Vol. 16, No. 3
ORIGINAL PAPER

GENERAL SURGERY

MEDICAL CHANNEL
JULY - SEPTEMBER 2010

TO COMPARE THE OUTCOME OF OPEN AND CLOSED LATERAL INTERNAL SPHINCTEROTOMY IN THE MANAGEMENT OF CHRONIC ANAL FISSURE.

1. **QAMBAR ALI LAGHARI**
MBBS
2. **ZAMEER HUSSAIN LAGHARI**
FCPS
3. **AFZAL JUNEJO**
FCPS
4. **RAJA RIZWAN**
MBBS
5. **ADNAN MAQSOOD CHOUDHRY**
MBBS

1. ***Resident,***
Department of Surgery,
LIAQUAT UNIVERSITY HOSPITAL, JAMSHORO SINDHI
2. ***Registrar,***
Department of Surgery,
LIAQUAT UNIVERSITY HOSPITAL, JAMSHORO SINDHI
3. ***Assistant Professor,***
Department of Surgery,
LIAQUAT UNIVERSITY HOSPITAL, JAMSHORO SINDHI
4. ***Resident,***
Department of Surgery,
LIAQUAT UNIVERSITY HOSPITAL, JAMSHORO SINDHI
5. ***House officer,***
Department of Surgery,
LIAQUAT UNIVERSITY HOSPITAL, JAMSHORO SINDHI

Correspondance Address
QAMBAR ALI LAGHARI
Department of Surgery,
LIAQUAT UNIVERSITY HOSPITAL, JAMSHORO SINDHI

ABSTRACT

OBJECTIVES: *To compare the outcome of open and closed lateral internal sphincterotomy in the management of chronic anal fissure.*
METHODOLOGY: *This prospective comparative study was conducted at Department of Surgery, Liaquat University Hospital Jamshoro and a private Hospital, Hyderabad from January 2008 to December 2008. A total of 100 patients were included in the study after obtaining informed consent. Data was collected on pre designed proforma and statistical analyzed was performed through MedCal statistical software. Closed lateral internal sphincterotomy (CLIS) was performed in 50 patients of Group A and open lateral internal sphincterotomy (OLIS) was performed in 50 patients of Group B. Follow-up for complications were done for the period of 6 months after the procedure. Data was analyzed through SPSS 17. A p-value of 0.05 or less was considered as significant. Student t-test and chi-square were applied where appropriate.*
RESULTS: *Mean±SD age of patients was 39±4.3 years. There were 83 male and 17 female patients. Eighty seven patients (87%) had posterior and 13 patients (13%) had anterior anal fissure. Thirty seven patients of both groups (37%) had bleeding per rectum. Prurties was complained by 11 patients (11%). Two patients who were treated with OLIS (group B) complained of bleeding. One patient, who was treated by CLIS (groups A) developed local abscess. Flatus incontinence was a common complication complained by 4 patients in Group A and 6 patients in Group B. recurrence of fissure was observed in 2 patients of Group A and 3 patients of Group B*
CONCLUSION: *Closed lateral internal sphincterotomy was found to be appropriate management choice for the treatment of chronic anal fissure, as it results in less frequency of obstacles and lesser recurrence rate.*

KEYWORDS: Closed Lateral Internal Sphincterotomy (CLIS), Open Lateral Internal Sphincterotomy (OLIS) and chronic anal Fissure

INTRODUCTION

An anal fissure is an ulcer or a longitudinal tear in the squamous epithelium of anal canal. 90% are located posteriorly and 10% of anal fissures are located anteriorly.[1] Chronic anal fissure is distinguished by a skin tag and hypertrophied anal papilla.[1,2] Chronic constipation or prolonged diarrhea is suggested as being the cause of tear in the anal endoderm.[3] An anal fissure, also called as fissure-in-ano, may result in pruritis, pain or bleeding. Fissures can lengthen upward into the lower rectal mucosa; or extend downhill resulting into a swollen skin tag at the anal margin, also recognized as a sentinel pile. Chronic constipation or diarrhea along with longstanding stress can cause anal abrasions, acute ulcers at anal margin or linear fissures. Hard and dry stool is a commonly tears the anal mucosa during defecation. During diarrhea anal mucosa is inflamed and fragile which easily gets tear due to over use.

The clinical history is characteristically cyclical; episodes of acute pain are pursued by temporary healing than patient complains of another episode of acute pain. Anal fissures can generally be diagnosed based on the clinical examination. Digital rectal examination (DRE) is mostly not performed due to severe pain.

