

A COMPARATIVE STUDY BETWEEN OPEN AND CLOSED LATERAL INTERNAL ANAL SPHINCTEROTOMY IN THE TREATMENT OF CHRONIC FISSURE IN ANO- A PROSPECTIVE STUDY IN A MEDICAL COLLEGE HOSPITAL OF HUBLI, KARNATAKA

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ABSTRACT:

Introduction: Anal fissure is a common proctological problem which presents with pain in the anal region during and after defecation. An idiopathic chronic anal fissure is one of the most common and important lesions of anal canal encountered in surgical practice. Open and Closed lateral internal sphincterotomy (OLIS and CLIS) are the two surgical techniques used to treat fissure in Ano.

Objectives:

To compare post operative complications and pain after performing either of the two surgical procedures (Open and Closed lateral internal sphincterotomy) for the treatment of fissure in Ano.

Methodology: A Prospective study was conducted for a duration of 11 months in a medical college hospital of Hubli, Karnataka among 59 patients who were diagnosed with fissure in Ano, who were randomly allocated to either of the two treatment groups (A or B). Participants in Group A underwent closed Lateral Internal Sphincterotomy and group B patients underwent Open Lateral Internal Sphincterotomy. They were followed up for 3months for post operative complications, The pain was analysed using Visual Analog scale (VAS).

Results: Chronic fissure in Ano was commonly seen in the middle age group with the mean age of presentation of 35.69 ± 13.21 years. 78% of patients had pain during defecation and bleeding PR as their chief complaints. 12 patients (20%) had postoperative complications in OLIS group and 6 patients (20.7%) developed postoperative complications in CLIS group. Postoperative pain was significantly less in CLIS group than in OLIS group.

Conclusion: It can be concluded by the research that (CLIS) closed lateral internal anal sphincterotomy is a better choice to treat chronic fissure in Ano than OLIS which can be done effectively and safely with acceptable complication rate and excellent results.

INTRODUCTION

Anal fissure is a common proctological problem which presents with pain in the anal region during and after defecation. Anal fissure is one of the most common causes of severe anal pain. The symptoms of anal fissure are so characteristic as to be nearly diagnostic.

An idiopathic chronic anal fissure is one of the most common and important lesions of anal canal encountered in surgical practice. But from the clinical point of view, its frequency, its common misdiagnosis, its often-inadequate management, with resultant sum total of extreme discomfort and incessant nagging pain - all combine to make it one of the most troublesome Anal-lesions (1).

Only the tip of iceberg presents to the surgeon because of neglect and apprehension. To this every proctologist will attest. The very typical history of neglect, or ineffectual treatment, over weeks and months of pain and suffering is of almost daily experience. The surgeon who finally secures relief for the patient is indeed the recipient of the latter's genuine gratitude. Medical treatment of fissure relies on application of local anaesthetics and stool softeners and the addition of high fibre diet, nitroglycerine paste, botulinum toxin. Many fissures heal by this way, especially the acute fissures. Chronic anal fissure results from the progression of an acute anal fissure which has failed to heal over six weeks following its development. When a fissure become chronic surgery is recommended. Chronic anal fissures respond poorly to medical line of treatment and are therefore best managed using surgical methods. In up to 90% cases, lateral internal sphincterotomy is the standard surgical treatment for fissure in Ano. However, sphincterotomy carries a significant risk of incontinence in 6-30% of cases. In various studies the lateral internal sphincterotomy was found to be safe and simple operation if done by skilled proctologic surgeons. Lateral internal sphincterotomy can be done by open or closed technique. Both techniques are practiced widely as per the choice and experience of the operating surgeon. As chronic fissure in Ano is very common in our region, and there has been no studies in Karnataka Institute of Medical Sciences Hubli comparing these two techniques, the following research was done to study the two surgical techniques as a treatment option for chronic anal fissure namely Open and Closed lateral internal anal sphincterotomy, and to compare and contrast the results of the two techniques, and to determine a method to decrease intraoperative and postoperative complications and pain relief, and to decrease the wound healing period and to shorten the operation time. An attempt is made in this study to prospectively evaluate and compare the most widely used, accepted and most effective surgical treatment methods i.e., open lateral internal sphincterotomy and closed lateral internal sphincterotomy in the management of chronic fissure in Ano. (2)(3)(4)(5)(6)

MATERIALS AND METHODS

Source of data

Patients from Department of General Surgery, Karnataka institute of medical sciences, Hubli, from November 2018 to September 2019.

