome and is less painful. In spite of the wide variety of techniques, the ideal handling of this situation is controversial. <sup>3</sup>The pharmacological relaxants of the anal sphincter support the healing of fissures; however, its effects are temporary and the risk of late recurrence is still uncertain. Lateral sphincterotomy is the standard surgical treatment for anus fissure resulting in an improvement in 90% of cases. However, sphincterotomy also carries a significant risk of incontinence. Traditional surgical procedures—such as manual anal dilatation or internal lateral sphincterotomy—are commonly used to reduce the diameter of the internal anal sphincter, but anal continence carries the risk of irreversible deterioration.

Open sphincterotomy requires the division of the inner sphincter into the level of the dentate line, a more conservative division leading to a lower rate of incontinence with an equivalent healing rate. <sup>4</sup>A modified technique with minimally invasive blade Von-Greaves (cataract) and closed lateral sphincterotomy (CLIS) was the most preferred surgical procedure for improvement in the outcomes of anal fissures.

In this study, it was observed that closed lateral internal anal sphincterotomy was seen in terms of symptomatic relief, continence and complications with Von-Greaves knife (cataract), which were all well-accepted by the patients.

## MATERIALS AND METHODS

This case-control study was conducted in the Surgical Unit II of Nishter Hospital, Multan for a duration of one year from June 2017 to June 2018 after the approval of the ethical committee. Three hundred patients with chronic anal fissure were selected for analysis. Except hemorrhoids, patients associated with other anorectal pathologies such as polyps, growth, or prolapsed were excluded. Eight (2.7%) anal stenosis was included in the study because of the chronicity of the fissure. In cases where it was not possible to perform proctoscopy on the first visit due to pain, the patient was given a laxative, a hot sitz bath and 0.5% glyceryl trinitrate and was operated on during the next visit. Chronic anal fissure was defined as symptoms lasting more than 8 weeks and horizontal muscle fibers were shown at the base of the fissure and / or in the presence of a sentinel label. Preoperative preparation started 24 hours before surgery. The CLIS was performed under general anesthesia with a Von-greaves blade (cataract) in the lithotomy position. General anesthesia was preferred except for the patients who were not suitable to this modality of intervention. The anesthesiologist was asked to create a mild general anesthetic so that the sphincter tone was maintained and a rectal limitation between the internal sphincter and rectal anus may be felt. 2% lignocaine 2cc was injected into the position of the clocks 1 cm above the anal edge at 1 ° C prior to the placement of the cataract knife. All patients were discharged 24 hours later at the Tab. Metranidazole 400 mg TDS and Tab. Diclofenac Sodium 50 mg BD 5 days and twice daily sitz bath were administered for the entire duration, and laxatives were used for 3 days. The patients were followed up for 3 weeks during one month for a year.

Specific questions were asked about fluid, stool or flatus leakage and recurrence of symptoms. Browning and Park classification in the postoperative incontinence of feces (Table I) is tabulated below.

Table I. Browning and Park's classification for incontinence<sup>9</sup>

Category A	Normal continence except occasional lack of fecal control
Category B	Regular incontinence of flatus with usual continence of solid liquid stool
Category C	Intermittent small volume faecal leakage with usual incontinence of flatus but acceptable continence of solid stool
Category D	Gross incontinence of solid and liquid stool

**RESULTS**

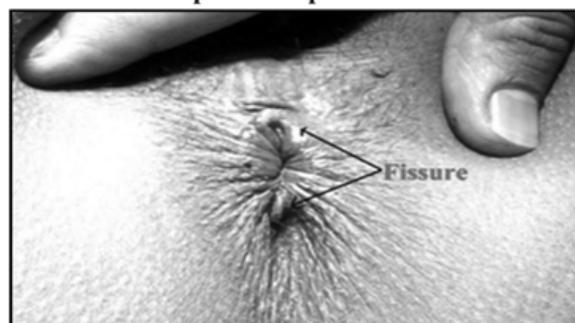
The study included 300 patients with chronic anal fissure, including 220 males (73.3%) and 80 females (26.7%) from 18 years to 70 years (mean age 39.2 years). Von-Greaves knife (cataract) and closed lateral internal sphincterotomy were performed in all patients. Fissure was posterior in 235 (76.7%) patients, anterior in 43 (14.3%), anterior and posterior in 22 (7.3%). Of the patients, 185 (61.7%) had no pain with routine analgesics within 24 hours, with pain 48 hours after the operation in 109 (36.3%) patients. Six patients (2%) were discharged with mild but tolerable pain. Major complications such as flatus loss and control of feces or recurrence were not recorded. There were no minor complications in 38 patients (Table II).

Table II. Complications of CLIS

Complications	No. (%)
Urinary retention	12 (4)
Temporary loss of flatus	8 (2.7)
Soiling of cloths	6 (2)
Itching and burning	6 (2)
Primary hemorrhage	6 (2)
Haematoma	0
Infection	0
Permanenet incontinence	0
Delayed healing > 60 days	0
Recurrence	0

Loss of temporary control in flatus and stool was seen in 8 patients (2.7%) and in 6 (2%) patients. They spontaneously recovered from category C of the Browning and Parks classification for incontinence in category A without any additional treatment.

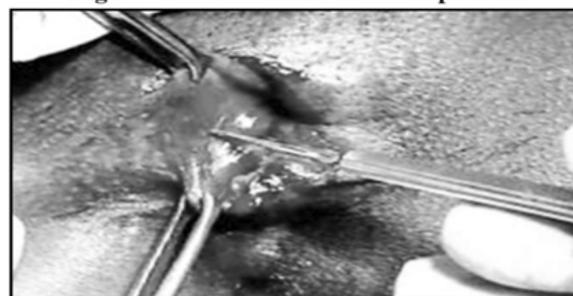
Fig.1. Chronic anal fissure at anterior and posterior position



**DISCUSSION**

In this study, it was shown that men are more affected than women and CLIS is a safe procedure that yields better recovery outcomes in patients. Although associated minor complications were observed, they were all reversible. <sup>1,3</sup>Syed et al reported a complication rate of 17.8% after open technique. In this study, only 2% of the patients were afflicted with contaminations with the undergarments. Primary hemorrhage was observed only in 6 patients (2%), and no hematoma was seen in any of the patients. <sup>4,5</sup>Aysan et al reported 17.6% of the postoperative external hemorrhages after internal lateral sphincterotomy. <sup>7-9</sup>A new comparison study against local glyceryl trinitrate ointment showed that the rate of sphincterotomy associated with chronic anal fissure was significantly more effective for healing and in conferring pain relief associated with sphincterotomy at a rate of 0.2% in 6 weeks and 10 weeks.

Fig.2. Cataract knife blade in positon



There were significant problems with the ointment group associated with slow recovery and the long time compliance required for symptomatic relief. <sup>10-12</sup>Minimal incontinence was 6% in the sphincterotomy group and none in the ointment

group ( $p > 0.05$ ). Considering early symptomatic relief, rapid fissure healing and better patient compliance, surgical sphincterotomy is the preferred treatment for the treatment of chronic anal fissure. No permanent flatus loss or fecal incontinence was observed in this study, but a temporary loss was observed in 8 (2.7%) patients.<sup>13</sup> In an untreated month, category A improved from category C of Browning and Parks for incontinence.

### CONCLUSION

With the Von-Greaves knife, CLIS is a safe procedure that yield a favorable recovery and prognostic outcomes, and is associated with negligible complications.

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