

Comparison of Outcome of Lateral Sphincterotomy with Anal Advancement Flap in Patients of Anal Fissure

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ABSTRACT

Aim: To compare the outcome of lateral sphincterotomy with anal advancement flap in patients of anal fissure.

Study design: Comparative study

Place and duration of study: Department of Surgery, Ghulam Muhammad Mahar Medical College Hospital, Sukkur from 1st January 2017 to 30th September 2020.

Methodology: Two hundred diagnosed cases with chronic anal fissure with the age range of 15yrs to 60 yrs of age of either gender were enrolled whereas those having any other perianal diseases like (hemorrhoids, fistula or abscess) or presented with acute anal fissure (less than 2 to 3 weeks) and those who had undergone previous surgical procedure in the anal canal were excluded. Group A patients underwent lateral sphincterotomy and group B patients underwent anal advancement flap procedure for chronic anal fissure. The wound infection was assessed on 3rd post-operative day of treatment and anal incontinence was assessed after 3 months of treatment.

Results: Comparison of outcome of lateral sphincterotomy with anal advancement flap in patients of anal fissure shows that 12(12%) in A Group and 4(4%) in B Group had infection ($p=0.01$) while anal incontinence was recorded as 17(17%) in A Group and 2(2%) in B Group ($p=0.001$).

Conclusion: Treatment of chronic anal fissure is better with anal advancement flap as compared to those with lateral sphincterotomy for anal continence and infection.

Keywords: Anal fissure, Lateral sphincterotomy, Anal advancement flap, Outcome

INTRODUCTION

Painful defecation and per-rectal bleeding is known as anal fissure. Development of linear indurated ulcers and failed healing are chronic anal fissures. The etiological factors include sphincter spasm, mechanical trauma and ischemia.¹ The prevalence ranges between 30-40% of total ano-rectal sufferings, however, the people who constipated especially those who pass dry and hard stool are commonly affected with this condition.² The primary method of treatment is to apply topical pharmacological agents to relax the internal sphincter. It helps in reducing spasm, relieving of pain and increase vascular perfusion which promotes healing process. Such type of agents include diltiazem 2% and glyceryl trinitrate 0.2%.³ However, failing of conservative methods leads to surgical interventions⁴. According to American Society of Colon and Rectal Surgeons, lateral internal sphincterotomy may be offered without proceeding with pharmacological treatment.⁵ It remains the gold standard for ultimate management of anal fissures, the success rates of sphincterotomy range from is recorded in 92-100%, with 2 months of healing time, however, it increases the risk of incontinence⁶⁻⁷.

The anal advancement flap (AAF) is also an effective method of healing anal fissure and considered as the primary line of treatment. It is also a good choice for the management of recurrent fissures. This flap may be applied for chronic anal fissures with a higher and rapid rate of healing with minimum risk of complications¹.

We planned this study to compare both the techniques in our population so that the most successful technique may be used as the first line of treatment while managing chronic anal fissure.

METHODOLOGY

This comparative study was conducted at Department of Surgery, Ghulam Muhammad Mahar Medical College Hospital, Sukkur from 1st January 2017 to 30th September 2020. A total 200 diagnosed cases with chronic anal fissure with the age range of 15-60 years of age of either gender were enrolled whereas those having any other perianal diseases like (hemorrhoids, fistula or abscess) or presented with acute anal fissure (less than 2 to 3 weeks) and those who had undergone previous surgical procedure in the anal canal were excluded. Group A patients underwent lateral sphincterotomy and group B patients underwent anal advancement flap procedure for chronic Anal Fissure. The wound infection was assessed on 3rd post-operative day of treatment and anal incontinence was also assessed after 3 months of treatment. We performed lateral sphincterotomy under regional anesthesia by a standard open technique, briefly; a 5-mm incision was made into the perianal skin along the intersphincteric groove. The internal anal sphincter was then dissected and a segment withdrawn with a pair of artery forces and divided with diathermy to the level of the dentate line.

The anal advancement flaps were performed by making a V-shaped incision from the edges of the fissure extending about 4 cm from the anal verge and away from the midline. The V-shaped flap formed of skin and subcutaneous fat was mobilized sufficiently to allow

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advancement into the anal canal to cover the fissure defect. Care was taken to preserve enough pedicles to ensure adequate blood supply. The base of flap was sutured to the lower anal mucosa. The wound infection was assessed on 3rd post-operative day of treatment and anal incontinence was assessed after 3 months of treatment.

RESULTS

Sixty eight (68%) cases in group A and 63(63%) cases in group B belong to 15-35 years of age range whereas 32(32%) cases in group A and 37(37%) cases in group B belongs to 36-60 years of age range, mean age was 37.14±8.11 in group A and 36.84±9.14 years in group B (Table 1).

Male cases were dominant in both of the groups by calculating 53(53%) of A group and 58 (58%) cases of B group whereas 47 (47%) cases of A group and 42 (42%) cases in B group were females (Table 2).

