

# CLOSED LATERAL INTERNAL ANAL SPHINCTEROTOMY FOR ANAL FISSURE WITH VON-GREAVES (CATARACT KNIFE)

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## ABSTRACT

**Objective:** To observe the outcome of Close Lateral Internal Anal Sphincterotomy with minimally invasive Von Greaves (cataract) knife in terms of symptomatic relief, continence and complications.

**Study Design:** Case control.

**Setting & Duration:** Surgical Department of Sindh Government Qatar Hospital, Orangi Town, Karachi over a period of 10 years, from January 1997 to December 2007.

**Methodology:** Patients with chronic anal fissure were included in the study after taking informed consent. Patients with concomitant other ano-rectal pathologies like polyps or growth except hemorrhoids, were excluded. All patients were subjected to closed lateral internal anal sphincterotomy with minimally invasive Von-Greaves (cataract) knife with a modified technique.

**Results:** Three hundreds patients with chronic anal fissure, 220 male (75.3%) and 74 female (24.7%) age ranged from 18 to 70 years (mean age 39.2 years) were enrolled in the study. All patients underwent Close Lateral Internal Anal Sphincterotomy with Von-Greaves (cataract) knife. Post-operatively patients had minor pain and they become ambulant on the same day. Minor complications were noted in 38 patients (12.6%). Haematoma in 06(2%), temporary loss of flatus control in 08 (2.6%), soiling of cloth in 06(2%), urinary retention in 12(4%), itching and burning sensation in 06 (2%). No major complication like bleeding, permanent incontinence of flatus and feces or recurrence was reported in any of the patients.

**Conclusion:** Division of internal sphincter with minimal invasive Von-Greaves (V.G) knife renders patient relatively pain free and minimizes post-operative complications.

**KEY WORDS:** Anal Fissure, CLIS (Close Lateral Internal anal Sphincterotomy), Von-greaves Knife

## INTRODUCTION

Anal fissure, a split in the lining of distal anal canal, is a common benign condition. It is a common peri-anal condition presenting with bleeding, itching and pain of varying severity.<sup>1</sup> Traumatic or ischemic damage to the anal mucosa produces a superficial tear, usually in the posterior midline. It has been shown that the blood to this region is supplied by end arteries, which pass through the internal anal sphincter before reaching the

posterior commissure. The internal anal sphincter hypertonia produces ischemia of the posterior commissure, that results in severe pain (ischemic in nature), and explains the predilection for the posterior midline and poor healing.<sup>2</sup> Laser Doppler flowmetry<sup>3</sup> and postmortem angiographic<sup>4</sup> studies have shown a relatively poor perfuse area at the posterior commissure, where most commonly fissures occur. The symptoms of anal fissure cause considerable morbidity and reduction in the quality of life.<sup>5</sup>

The method of treating this pathology should preferably be one that results in optimal clinical outcome and is less painful. Despite a plethora of techniques in vogue, an ideal management of this condition continue to be a subject of debate.<sup>1</sup> Pharmacological anal sphincter relaxants promotes fissure healing; however their effect are transient and the risk of late recurrence remain uncertain.<sup>2</sup> Lateral sphincterotomy is currently the stan-

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standard surgical treatment for fissure in ano, which results in healing of 90% of cases.<sup>1</sup> However sphincterotomy also carries a significant risk of incontinence. Traditional surgical procedures; manual anal dilatation or internal lateral sphincterotomy, have been commonly used to reduce the hypertonia of the internal anal sphincter, but they do carry risk of irreversible impairment of anal continence.<sup>6</sup>

Open sphincterotomy comprises of division of the internal sphincter up to the level of the dentate line, a more conservative division could lead to a lower incontinence rate with an equivalent healing rate.<sup>7</sup> Closed Lateral Internal Sphincterotomy (CLIS), with the minimally invasive Von-Greaves (cataract) knife with a modified technique have been the most favored surgical procedure for healing in Anal Fissure.<sup>8</sup> In this study it was observed the outcome of Close Lateral Internal Anal Sphincterotomy with Von-Greaves (cataract) knife in terms of symptomatic relief, continence and complications has good patient's acceptance.

#### METHODOLOGY

This case control study was conducted at the surgical unit of Sindh Government Qatar Hospital Orangi Town, Karachi, from January 1997 to December 2007. Three hundred patients with chronic anal fissure were enrolled in the study after taking informed consent. Patient associated with other ano-rectal pathologies like prolepses, growth or polyp except hemorrhoids were excluded. Eight (2.7%) had anal stenosis due to chronicity of fissure were also included in the study. If proctocopy was not possible at the first visit because of pain, it was completed at a subsequent visit after advising patient to take laxative, hot sitz bath and 0.5% glyceryl trinitrate. Chronic anal fissure was defined as symptoms lasting for more than 8 weeks, with horizontal muscle fibres showing at the fissure base and/or the presence of a sentinel tag. Pre-operative preparation was started 24 hours before surgery.

