

Compare the Outcome of Anal Dilatation and Lateral Internal Anal Sphincterotomy in the Treatment of Chronic Anal Fissure

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ABSTRACT

Background: The chronic anal fissure is a common problem and various surgical methods are accepted for its treatment. The current study was conducted to compare the safety, efficacy and outcome of anal dilatation and lateral internal anal sphincterotomy.

Aim: To compare the outcome of anal dilatation and lateral internal sphincterotomy in the management of chronic anal fissure and describe demographic features of all cases.

Study design: Quasi experimental study.

Setting: Department of General Surgery at Central Park Hospital, Lahore / Bhatti Teaching Hospital, Kasur.

Duration of study: One year (July 2017 to June 2018).

Results: The age range of the patients was (20-65) years, with mean age of 41.87 ± 10.31 years in group A while in group B was 42.52 ± 10.42 . In group A, 14 patients (35%) were males and 26 patients (65%) were females, while in group B 16 (40%) male and 24 (60%) female patients. Female to male ratio was 1.85:1 in group A and 1.5:1 in group B. Hospital stay was short (1.45 ± 0.58 days) after lateral sphincterotomy as compared to anal dilatation, where it was 2.53 ± 1.11 days. Less complication rate was observed after lateral sphincterotomy than anal dilatation.

Conclusion: Lateral anal sphincterotomy is better than anal dilatation in the management of chronic anal fissure in terms of early symptomatic relief, shorter hospital stay and less complication rate.

Keywords: Chronic Anal Fissure, Anal Dilatation, Lateral Anal Sphincterotomy.

INTRODUCTION

An anal fissure is a linear ulcer or tear in the vertical axis of squamous lining of anal canal distal to dentate line.¹ It usually occurs in the posterior midline (80%), next common place is in the anterior midline (atypical fissure).² Atypical ulcer or fissures may be multiple or off the midline or be large and irregular.³ Incidence of anal fissure is slightly higher in females (especially in postpartum) than males.

A fissure is acute if it has been present for less than 6 weeks and chronic if present for more than 6 weeks. Most fissures are idiopathic. Causative factors may be ischemia due to high anal pressure or trauma to the anal canal e.g. constipation, diarrhea, childbirth, surgery, banding.³ Rarely, it may be manifestation of underlying disease e.g., AIDS, tuberculosis, neoplasms, Crohn's disease and ulcerative colitis. Anal fissure is also commonly found in homosexuals, local or systemic malignancy. Chemo or radiotherapy in this area is also known to cause anal fissure⁴⁻⁶.

Symptoms usually consist of painful defecation, post defecation pain and sparse bleeding. Diagnosis is based on history and clinical examination. The most consistent finding in typical acute anal fissure is spasm of the internal anal sphincters along with a split in anal mucosa as the buttocks are gently parted⁷. There are different modes of treatment of anal fissure e.g., surgical and medical one. Management of acute anal fissure is generally conservative like stool softeners, high fibre diet and bulk forming agents, warm sitz baths and local analgesics⁸. In the late 1990s

newer medications were investigated, in each case a medication that was known to relax muscle spasm. These have included chemical sphincterotomy with 0.2% glyceryl trinitrate (GTN) ointment, Inj. of Botulinum toxin and calcium channel blockers either given as tablets or applied locally. Procedure can be done as an open or closed method. It can be done under local or general anaesthesia. Morbidity from lateral anal sphincterotomy is mainly incontinence to flatus and wound related complications⁹⁻¹⁰.

The objective of the study was to compare the outcome of anal dilatation and lateral internal sphincterotomy in the management of chronic anal fissure and describe demographic features of all cases.

METHODOLOGY

This Quasi experimental study was done in Surgical Department including total 80 patients, 40 in anal dilatation group and 40 in lateral sphincterotomy group at Central Park Hospital, Lahore and Bhatti International Teaching Hospital, Kasur from July 2017 to June 2018. Both genders were included between 20-65 years of age with clinical diagnosis on chronic anal fissure. The patients were informed about the study and their consent was obtained. They were allocated randomly in groups A and B through random number table. History was taken and clinical examination done. All patients were subjected to routine investigations like Hb, TLC, DLC, ESR, X-ray chest, ECG, etc. to rule out co-morbid conditions associated with chronic anal fissure. Fitness for anaesthesia taken, anorectal preparation done with 2 glycerine suppositories at night and made nil per oral after mid night. They were subjected to anal dilatation (group A) and lateral anal

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sphincterotomy (group B), under spinal or general anaesthesia according to patient's or anaesthetist's preference. They were advised hot sitz bath along with stool softeners. Duration of hospital stay and relief of symptoms (pain, bleeding per rectum) and early complications were recorded from the first postoperative day. They were closely followed up during their hospital stay and at the end of first week, third week and sixth week.