Inclusion criteria

All patients who present to the surgical outpatient department with complaints of painful passage of stool, with or without bleeding, having chronic fissure in Ano with or without sentinel pile on clinical examination and getting admitted and operated by any one of the above-mentioned methods.

Exclusion criteria

1. Patients having some associated known organic cause of fissure in ano e.g. tuberculosis, malignancy, inflammatory bowel disease, Crohn's disease.
2. Fissures in postoperative patients of anal surgery
3. Previously operated for fissure in ano by any of the surgical methods
4. Patients with age below 18 years.

Type of study: Prospective study

Sample size

All the patients who fulfilled the above inclusion and exclusion criteria and got admitted and operated by any one of the above-mentioned methods during the period between November 2018 to September 2019, in Karnataka institute of medical sciences, Hubli, were included in the study. A total of 59 patients were enrolled in the study.

Study setting

The study, approved by ethical committee, was undertaken in the surgery ward at a tertiary level teaching hospital of Karnataka institute of medical sciences, Hubli.

Method of data collection

1. All Patients with chronic fissure in ano willing to undergo surgery were admitted in surgical wards of Karnataka institute of medical sciences, Hubli from November 2018 to September 2019.
2. A thorough history was taken.
3. A detailed clinical examination was done.
4. Patient had undergone necessary pre-operative investigations.

Total of 59 patients who had chronic anal fissure confirmed on physical examination and fulfilled the above inclusion and exclusion criteria were enrolled in the study. These 59 patients were randomized into two groups A and B. 29 in group A and 30 in group B using simple random sampling, In which group A patients had undergone closed Lateral Internal Sphincterotomy and group B patients had undergone Open Lateral Internal Sphincterotomy, and these patients were post operatively followed up for 12 weeks [3 months]. That is at 2 weeks, 6 weeks and finally 12 weeks, for pain relief, healing rate, bleeding and post-operative complication like, infection, incontinence to flatus and stools and recurrence

Post-operative pain was evaluated using visual analogue scale at 6hrs, 12hrs, 24hrs, 36hrs, 48hrs, 60hrs, 72hrs and 90hrs.

Patients were assessed for early postoperative complications such as bleeding, hematoma, and infection. Further patients were discharged and followed up in the surgery OPD for 3 months and outcome was evaluated.

Procedures done

After taking informed written consent to undergo lateral internal sphincterotomy, patients were admitted and necessary investigations were done and parts prepared the day before surgery. Patients who were fit to undergo surgery were randomly selected for closed lateral internal sphincterotomy or open lateral internal sphincterotomy on the day of surgery. Patients were operated by either of the one methods under spinal anaesthesia and were assessed for pain at 6 hrs, 12 hrs, 24 hrs, 36 hrs, 48 hrs, 60 hrs 72 hrs, 90 hrs, and assessed for postoperative bleeding, haematoma and infection and discharged whenever they were fit to be discharged with a standard analgesic, antibiotic, laxative and sitz bath regimen and were called for follow up on 2 nd week to assess complications such as haematoma and perianal abscess and on 6 th week and 12th weeks after surgery to assess flatus incontinence, faecal incontinence, and recurrence.

Operative procedure

Under spinal anaesthesia patients were put in lithotomy position and skin around the anus and the perineum are thighs painted with povidone iodine solution and draped. Both types of sphincterotomy were done at 3'O Clock Position (left lateral position) till the level of the anal valves / dentate line

Statistical analysis

Data was entered in Microsoft excel and analysed using SPSS version 21. Continuous data was expressed as means and standard deviation. Appropriate graphs like, bar diagrams, and pie diagrams were used to visually represent the data. Categorical data was expressed as proportions. Appropriate tests of significance (Chi square test, Independent student ‘t’ test) were applied.

Results

The mean age of presentation was observed to be 35.69 ± 13.21 (SD) years. Painful defecation and bleeding PR was seen as the commonest presenting symptoms in association with fissure in Ano, which was seen in 46 patients (78%) (Figure 1). In this study the mean duration of symptoms was 26.33 ± 16.93 months which ranged from 6 month to 120 months. On examination fissure in the posterior midline was present in 45 (76%) patients. Though posterior midline fissure was present commonly in males and females, anterior midline fissure was found to be more in females (5 female patients and 2 male patients). Sentinel pile was seen at the edge of the fissure as it was present in 43 patients (96%) who had posterior midline fissure, among all patients who had anterior midline fissure and who had both anterior and posterior midline fissures.