CLIS performed under general anesthesia in lithotomy position using von-greaves (cataract) knife. General anesthesia was preferred for all patients except few who

were unfit for that. Anesthetist was asked to induce light general anesthesia so that sphincter tone is preserved and a clear demarcation between internal sphincter and ano rectal ring can be felt per rectally. Injection 2% lignocain 2cc injected at 7<sup>o</sup> clocks position, 1 cm above the anal verge before inserting the cataract knife.<sup>8</sup> Sentinel piles were not excised in most of the patients.

All patients were discharged after 24 hours on Tab. Metranidazole 400mg TDS and Tab. Diclofenac Sodium 50mg BD for 5 days and sitz bath twice daily. Laxatives were used for 3 days. Patients were followed up weekly for one month and than 3 monthly for a period of 12 months. Specific question were asked regarding leakage of fluid, feces or flatus as well as recurrence of symptoms. Browning and Park's classification used for post-operative incontinence of feces<sup>9</sup> (Table I).

#### RESULTS

Three hundreds patients with chronic anal fissure, 220 male (73.3%) and 8 female (26.7%) age ranged from 18-70 years (mean age 39.2 years) were included in the study. All patients underwent Close Lateral Internal Anal Sphincterotomy with Von-Greaves (cataract) knife. The fissure was posterior in 235(76.7%) of patients and anterior in 43(14.3%) while both anterior and posterior in 22(7.3%) of patients.

Most of patients 185(61.7%) were pain free on routine analgesics within 24 hours while 109(36.3%) after 48 hours postoperatively. Six patients (2%) were discharged with mild but tolerable pain. No major complication like permanent loss of flatus and feces control or recurrence was noted. How-ever minor complications were noted in 38 patients (Table II). Temporary loss of control over flatus and faeces was noted in 8 patients (2.7%) and soiling of cloth in 6(2%) patients. They improved from category C of Browning and Parks classification for incontinence to category A spontaneously without any further treatment.

#### DISCUSSION

In this study male were affected more than female and

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

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

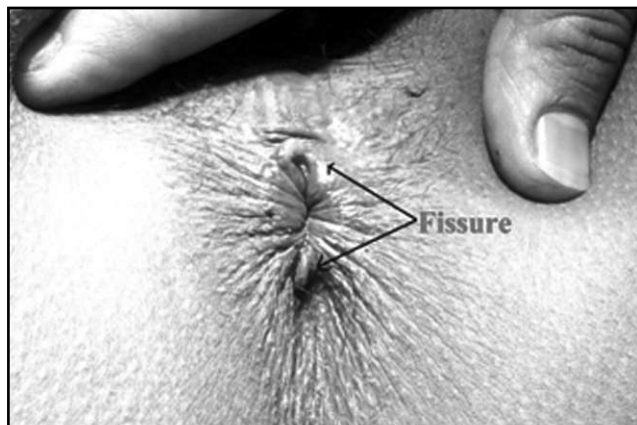
it showed that CLIS with Von-Greaves knife is safe procedure, most of the patients remain free of pain. Although it was associated with minor complications but all were reversible. Syed<sup>11</sup> reported a complication rate of 17.8% after open technique. There was no demonstrable difference between open versus closed technique for sphincterotomy in different studies,<sup>12,13</sup> where as in a study conducted by Gargia,<sup>14</sup> statistically significant difference was noted for soiling of under garments, 26.7% in open versus 16.1% in closed. In this study only 2% of patients experienced soiling of underclothes.

CLIS with Von-Greaves knife has a flat of blade of just 2 mm in size. Primary hemorrhage was noted in only 6 patients (2%) which were controlled by pressure. Haematoma was not observed in any case. Aysan<sup>15</sup> reported 17.6% post operative external bleeding following Lateral Internal Sphincterotomy. A recent comparative study of lateral internal sphincterotomy versus local 0.2% glyceryl trinitrate ointment for the treatment of chronic anal fissure showed that surgical sphincterotomy was significantly more effective in providing pain relief

**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

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



and was associated with significantly better fissure healing rates at 6 weeks and 10 weeks.<sup>16</sup> There were substantial problems with compliance in ointment group related to slow healing and longer time needed for symptomatic relief. Minor incontinence was 6% in sphincterotomy group and none in ointment group ( $p > 0.05$ ). Considering early symptomatic relief, rapid fissure healing and better patient compliance surgical sphincterotomy is the treatment of choice for chronic anal fissure.<sup>16</sup> A meta-analysis done by Sajib<sup>17</sup> comparing surgical vs chemical sphincterotomy using botulinum toxin for the treatment of chronic anal fissure showed that there was a higher complication rate (Risk ratio 14.54,  $P < 0.0163$ ) and a higher risk of transient faecal incontinence (RR 6.39,  $P < 0.0001$ ) in the surgical sphincterotomy group than in the chemical sphincterotomy group. Surgical sphincterotomy had a significantly higher healing rate and a significantly lower recurrence rate. As long as the patient is willing to accept a negligible risk of transient faecal incontinence, surgical sphincterotomy should be the first-line treatment for Chronic Anal fissure.

