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Original Research Article

Comparative Study of Medical Management v/s Lateral Internal Sphincterectomy (LIS) in Anal Fissure

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Abstract
Background & Methods: The aim of the study is to compare Study of Medical Management v/s Lateral Internal Sphincterectomy (LIS) in Anal Fissure. Lateral internal sphincterotomy was performed in a standard open technique. A 1to2 cm circumferential incision was made over the free edge of the internal sphincter. Blunt dissection was used to open the plane inside and outside the internal sphincter to free it. The free lower edge of the internal sphincter was then grasped, drawn into the wound and it's distal portion was divided.
Results: Mean duration of time of pain relief in cases of Medical Management was 7 days as compared to 3 days in lateral internal sphincterotomy with advancement. In our study complete healing was achieved earlier (9 days) in lateral internal sphincterotomy group compared to medical management alone group were healing achieved after 10 days.
Conclusion: Lateral internal sphincterotomy is standard procedure for patients with chronic anal fissure. Improvement of postoperative pain relief and patient comfort was same in both procedure. There was no increase in rate of recurrence during the six months follow up period. Earlier and quicker healing of fissure noted.

Keywords: Medical, Management, LIS, Anal & Fissure.
Study Design: Comparative Study.

1. INTRODUCTION

Anal fissure is a common problem that causes substantial morbidity in who are otherwise healthy. Anal fissure is an elongated ulcer in the long axis of lower anal canal .The most frequent site for anal fissure is midline posteriorly followed by midline anteriorly[1].
Anal fissure is defined as linear ulceration of the squamous lining of the distal and canal. Anal fissures are associated with bleeding per anum, constipation, pain on defecation and pruritis. The etiopathogenesis of the fissure in ano is not well understood. Fissure is commonly attributed to passage of hard stool, dietary irregularities, spicy food, poor local hygiene, forceful passage of foreign body causing trauma to the distal anal canal lining[2]. In females traumatic delivery have been found to be associated with anterior anal fissure.
Anal fissure are of two types, acute and chronic. Acute anal fissure usually resolve spontaneously with stool softeners and high fibre diet whereas chronic anal fissure does not heal spontaneously with lifestyle modification, unlike acute anal fissure[3]. They require surgery like manual anal dilation or lateral internal sphincterotomy which heal the fissure in more than 90% cases5 but with a significant risk of impaired anal continence[4].

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This has led to research of alternate non-surgical therapies such as topical 2% diltiazem gel, topical glyceryltrinitrate which has shown to heal fissure without impairing anal continence[5].

Anal fissure is a tear in the anoderm distal to the dentate line. It can be categorized as acute or chronic. The diagnosis can typically be confirmed by physical examination and anoscopy in the office if tolerated by the patient[6]. By gentle separation of the buttocks and examination of the anus, a linear separation of the anoderm can be identified at the lower half of the anal canal. Approximately 90% of anal fissures in both men and women are located posteriorly in the midline.

2. MATERIAL AND METHODS

Patient with chronic anal fissure from all surgical unit who were not responding to conservative management with sample size of 50, study conducted at Index Medical College, Hospital & Research Centre, Indore, M.P. for 01 Year.

Ointment Nifedipne 0.2% applied twice in a day takes sits bath 04 times in a day, laxative taken 30ml at night & if patient have pain take analgesic SOS (Group A) The patient was placed in lithotomy position. The intersphincteric groove was palpable at the anal verge. The procedure was carried out in open method. A 1to2 cm circumferential incision was made over the free edge of the internal sphincter. Blunt dissection was used to open the plane inside and outside the internal sphincter to free it. The free lower edge of the internal sphincter was then grasped, drawn into the wound and it's distal portion was divided .The sentinel skin tag at the lower end of the fissure was excised. Tight T-bandage was applied after dressing.

Lateral internal sphincterotomy (Group B) Lateral internal sphincterotomy was performed in a standard open technique. A 1to2 cm circumferential incision was made over the free edge of the internal sphincter. Blunt dissection was used to open the plane inside and outside the internal sphincter to free it. The free lower edge of the internal sphincter was then grasped, drawn into the wound and it's distal portion was divided. The adjacent crypt bearing haemorrhoidal tissue, by an triangular V shaped incision starting from the free edge of the anal fissure about 3 cm from the anal verge away from the midline. A V-shaped flap formed of skin and sub cutaneous fat was elevated in continuity with the excised fissure sufficiently to allow advancement to cover the fissure defect. Abroad base with adequate blood supply to the flap must be ensured.