Among males 15 (48.38%) underwent CLIS and 16 (51.61%) underwent OLIS, and among females 14(50%) underwent CLIS and 14(50%) underwent OLIS.

Out of 30 patients in the OLIS group, 3 patients (10%) developed postoperative bleeding and 5 patients (16.7%) developed surgical site infection as early postoperative complications. In CLIS group out of 29 patients only 1 patient (3.4%) developed postoperative bleeding and 3 patients (10.4%) developed surgical site infection. None of them developed postoperative hematoma in either of the procedures. At 12 and 16 weeks follow up about 4 (13.3%) out of 30 patients in OLIS group developed incontinence to flatus while 2 (6.9%) patients out of 29 patients developed incontinence to flatus in CLIS group. There was no significant difference in time taken for fissure to heal between the two groups.

Figure 1: Pie chart showing presenting symptoms among the participants.

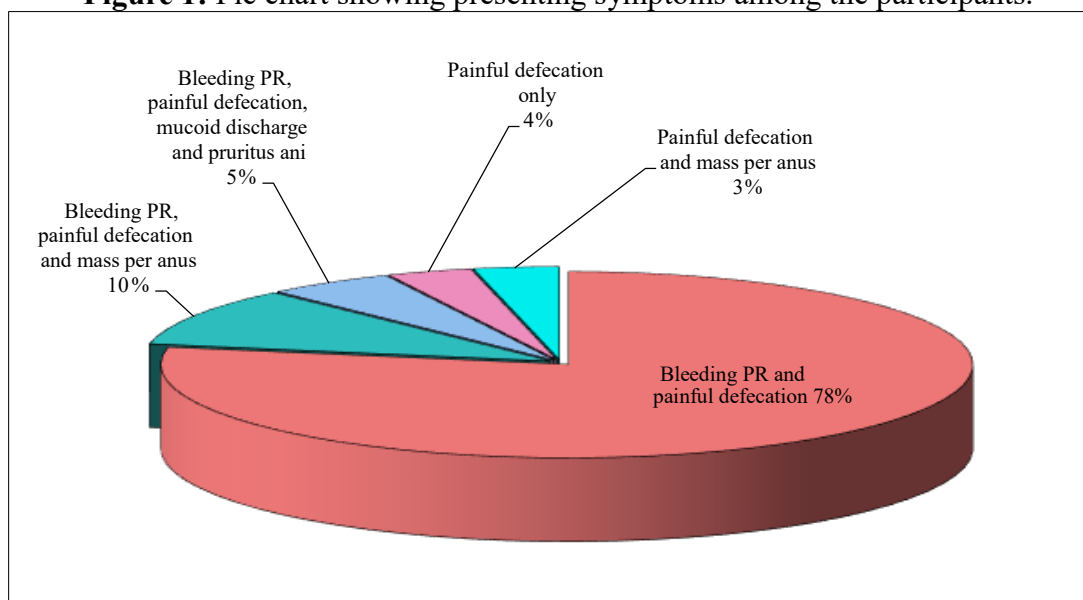


Table 1: Comparison of the average pain scores after the operative procedure.

Variable	Groups	n	Mean	SD	SE	t-value	P-value
6 hours	OLIS	30	2.60	0.72	0.13	4.1943	<0.001*
	CLIS	29	2.00	0.27	0.05		

12 hours	OLIS	30	4.80	0.66	0.12	5.4043	<0.001*
	CLIS	29	3.90	0.62	0.11		
24 hours	OLIS	30	3.10	0.88	0.16	2.0320	<0.05*
	CLIS	29	2.59	1.05	0.20		
36 hours	OLIS	30	2.03	1.19	0.22	2.4437	<0.05*
	CLIS	29	1.24	1.30	0.24		
48 hours	OLIS	30	1.67	0.88	0.16	1.7531	>0.05
	CLIS	29	1.17	1.26	0.23		