No permanent loss of flatus and faeces incontinence was seen in this study, however temporary loss was seen in 8(2.7%) and soiling of cloths in 6(2%) patients. They improved from category C of Browning and Parks classification for incontinence to category A in one month without treatment.

## CONCLUSION

CLIS with Von-Greaves knife is safe procedure as patients remain pain free and associated with minor reversible complications only.

## REFERENCES

1. Gupta P J. A review of conservative and surgical management of anal fissure. *Acta Gastroenterol Belg.* 2005; 68(4): 446.

**Fig.2. Cataract knife blade in positon**



2. Marion J, Scholfield J H. Anal Fissure and chemical Sphincterotomy. *Recent advances in Surg* 2001; 24: 115-24.
3. Scouten W R, Briel J W, Auwerda J J. Relationship between anal pressure and anodermal blood flow: The vascular pathogenesis of Anal Fissure. *Dis Colon Rectum* 1994; 37: 664-9.
4. Lund J N, Binch C, McGrath J, Sparen R A, Scholfield J H. Topographical distribution of blood supply to the anal canal. *Br J Surg* 1999; 88: 496-8.
5. Sailer M, Bussen D, Dubes E S, Fuchs K H, Theeda A. Quality of life in patients with benign anorectal disorders. *Br J Surg* 1998; 89: 1716-9.
6. Gracia A, Belmonk M C, Pervez J J, Jensen L, Madoff R D, Wong W D. Incontinence after lateral internal sphincterotomy , anatomic and functional evaluation. *Dis Colon Rectum* 1998; 41: 423-7.
7. Garcea G, Sutton C, Mansoori S, Llyod T, Thomas M. Results following conservative lateral sphincterotomy for the treatment of chronic anal fissure. *Colorectal Dis* 2003; 5(4): 311.
8. Keighley M R B. Anorectal Disorders. In: Fischer JE. *Mastery of Surgery*. 5th edn. Lippincott Williams and Wilkins, Philadelphia. 1608-27.
9. Browning G G P. Post anal repair for neuropathic faecal incontinence, correlation of clinical results and anal canal pressure. *Br J Surg* 1999;86: 651-5.
10. Umer S A, Salim M. Effectiveness of topical diltiazem versus glyceryl trinitrate in the treatment of chronic anal fissures. *Pak J Surg* 2003; 19: 62-7.
11. Syed S A, Waris S, Ahmed E, Saeed N, Ali B. Lateral internal anal sphincterotomy for anal fissure: with or without associated anorectal procedures. *J Coll Physicians Surg Pak* 2003; 13(8): 436-9.
12. Liratzopoulos N, Efremidou E I, Papageorgiou M S. Lateral subcutaneous internal sphincterotomy in the treatment of chronic anal fissure; our exposure. *J Gastrointestinal Liver Dis* 2006; 15(2): 143-7.
13. Menten B B, Tezcaner T, Yilmaz U. Results of lateral internal sphincterotomy for chronic anal fissure with particular reference to quality of life. *Dis Colon Rectum* 2006; 49(7): 1045-51.
14. Gargia A J, Belmonte C, Wong W D. Open versus closed sphincterotomy for chronic anal fissure: long term results. *Dis Colon Rectum* 1996; 39: 440-3.
15. Aysan E, Aren A, Ayer E. A prospective randomized controlled trial of primary wound closure after lateral internal sphincterotomy. *Am J Surg* 2004; 187(2): 291-4.
16. Siddique M I, Murshed K M, Majid M A. Comparative study of lateral internal sphincterotomy versus local 0.2% glyceryl trinitrate ointment for the treatment of chronic anal fissure. *Bangladesh Med Res Counc Bull* 2008; 34(1): 12-5.
17. Sajid M S, Hunte S, Hippolyte S, Kiri V A, Maringe C, Baig M K. Comparison of surgical versus chemical sphincterotomy using botulinum toxin for the treatment of chronic anal fissure: a meta-analysis. *Colorectal Dis* 2008; 10(6): 547-52.