Inclusion criteria:

1. Patient in the age group of 15-80 years in both sex with chronic anal fissure not responding to conservative management.

Exclusion criteria:

1. Pregnant patient
2. Patient with acute fissure
3. Patient with age >80 years
4. Patient with signs and symptoms of coagulopathy
5. Patient with history of fecal incontinence or anal stenosis.

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE8, 2023

3. RESULT

TABLE 1: AGE DISTRIBUTION

Age	No.	Percentage (%)
Below 30yrs	13	26
31 to 40yrs	20	40
41 to 50yrs	14	28
51yrs & above	03	06

Most of the patients in our study was found to be in adult aged between 31 to 40 years.40% of patients are from this age group.

TABLE 2: GENDER DISTRIBUTION

Gender	No.	Percentage (%)
Male	23	46
Female	27	54

Majority of the patients were female adults 27 as against 23 male patients.

TABLE 3: PROCEDURE DONE

Procedure	No.	Percentage (%)
Medical Management	29	58
LIS	21	42

26 patients (58%) of total 50 patients underwent lateral internal sphincterotomy, 21 patients (42%) underwent lateral internal sphincterotomy.

TABLE 4: COMPARISON OF MEAN DURATION OF SURGERY IN STUDY GROUP

Procedure	Mean	SD	P Value
Medical Management	48.46	11.639	.036863
LIS	87.37	13.981	

Mean duration of surgery in cases of Medical Management was 48.46 minutes as compared to 87.37 minutes in lateral internal sphincterotomy. The chi-square statistic is 0.9223. The *p*-value is .036863. The result is significant at $p < .05$.

TABLE 5: COMPARISON OF TIME RELIEF OF PAIN IN STUDY GROUPS (DAYS)

Procedure	Mean	SD	P Value
Medical Management	7.54	2.083	.012637
LIS	3.68	1.204	

Mean duration of time of pain relief in cases of Medical Management was 7 days as compared to 3 days in lateral internal sphincterotomy with advancement. The chi-square statistic is 0.012. The *p*-value is .012637. The result is significant at $p < .05$.

ISSN: 0975-3583, 0976-2833 VOL14, ISSUE8, 2023

TABLE 6: COMPLETE HEALING

	Medical Management		LIS	
Complete Healing (days)	**No. (29)**	**Percentage (%)**	**No. (21)**	**Percentage (%)**
<9	00	00	18	36
10-15	08	16	03	06
>15	21	42	00	00

In our study complete healing was achieved earlier (9 days) in lateral internal sphincterotomy group compared to medical management alone group were healing achieved after 10 days.

4. DISCUSSION

Anal fissure is a common problem that causes substantial morbidity in who are otherwise healthy. It is one of the frequent cause of pain and bleeding per rectum and cause considerable patient discomfort and disability[7]. A number of pharmacological sphincter relaxants have been introduced and claimed to show good results but surgical treatment is frequently needed. In our study 50 patients admitted with chronic anal fissure and operated during the study period. They were followed up to 6 months. During this period, they were followed up to know whether they developed any complications and recurrence. Complications were recorded and tabulated. The patients were subjected to a lateral internal sphincterotomy or a lateral internal sphincterotomy as per their randomly allotted group. Among the 50 patients 31 underwent lateral sphincterotomy, patients underwent lateral sphincterotomy [9].

Associated diseases like haemorrhoids are also treated along with the surgery for anal fissure. 10% of cases had associated haemorrhoids. However, among those who developed such complication, the majority fell in the lateral sphincterotomy group compared to other group. There seemed to increased incidence of lateral sphincterotomy group. So same data was subjected to a Chi square test, to test the significance of relationship between the incidence of surgery performed[10]. The test revealed that there was no significant relationship in operation which was performed. Mean duration of surgery in cases of lateral internal sphincterotomy was 48.46 minutes, compared to 87.37 minutes in lateral internal sphincterotomy surgeries.

Lateral internal sphincterotomy gives good post-operative pain relief, earlier healing of fissure and patients are more comfortable in their postoperative period[11]. Even though the procedure involves considerable dissection and required increased operative time.

5. CONCLUSION

Lateral internal sphincterotomy is standard procedure for patients with chronic anal fissure. Improvement of postoperative pain relief and patient comfort was same in both procedure. There was no increase in rate of recurrence during the six months follow up period. Earlier and quicker healing of fissure noted.

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