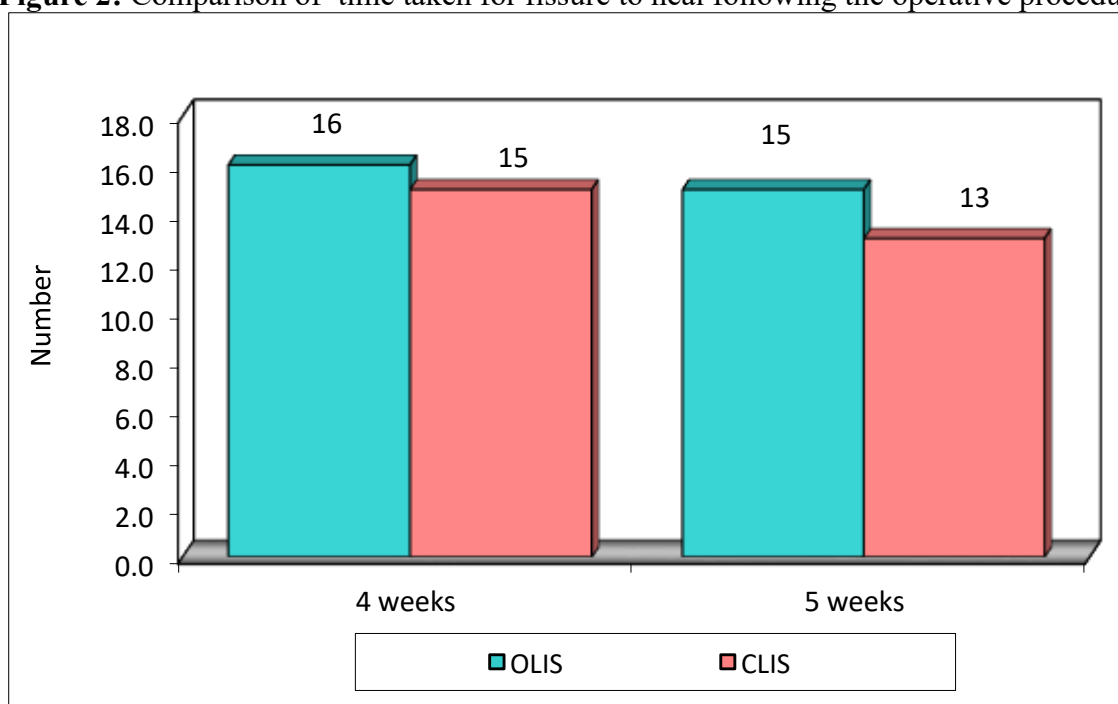
*Significant

Table 2: Relationship between the operative procedure (OLIS/CLIS) and the duration of hospital stay.

Discharged on	OLIS (n=30)	Percentage	CLIS (n=29)	Percentage	Chi square value	p-value
<24hours	5	16.7%	12	41.4%	4.3905	<0.05*
>24hours	25	83.3%	17	58.6%		

*significant

Figure 2: Comparison of time taken for fissure to heal following the operative procedure.



DISCUSSION

In this present study a total of 59 patients (n =59) who had chronic idiopathic or primary fissure in ano were subjected to operative treatment, 30 (51%) underwent open lateral sphincterotomy and 29 (49%) underwent closed lateral internal sphincterotomy at random and were prospectively evaluated and compared for the effectiveness and complications.

The study group comprised of 31 (53%) males and 28 (47%) females with M:F ratio of 1.05, with slight male preponderance. In this study both sexes were affected equally similar to the study done by Melange et al who reported M:F ratio of 1.15:1. (7)

The mean age of presentation was 35.69 ± 13.21 years. These findings are similar to that of various studies which have reported the mean age between 30-45 years. (8)(9)(10)(11)

In this study 46 patients (78%) presented with pain during defecation and bleeding PR for more than 6 months, which is similar to study by Shaffiq ullah et al, and also as observed by Hananel & Gordon et al (90.80%). (10) (12)

The mean duration of symptoms was 26.33 ± 16.93 months which is similar to various studies and as reported by Antonio arroyo et al with mean of 20 ± 21 months. (13)

The posterior midline was most common site of fissure in both males and females but anterior midline fissure was common in women than in men. Which is similar to the various studies as reported by Mazier & Leien et al and Chusheri et al. (14) (15)

Sentinel pile was seen in 57 patients (96.6%) which is significantly higher than to the study done by Antonio Arroyo et al who reported the presence of sentinel pile in 72.4% and Hawleys et al reported in 60%. (13) (16)

There was no significant difference in time taken for fissure to heal between the two groups.

CONCLUSION:

It can be concluded by the research that (CLIS) closed lateral internal anal sphincterotomy is a better choice to treat chronic fissure in Ano than OLIS which can be done effectively and safely with acceptable complication rate and excellent results.

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