Comparison of outcome of lateral sphincterotomy with anal advancement flap in patients of anal fissure shows that 12 (12%) in group A and 4 (4%) in group B had infection (p=0.001) while anal incontinence was 17 (17%) of A group and 2 (2%) of B group (p=0.001) [Table 3].

Table 1: Frequency of age (n=200)

Age (years)	Group A	Group B
15-35	68(68%)	63(63%)
36-60	32(32%)	37(37%)
Mean±SD	37.14±8.11	36.84±9.14

Table 2: Frequency of genders (n=200)

Gender	Group A	Group B
Male	47(47%)	58(58%)
Female	53(53%)	42(42%)

Table 3: Comparison of lateral sphincterotomy with anal advancement flap (n=200)

Outcome	Group A	Group B	P value
Infection	12(12%)	4(4%)	0.001
Anal incontinence	17(17%)	2(2%)	0.001

DISCUSSION

We found similar finding with a study where postoperative infection rate with anal advancement flap is zero percent¹ while it was about 7.5%² with internal lateral sphincterotomy and anal incontinence with anal advancement flap was 0% with lateral sphincterotomy, it was about 20% after 3 months of treatment.⁸

Flap anoplasty is also used while managing chronic anal fissures. These procedures involve fashioning a local flap to cover the fissure defect. As flap procedures do not involve disruption of the internal anal sphincter, they are particularly useful in patients with normal anal pressures or in fissures secondary to obstetric trauma where there is often associated internal sphincter disruption. A study using a rotation flap achieved 81% healing rate with an 11.8% flap failure rate and 0% incontinence rate.⁹ Another study used a V-Y advancement flap achieved a 98% healing rate

with a flap dehiscence rate of 5.9% and 0% incontinence rate, but with a recurrence rate of 5.9% of new fissures at new locations.¹⁰

Previous data recorded 81% healing in cases treated with rotation flap whereas flap failure was only 11.8% and no case of incontinence was recorded.⁷

Sahebally and others¹¹ are of the view that anal advancement flap (AAF) is associated with lower risk of incontinence. Another study also found AAF an effective and a safe procedure for chronic anal fissure.¹² These findings clarifies that advance flap is a safe, and effective method of treatment for chronic anal fissure. However, further trials are also necessary to validate our results in local population.

CONCLUSION

Treatment of chronic anal fissure is better with anal advancement flap as compared to those with lateral sphincterotomy for anal continence and infection.

REFERENCES

- Hegazi T, Soliman SS. Combined tailored lateral internal sphincterotomy with V-Y advancement flap versus lateral internal sphincterotomy alone in the treatment of chronic anal fissure. *Med J Cairo Univ*.2013;81:959-6.
- Dudhamal TS, Baghel MS, Bhuyan C, Gupta SK. Comparative study of Ksharasutra suturing and Lord's anal dilatation in the management of chronic fissure-in-ano. *Ayu* 2014; 35(2): 141-7.
- Patel HS, Charda J, Naik N, Parikh J. Study of operated patients of lateral internal anal sphincterotomy for chronic ana fissure. *J Clin Diag Res* 2013;7:2863-5.
- Altomare DF, Binda GA, Canuti V, Landolfi V, Trompetto M, Villani RD. The management of patients with primary chronic anal fissure: a position paper. *Tech coloproctol* 2011;15:135-41.
- Zaghiyan KN, Fleshner P. Anal fissure. *Clin Colon Rectal Surg* 2011;24:22-30.
- Patti R, Guercio G, Territo V, Aiello P, Angelo GL, Davita G. Advancement flap in the management of chronic anal fissure: a prospective study. *Updates Surg* 2012;64:101-6.
- Poh A, Tan KY, Choen FS. Innovation in chronic anal fissure treatment. *World J Gastrointest Surg* 2010 27; 2: 231-41.
- Nelson RL. Anal fissure (chronic). *BMJ Clin Evid* 2014; 2014: 0407.
- Singh M, Sharma A, Gardiner A, Duthie GS. Early results of a rotational flap to treat chronic anal fissures. *Int J Colorectal Dis* 2005;20:339-42.
- Giordano P, Gravante G, Grondona P, Ruggiero B, Porrett T, Lunniss PJ. Simple cutaneous advancement flap anoplasty for resistant chronic anal fissure: a prospective study. *World J Surg* 2009;33:1058-63.
- Shebally SM, Walsh SR. Anal advancement flap versus lateral internal sphincterotomy for chronic anal fissure- a systematic review and meta-analysis. *Int J Surg* 2018;49:16-21.
- Patti R, Territo V, Aiello P, Angelo GL. Manometric evaluation of internal anal sphincter after fissurectomy and anoplasty for chronic anal fissure: a prospective study. *Am Surg* 2012;78 (5):523-527