RESULTS

The age range of the patients was (20-65) years, with mean age of 41.87±10.31 years in group A while in group B was 42.52±10.42 (Table 1). In group A, 14 patients (35%) were males and 26 patients (65%) were females, while in group B 16 (40%) male and 24 (60%) female patients. Female to male ratio was 1.85:1 in group A and 1.5:1 in group B (Table 2). In group A, 16 patients (40%) had severe pain, 18 patients (45%) had moderate while 6 patients (15%) had mild, whereas in group B, 15 patients (38%) had severe pain, 17 patients (42%) had moderate and 8 patients (20%) had mild pain on defecation (Table 3). Thirty two patients (80%) had fissure at posterior mid line, 6 (15%) had anterior midline and in 2 (5%), fissure was present at both anterior and posterior midline in group A, while in group B, 30 patients (75%) had fissures in posterior midline, 7 (18%) presented with anterior midline and 3 (7%) had both anterior and posterior fissure. P value >0.05 as calculated, so difference was statistically insignificant (Table 4) Mean duration of hospital stay was 2.53±1.11 days in group A, whereas in group B it was 1.45±0.58 days, so again mean duration of hospital stay was statistically significant as p <0.05 (Table 5). In group A, 9 patients (22.5%) developed flatus incontinence, 2 (5%) fecal incontinence and 18 (45%) shown haematoma and edema of anal region. In group B, 6 (15%) shown flatus incontinence and 1 (2.5%) developed wound infection, while 1 (2.5%) in faecal incontinence (Table 6).

Table 1: Age Distribution of Patients (n=80)

Age in years	Group A		Group B	
	No.	%	No.	%
20 - 35	22	55.0	20	50.0
36 - 50	10	25.0	12	30.0
51 - 65	8	20.0	8	20.0
Mean±SD	41.87±10.31		42.52±10.42	

Table 2: Sex Distribution (n=80)

Gender	Group A		Group B	
	No.	%	No.	%
Male	14	35.0	16	40.0
Female	26	65.0	24	60.0
Ratio	1.85:1		1.5:1	

Table 3: Pain During Defecation In Chronic Anal Fissure According to Severity (n=80)

Pain during defecation	Group A		Group B	
	No.	%	No.	%
Severe pain	16	40.0	15	38.0
Mild	6	15.0	8	20.0
Moderate	18	45.0	17	42.0

Table 4: Distribution According to Site of Anal Fissure (n=80)

Site of Fissure	Group A		Group B	
	No.	%	No.	%
Posterior	32	80.0	30	75.0
Anterior	6	15.0	7	18.0
Both anterior and posterior	2	5.0	3	7.0

Table 5: Comparison of Mean Duration of Hospital Stay in days (n=80)

Mean±SD (Group A)	Mean±SD (Group B)
2.53±1.11	1.45±0.58

Table 6: Complications of Anal Dilatation and Lateral Anal Sphincterotomy (n=80)

Complications	Group A		Group B	
	No.	%	No.	%
Flatus incontinence	9	22.5	6	15.0
Facial incontinence	2	5.0	1	2.5
Haematoma and edema of anal region	18	45.0	0	0
No complication	11	27.5	32	80.0
Wound infection	0	0	1	2.5

DISCUSSION

In our study the mean age of patients was 41.87±10.31 in group A and 42.52±10.42 years in group B. In a study reported by Kumar¹¹ mean age of presentation of anal fissure was 49.5 years which is comparable with our study. In another study done by Hyman¹² mean age was 41.2 (range 21-67) years. Syed¹³ described mean age of 39 (12-95 years) in his study. In Garcea¹⁴ study mean age of 40.3 years which is comparable with our study and study done by Shafiq¹⁵ where mean age was 35 years. In current study 14 (35%) patients were male and 26 (65%) female in group A, and 16 (40%) male patients in group A while 24 (60%) in group B with female to male ratio 1.85:1 in group A and 1.5:1 in group B. A study carried out by Graffin¹⁶ showed, 29% males and 42% females. Vivek¹⁷ mentioned in his study 48% males and 52% females who presented with anal fissure. Another study published by Renzi¹⁸ revealed, (40%) males and (53%) females and 4 patients (7%) were lost to follow up.

Syed¹³ described in their study that anterior fissure was present in 20 (17.8%), posterior in 80 (71.4%), both in 9 (8.0%) and lateral or multiple fissures in 3 (2.6%) cases. Similarly in this study out of total 100 patients, 84% patients presented with fissure at posterior midline, (11%) patients had it at anterior midline, and (5%) had it at both anterior and posterior midlines, so the results matched with the results of international and local studies.

In this study mean duration of hospital stay was 2.53±1.11 days in group A, whereas in group B it was 1.45±0.58 days. So the mean duration of hospital stay was significantly shorter of lateral sphincterotomy than with anal dilatation.

As with any surgical procedure, certain complications are associated with lateral internal sphincterotomy though rarely. Hashmat⁸ done a study that showed the incontinence of flatus/faces was present in 18(64.3%) patients at first week which resolved by eight weeks and wound related complications were noted in 4 (14.2%) cases. In other study done by Zahra¹⁹ that anal

incontinence occurred in 59.6% of patients after anal dilatation and in 6.6% of patients after lateral sphincterotomy which is comparable with our study.

In this study after anal dilatation significant number of patients developed complications. Eleven (22%) patients developed flatus incontinence, two (4%) patients developed fecal incontinence and twenty (40%) patients complained of haematoma and edema of anal region immediately after dilatation. But there was no case of wound infection after dilatation so complication rate in this study was higher for anal dilatation than after lateral sphincterotomy and the results matched with above mentioned studies.

CONCLUSION

It was concluded that the results of lateral internal anal sphincterotomy in the management of chronic anal fissure are safer and more effective than manual dilatation of anus under general or spinal anaesthesia in terms of early symptomatic relief, shorter hospital stay, and less complication rate. Lateral internal anal sphincterotomy is better procedure than anal dilatation for the surgical treatment of chronic anal fissure.

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