Diagnosis is established on clinical examination. On examination one can inspect a tag

or sentinel pile. Usually ulcer occurs posteriorly which can be visualize upon gentle separation of skin of anal verge. Chronic anal fissure needs to be differentiated form an ulcer secondary to Crohn's disease or any suspected malignancy. Usually on inspection there is a single fissure; however in a few cases they can be multiple.

Around 50 percent of fissures heal by themselves without the requiring any surgery, however chronic anal fissures need to be operated upon. At least 90% of patients who have need of operation for chronic anal fissure have no additional difficulty from fissures. More than 95% of patients accomplish long-drawn-out symptomatic relief.

Lateral internal sphincterotomy has been appeared as the preferred procedure for uncomplicated chronic anal fissure.[2] Lateral internal sphincterotomy is of two types, open and closed. Closed lateral internal sphincterotomy (CLIS) can be performed under spinal or local anesthesia with fewer postoperative days of hospital and lesser complications. In this study authors have compared the outcome of both procedures in terms of poster operative complications and recurrence for fissure.

MATERIAL AND METHODS

This study was conducted at Department of Surgery, Liaquat University Hospital Jamshoro and a private Hospital at Hyderabad from January 2008 to December 2008. A total of 40 patients of all age groups of both gender with uncomplicated chronic anal fissure were enrolled in this study after obtaining informed consent. Patients were randomized into 2 groups. In Group A of 50 patients CLIS was done and in 50 patients of Group B OLIS was done.

All cases were operated under spinal and local anesthesia. Broad-spectrum preoperative antibiotics were given intravenously to each patient. In CLIS after palpating the intersphincteric groove, the internal and external anal sphincters were pierced by surgical blade at 3'O clock in lithotomy position. Sphincterotomy was performed by dividing internal anal sphincter up to dentate line and the wound left open for secondary healing. In OLIS intersphincteric groove was incised at 3'O Clock position in lithotomy position.

The internal sphincter is grabbed with Allis forceps and bluntly freed. Internal anal sphincter is separated up to dentate line under direct visualization. Hemostasis is achieved and wound left open to heal secondarily. All patients of Group A and B were advised to take sitz bath regularly.

TABLE I
AGE OF PATIENTS

Age range (years)	Group A CLIS N=50	Group B OLIS N =50	P-VALUE*
< 20	6	4	
21-30	8	10	
31-40	23	31	0.723
41-50	12	5	
51-60	1	0	
Total	50	50	

TABLE II
PRESENTATION OF SYMPTOMS

SYMPTOM	NUMBER OF PATIENT	PERCENTAGE
Bleeding per rectum	37	37%
Constipation	81	81%
Pain during defecation	91	91%
Pruritis	11	11%

Table III
Postoperative complications

COMPLICATION	GROUP A CLIS N=50	GROUPB OLIS N=50	P-value*
Bleeding	-	2	-
Abscess formation	1	-	-
Flatus incontinence	4	6	0.003
Recurrence	2	3	0.521

*Chi-Square Test

Patients of both groups were followed for a period of 6 months. All relevant variables of study were noted a proforma and analyzed through MedCalc software. A p-value of 0.05 or less was considered as significant. Student t-test and chi-square were applied where appropriate.

RESULTS

Mean±SD age of patients was 39±4.3 years. There were 83 male and 17 female patients. Majority of patients (54%) were between 31-40 years in both groups. Table I.

Eighty seven patients (87%) had posterior and 13 patients (13%) had anterior anal fissure. Eighty one (81%) had constipation. Pain during defecation was complained by every patient in this series (100%). Patients started to feel pain just before defecation which was relieved after defecation. In this series 37 patients of both groups (37%) have complained of bleeding per rectum. Prurties ani was complained by 11 patients (11%). Table II.

On follow-up, 2 patients who were treated with OLIS (group B) complained of bleeding. One patient, who was treated by CLIS (groups A) developed local abscess. Flatus incontinence was a common complication complained by 4 patients in Group A and 6 patients in Group B. recurrence of fissure was observed in 2

patients of Group A and 3 patients of Group B. Table III.

