

Lateral Subcutaneous External Sphincterotomy

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Abstract

Lateral internal sphincterotomy, even though, the most commonly used technique in United States for the treatment of fissure-in-ano has its associated post-operative complications like incontinence of flatus or faeces. A better alternative in the form of lateral subcutaneous external sphincterotomy was tried prospectively on 50 patients over a period of 2 years & 4 months in the department of General Surgery at Sher-i-Kashmir Institute of Medical Sciences- Medical College, Bemina, Srinagar India. Postoperative results were excellent vis- a vis pain relief and complications. We conclude that it is a better alternative for treatment of both acute as well as chronic fissure-in-ano.

Key Words

Anal fissure, Pain, Anal sphincter

Introduction

Fissure-in-ano has been recognized as a common cause of anal pathology for many years. Recamier recommended stretching the anal sphincter for the treatment of fissure-in-ano as early as 1829 (1). Depuytren advised incising the fissure itself (2), whileas, Demarquay in 1846 reported performing subcutaneous sphincterotomy to treat fissure-in-ano (3). Martin in 1923 also advocated subcutaneous sphincterotomy (4). Eisenhammer (5,6) popularized lateral internal anal sphincterotomy in 1951, which continues to be the most commonly used technique in United States. But it is not without complications like incontinence of faeces and flatus, which could be as high as 35% (7,8). To overcome these problems we opted for a new operative technique of "Lateral Subcutaneous External Sphincterotomy" (9) on prospective basis since May 2000 till date. In our study we have used this technique now for

more than 3 years for both chronic as well as acute fissure on 50 patients with excellent results both post operative and on follow up without any complications encountered till date.

Material and Methods

Patients with chronic fissures not responding to conservative treatment over a period of 3-6 weeks and patient with acute fissure with very severe pain and spasm were included in the study. Thirty three patients had chronic fissure in ano and 17 patients had an acute fissure-in-ano. Patients were in the age group of 20-62 years and 28 were male and 22 were female patients.

The operation was performed under general anaesthesia or regional anaesthesia. The patient was placed in lithotomy position after proper cleansing of

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bowel and preparation of part preoperatively. The part was cleaned with normal saline 2-3 times. The antiseptic solutions were not used because of the past experience of severe allergic reactions in the perineal region. Part was draped nicely. 2-3 fingers dilated the anal orifice after lubricating the anal canal with 2% xylocaine jelly. A radial incision 2.5cm in length was made at the anal verge at 3-o clock position, circular fibers of subcutaneous external sphincter could be seen running transversely. A small mosquito curved artery forceps was pushed underneath the muscle fibres and delivered from medial side of wound. The muscle was then divided by the cautery. Hemostasis secured and wound was left open. Furacin guaze was tucked in the wound and patient was advised to have sitz baths from first post-operative day and metronidazole ointment was advised locally on the follow-up. Most of the wounds healed completely in 3 weeks time. A high fibre diet was advised to all patients on follow up.

Results

Patient satisfaction immediately after the procedure especially in acute anal fissure, was par-excellence. Patients in both groups were completely relieved of their pain. All fissures on follow up were found to have disappeared in 3-6 weeks time. The wound healing was excellent with the aid of sitz baths and local application of metronidazole ointment. All the patients had a satisfactory bowel movement. There was no evidence of incontinence of faeces or flatus in any patient. On follow up every patient was subjected to a P/R examination and no spasm or stenosis was encountered. Till date no patient has reported with a recurrence of symptoms or of fissure.

Discussion

In 1965, Watts, Bennett, and Goligher described stretching of the anal sphincter to treat anal fissure (10). Majority of the studies have shown that sphincter stretching or maximal anal dilatation results in good healing of the anal fissure. Weaver and associates described a technique of anal dilatation using four fingers for 4 minutes with 92% success (11). However, majority

of the authors agree that anal-stretch is uncontrolled fracturing of the internal sphincter, hence can lead to incontinence of flatus and soilage. Nearly one third of patients who underwent dilation in Jensen's series had recurrence, and complications were higher in the dilated group (12). The procedures were performed under local anaesthesia. Weaver and associates found no difference between sphincterotomy and anal dilatation where both were performed under general anaesthesia (11).

The degree of sphincter injury possible with dilatation was demonstrated by an ultrasound study, which demonstrated a mean loss of 153 degrees of internal anal sphincter continuity in 11 patients who became incontinent after this treatment (13).

The rationale of adding the step of fissurectomy to any procedure has not been supported much in literature. Time to healing and success in healing a fissure are not influenced by the excision of the fissure (7).

Posterior midline sphincterotomy was initially recommended by Eisenhammer, which later on was changed to lateral sphincterotomy by the same person to avoid the keyhole deformity and the soiling (5). Bilateral partial sphincterotomy has also been recommended but it could be attributed mainly to the hypertonic state of the subcutaneous external sphincter which would be more than 3 times greater than that of internal sphincter, because of difference in size of the mass between the two sphincters muscles (9). Also secondary to the formation of a fissure, the intact fibers of the subcutaneous external sphincter tend to go into reflex spasm. However, the majority of surgeons in the United States perform lateral internal anal sphincterotomy, using either open or a closed technique (14). A comparison of closed and open sphincterotomy from Walker, Rothenberg and Goldberg in 1985 revealed a major complication requiring re-operation in 3% of patients including bleeding, infection or incomplete sphincterotomy (15). Early incontinence occurred in 86% of patients. The complication rate was 20% for closed

and 55% for open sphincterotomy (7,11,12,15). More recently Lewis and associates found no difference between open and closed sphincterotomy (16).

The subcutaneous external sphincter is separated from internal and superficial external sphincter by a fascia derived from longitudinal muscles of the rectum. This sphincter is a striated circular muscle 10-12 mm in diameter and constitutes the anal verge and at the same time acts as an anal wiper. The internal sphincter, on the other hand, is a smooth muscle that extends down to the Hilton's white line. In contrast to subcutaneous external sphincter, it is only 3mm in diameter (5). Hence, it is logical that force of contraction exerted by the subcutaneous external splinter would be 3 times greater than that of internal sphincter (9). Now-a-days the clinical understanding has been confounded with the evidence of high resting ano-rectal pressure inpatients with fissure-in-ano (17-19). Now whether the spasm of internal or subcutaneous external sphincter or both in combination are responsible for this high resting ano-rectal pressure is not exactly known.

Therefore, in order to relieve the pain and spasm associated with the fissure-in-ano it seems quite logical to go for lateral subcutaneous external sphincterotomy. Also when this procedure is compared with all other surgical procedures, there is excellent patient satisfaction, and not even a single patient after this procedure has developed any complications like anal incontinence for faeces or flatus, stenosis, spasm or recurrence. Besides, this procedure has also the advantage of technical simplicity. Also, it is an excellent procedure not only for chronic fissure-in-ano but also for an acute fissure where patient is in agony because of pain and is not ready to go through the cumbersome procedure of conservation trail. Thus, we advocate that the procedure of lateral external sphincterotomy should be used generously for treatment of all types of fissure-in-ano.

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