Closed Versus Open Lateral Internal Sphincterotomy Technique in Treatment of Anal Fissure

Seyed Reza Mousavi Jr*
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Background: Although lateral internal sphincterotomy is an effective treatment of chronic fissure in ano, it’s of potential to better-done and lower complications. And the aim of this prospective randomized trial was to compare the effectiveness and morbidity of open and closed sphincterotomy in the treatment of chronic anal fissure. Methods: The two methods were compared in a randomized controlled single blind clinical trial, from among 76 patients with anal fissure who referred to our medical center from March 2004- April 2006. Results: The fissure had healed in 45% of the study group compared to only 14% of the control group (P<0.01). Conclusion: Therefore closed lateral internal sphincterotomy is the recommended and preferred method of treatment for anal Fissure.

KEYWORDS: Anal sphincter, closed lateral, open lateral
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Introduction:

Anal fissure is a disorder which seen in adults, especially active women. Several methods of treatment exist for this disorder such as anal sphincter dilatation, fissurectomy (which is associated with a high recurrence rate), and lateral internal sphincterotomy (LIS) which is the method of choice today and is performed via two different techniques, I. E., open sphincterotomy with an incision of the skin and anal mucosa and division of the internal anal sphincter and closed sphincterotomy consisting of division of the sphincter, without incising the anal mucosa and pulling out the sphincter. "

Methods:

In order to determine a method to decrease intra operative and postoperative complication and decrease the wound-healing period and shorten the operation time, the two mentioned methods were compared in a randomized controlled single blind clinical trial. From among 76 patient with anal fissure who referred to our medical center from March 2004 – 2006 April with no infectious peri anal disease, For 42 patients were randomly chosen as the study group and were treated by the closed method and underwent L. I. S and 34 patient were chosen as the control group "who underwent open L. I. S All patient were discharged on the first postoperative day and were visited one week and one month after operation. At that time variables such as time of operation, bleeding and mucosal laceration during the operation, pain, bleeding, hematoma, gas and fecal incontinence at 24 hours post operatively, and variables such as pain, hematoma, fistula, abscess, recurrence, gas and fecal incontinence and wound healing one week and one month after operation were evaluated by chi square and T -test. Complications were appropriately treated when encountered.

Results:

Results showed that, concerning time of operation, bleeding and Mucosal laceration during the operation, Pain and bleeding on the first Postoperative day and pain and the percentage of wound. Healing one week after operation Statistically Significant differences were Seen, Time of operation in the study group was nearly one- half that of the control group. Intraoperative bleeding was 38% in the Study group and 67.5% in the control group (P<0.05). Mucosal laceration occurred in 9.5 % of the Study group and 50% of the control group (P<0.005). On the first postoperative day 45% of the study group complained of pain, compared 76% of the control group (P<0.05). Bleeding was seen in 19% of the study group compared 61.7% of the Control group (P<0.001). After one week 26% of the Study group complained of pain compared to 55.8% of the control group (P<0.05). The fissure had healed in 45% of the study group compared to only 14% of the control group (P<0.01). At the sometime although hematoma, gas incontinence, abscess, and recurrence were observed in a few patients no statistically significant difference was observed. After one month 88% of all patients in both group no longer had anal Fissure and their wound were healed. Therefore rate of non-healed wounds were equal in both groups. The meantime period of the operation was 7.04 minute in the study group and 18.47 minutes in the control group. This difference was statistically significant (p<0.0001).
Discussion:
To examine the more sparing surgical technique, it is important to look at the etiology of chronic fissure in ano. Both hypovascularization and hypoperfusion occur in the posterior anal commissure in approximately 85% of normal people. Combination of these factors with internal anal sphincter hypertonia, causing ischemia, explains the poor wound healing and pain associated with chronic anal fissure. (1) It does not explain why anterior chronic fissure in ano occurs in at least 10% of female patients and why pain if ischemic in nature, occurs only for a certain period after defecation. Also the actual causative or initiating mechanism is unknown and the mechanism of the transition from acute to chronic fissure remains obscure.

The gradual improvement in pain in the open groups as compared to immediate pain relief in the close groups should not be regarded as a main difference between the two procedures, since all patients, eventually were pain free within one week of operation. This study has shown that fissurectomy is a safe sphincter-sparing alternative in the treatment of chronic fissure in ano not responding to conservative treatment. Recent studies have shown that lateral internal sphincterotomy is detrimental to the continence mechanism. (2) The length of the sphincterotomy and whether an open or closed technique is used are related to the incidence of incontinence. To emphasize the results, no Patient in the close groups suffered from incontinence to flatus.

The result of this study emphasize the benefits of the closed technique, I. E. shorter operation time, less bleeding and mucosal tearing and less pain and bleeding post operatively and quicker fissure healing. In the other hand, some studies mentioned no statistically significant difference in rate of healing or morbidity when comparing the open with the closed method. (3,4,5)

Closed lateral internal sphincterotomy is treatment of choice for chronic anal fissure and can be done effectively and safely with acceptable low rate of complications. (6) Lateral internal sphincterotomy is highly effective in treatment of chronic anal fissure but is associated with significant permanent alterations in continence. CLIS is preferable to OLIS because its effect a similar rate of cure with less impairment of control. (7)

Therefore closed lateral internal sphincterotomy is the recommended and preferred method of treatment for anal Fissure.

References:

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