DISCUSSION

In this series the commonest presenting age range was 31-40 years and same has been reported by Herzig et al in his series.[4] In previously conducted studies most of authors have reported that chronic anal fissure are reported by middle age patients and same was the case in our series, Mean±SD age of patients was 39±4.3 years, which is almost same as reported previously.[5] Pain during defection was complained by 91% of patients in our series, which is almost same as reported by Mousavi SR.[6] Bleeding per rectum was complained by 37% of patients which is better than the figure of 71.4% reported by Hananel et al[7]. in our series majority of patients were males as there were 83 male and 17 female patients, reason being which repeatedly reported that females in our society are modest to visit male surgeons until the symptoms become agonizing.

Posterior anal fissure was seen in 87 patients (87%), whereas 13 patients (13%) had anterior anal fissure, which is almost same as presented in literature that is 90% anal fissures are posterior and 10% anterior.[1] In this series, perianal abscess was seen in only one patient who was operated by CLIS, where is there was no perianal abscess seen in any of patient operated OLIS, however some authors have mentioned the incidences of in patients operated with OLIS.[8] In Group A only 4 patients had flatus in continence whereas in Group B 6 patients has flatus incontinence (p-value = 0.03). Recurrences of anal fissure was seen in 2 patients of Group A and in 3 patients of Group B. Jensen SL et al[9] and Perkiness et al[10] have reported a recurrence almost same number of compilations and less recurrence in patients treated with CLIS, as were seen in our study. Garcia et al[11] has reported in their study that CLIS is preferable than OLIS because it provides similar rate of cure with less impairment of control.

Arroyo A, et al[12] also reported that CLIS is effectual in the management of chronic anal fissure by means of fewer postoperative complications. Altomare DF et al[13] reported that both techniques are equally effective.

CONCLUSIONS

Closed lateral internal sphincterotomy was found to be suitable treatment option for the management of chronic anal fissure in terms of fewer complication and recurrence rate.

REFERENCES:

1. Jenkins JT, Urie A, Molloy RG. Anterior anal fissures are associated with occult sphincter injury and abnormal sphincter function. Colorectal Dis. 2008 Mar;10(3):280-5.
2. Nelson RL. Meta-analysis of operative techniques for fissure-in-ano. Dis Colon Rectum. 1999 Nov;42(11):1424-8
3. Nahas SC, Sobrado Júnior CW, Araujo SE, Aisaka AA, Habr-Gama A, Pinotti HW. [Chronic anal fissure: results of the surgical treatment of 220 patients]. Rev Hosp Clin Fac Med Sao Paulo. 1997 Sep-Oct;52(5):246-9.
4. Herzig DO, Lu KC. Anal fissure. Surg Clin North Am. 2010 Feb;90(1):33-44
5. Patti R, Famà F, Tornambè A, Restivo M, Di Vita G. Early results of fissurectomy and advancement flap for resistant chronic anal fissure without hypertonia of the internal anal sphincter. Am Surg. 2010 Feb;76(2):206-10.
6. Mousavi SR, Sharifi M, Mehdikhah Z. A comparison between the results of fissurectomy and lateral internal sphincterotomy in the surgical management of chronic anal fissure. J Gastrointest Surg. 2009 Jul;13(7):1279-82.
7. Hananel N, Gordon PH. Lateral internal sphincterotomy for fissure-in-ano—revisited. Dis Colon Rectum. 1997 May;40(5):597-602
8. Serour F, Gorenstein A. Characteristics of perianal abscess and fistula-in-ano in healthy children. World J Surg. 2006 Mar;30(3):467-72.
9. Jensen SL. Diet and other risk factors for fissure-in-ano. Prospective case control study. Dis Colon Rectum. 1988 Oct;31(10):770-3
10. Pernkiness BJ, Eisenstat TE, Oliver GC, Salvati EP. Reappraisal of partial lateral internal sphincterotomy. Dis Colon Rectum 1994;37(12):1291-5.
11. Garcia AJ, Belmonte C, Wong WD, Lowry AC, Madoff RD. Open vs closed phincterotomy for chronic anal fissure:long term results. Dis Colon Rectum 1996;39(4):440-3.
12. Arroyo A, Pérez-Vicente F, Serrano P, Candela F, Sánchez A, Pérez-Vázquez MT, Calpena R. [Treatment of chronic anal fissure]. Cir Esp. 2005 Aug;78(2):68-74
13. Altomare DF, Rinaldi M, Troilo VL, Marino F, Lobascio P, Puglisi F. Closed ambulatory lateral internal sphincterotomy for chronic anal fissures. Tech Coloproctol. 2005 Dec; 9(3):248-9.