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A Comparative Study in the Treatment of Anal Fissure: Closed vs Open Lateral Internal Anal Sphincterotomy

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ABSTRACT

Background: Anal fissure is longitudinal split in the anoderm that may extend from the mucocutaneous junction to dentate line. Fissures typically involve the internal anal sphincter and this goes into spasm. Objective: The aim of this study is to compare the efficacy and postoperative results of closed vs Open lateral internal anal sphincterotomy. **Methods:** The patients were randomly allocated to one of the two groups in which lateral internal anal sphincterotomy as the treatment of anal fissure, was done by either Open(Group A) or Closed method (Group B). **Results:** At 1st week post-operative pain was relieved in 27(54%) patients. Overall Pain was relieved in 45(90%) patients at follow up in 2nd week. Complete Healing of fissure was present in 24 (96%) patients in each group. **Conclusion:** Present study compared the Open and Closed techniques of lateral internal anal sphincterotomy and concluded that both Open and Closed method have almost similar outcome.

Keywords: Anal fissure, Sphincterotomy.

INTRODUCTION

Anal fissure is a longitudinal split or tear of the anal canal extending proximally from the anal verge towards the dentate line. Although it involves only the epithelial layer of the distal anal canal at the outset, it may eventually involve its full thickness.[1] Anal fissure is one of the most common causes of anal pain.[2] Fissures typically involve the internal anal sphincter and this goes into spasm and impedes healing by moving the two margins apart and diminishing the blood supply to the region, a vicious cycle ensues whereby the anal spasm exacerbates the ischemia and prevent the fissure from healing.[3] All treatment modalities, including surgery aim to reduce the spasm of the internal anal sphincter Surgery remains the most effective long-term treatment and should be offered for cases of chronic anal fissure but also for acute anal fissure with severe pain or for recurrent fissure despite optimal medical treatment.[4-5] Conservative measures are employed that result in healing of fissure in up to 70% patients. However, this can be associated with high recurrence rate. Medical management includes high fiber diet, topical CCB, topical nitrates and sitz bath Operative procedure is indicated when pain from anal fissure is intolerable, when fissure is non-responsive to medical management, when the fissure has been present for a long time or fissure recurs after medical management.[6,7] Lateral internal sphincterotomy is the surgical treatment of choice for refractory anal fissure.[8] There is a controversy on whether lateral internal sphincterotomy should be performed with an Open or Closed method. Studies suggests closed method better in continence and perianal abscess.[9] Multiple studies have evaluated the difference between Open and Closed sphincterotomies and found there is no significant difference between two methods.[10] This study was done to compare efficacy and post-operative complications of both the techniques i.e. Open and Closed method of lateral internal anal sphincterotomy as a treatment of chronic anal fissure.

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Objective

The aim of this study is to compare the efficacy and postoperative results of Closed vs Open lateral internal anal sphincterotomy.

MATERIALS AND METHODS

The patients were randomly allocated to one of the two groups in which lateral internal anal sphincterotomy as the treatment of anal fissure was done by either Open(Group A) or Closed method(Group B).

Group A: lateral internal anal sphincterotomy by Open method.

Group B: lateral internal anal sphincterotomy by Closed method.

RESULTS

At 1st week post-operative pain was relieved in 27(54%) patients, Mild pain was present in 15(30%) patients, out of which 7(28%) patients in Open group and 8(32%) patients in Closed group. moderate pain was present in 4(16%) in Closed group patients and none in Open group. Severe pain was present in 2(8%) patients in each group. [Table 1]

Overall Pain was relieved in 45(90%) patients at follow up in 2nd week, in Open group pain was relieved in 24(96%) patients and in Closed group 21(84%) patients. Mild pain in 3(12%) patients in Closed group only, severe pain was in 1(4%) in each group. [Table 2]

Complete Healing of fissure was present in 24(96%) patients in each group, complete healing was present in 24 patients in each group, partial healing was present in 1(4%) in each group. [Table 3]

Table 1: Post-Operative Pain as per VAS (follow up 1st week)

Severity of Pain	Group A (Open)		Group B (Closed)	
	Number	Percentage	Number	Percentage
No Pain	16	64.0	11	44.0
Mild	7	28.0	8	32.0
Moderate	0	0.0	4	16.0
Severe	2	8.0	2	8.0

Table 2: Post-Operative Pain as per VAS (follow up 2nd week)

Severity of Pain	Group A (Open)		Group B (Closed)	
	Number	Percentage	Number	Percentage
No Pain	24	96.0	21	84.0
Mild	0	0.0	3	12.0
Moderate	0	0.0	0	0.0
Severe	1	4.0	1	4.0

Table 3: Healing of Fissure (follow up 3rd week)

Healing of Fissure	Group A (Open)		Group B (Closed)	
	Number	Percentage	Number	Percentage
Complete	24	96.0	24	96.0
Partial	1	4.0	1	4.0
Not Healed	0	0.0	0	0.0

DISCUSSION

Results were compared of both the methods Closed and Open method lateral internal anal sphincterotomy. On Post-operative day, post-operative hematoma was more in closed sphincterotomy and post-operative bleeding and ecchymosis were more in Open group. Mean VAS was comparable in both the groups in 1st week follow up. At 1st week and 4th week there was rapid healing in Open group as compare to closed group. In Open method it was higher rate of wound infections as compare to Closed group. Recurrence rate was zero in both the methods. Peri-anal sepsis rate was zero in present study. We used prophylactic antibiotics (cefoperazone+sulbactum 1.5 gm), Aseptic approach and post-operative training of personal hygiene and sitz bath in all patients, both in hospital and at home. In this study, there is no statistical significant difference in the surgical outcome of either of techniques Open or Closed lateral internal anal sphincterotomy. The Open approach is good for beginners as it is well demonstrated and under vision as compare to Closed technique which is blind procedure. Closed technique is simple and fast, so one should gradually switch over to this technique. Closed technique can easily be done under local anaesthesia, That is more economical to patients. Present study is in consonance with the studies done by various authors Wiley M et al, Kataa AA et al, Nelson R et al. Thus proving lateral internal anal sphincterotomy done either by Closed or Open method is the gold standard for chronic anal fissure.

CONCLUSION

Present study compared the Open and Closed techniques of lateral internal anal sphincterotomy and concluded that both Open and Closed method have almost similar outcome as far as immediate post-operative period and follow of upto 6 weeks with no statistical significant difference in results. So any method can be adopted for the treatment of chronic anal fissure. It depends upon surgeon personal experitise for better outcome in patients. However further studies are needed to compare outcome in both Open and Closed method of lateral internal anal sphincterotomy in the treatment of anal fissure.

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