

Lateral Partial Sphincterotomy Technique for Chronic Anal Fissure

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I. Introduction

Lateral internal sphincterotomy is the surgical treatment of choice for a chronic anal fissure [1]. Optimal division of the lateral internal sphincter has not yet been devised since the length of the anal canal differs between patients. It is appropriate to describe it according to the position of the dentate line (i.e., division of the internal anal sphincter below the dentate line) [2]. We think that this type of incision is excessive and should be approached in a more conservative manner because of the high percentage of postoperative soiling or incontinence problems published historically [3–5]. This paper introduces the concept of subcutaneous lateral internal partial sphincterotomy required for a chronic anal fissure.

II. Material and Methods

A total of 43 lateral internal partial sphincterotomies were performed in the outpatient setting between 2019 and 2020. Five of the patients had acute fissures which were treated with topical 0.4 % nitroglycerin ointment. Before the operation, the patients were questioned about their bowel habitus and anal control problems. Postoperatively, all the patients were followed up by office visits and telephone calls at 1 week, 1 month, and 6 months regularly. The procedure is performed in the lithotomy position. Prophylactic antibiotic and rectal enemas are not used. Local anesthesia with lidocaine (40–80 mg) is preferred. Careful palpation of the intersphincteric groove with the index finger is the mainstay of the procedure. After the internal and external sphincters have been identified, a no. 11 blade is inserted through the intersphincteric plane and advanced cephalad to the level of the dentate line. Then, the sharp edge of the blade is turned toward the anal canal and the incision is made medially, controlled by the index finger. It is important not to divide more than half of the sphincter's width below the dentate line. The sketches are drawn to compare the classical and partial sphincterotomy techniques. A finger pressure was applied to the incision for hemostasis for a few minutes. All the patients were advised sitz baths and to resume normal defecation. Informed consent was obtained from all individual participants included in the study. Results Forty of the patients (93 %) were free of pain 1 week after the operation. Three patients suffered from persistent pain and these patients underwent the same operation (7 %). After the second procedure, none of the patients experienced pain. Before the surgery, pain was the clinical hallmark of the patients during and after defecation for a certain period of time (range between 2 min and 10 h). Rectal bleeding was a common problem in 29 patients (67.4 %). There was a history of constipation in 25 of the patients (58 %), normal bowel movements in 16 (37 %), and diarrhea in 2 (5 %). Sentinel skin tags were encountered in 60.5 % (n = 26) of the patients and excised in 19 % (n = 5) of them. The median age of the patients at surgery was 39 years (range 17–69 years); 32 (74.4 %) of them were male (Table 1).

Table 1

Variable	Number
Gender (M/F)	32/11
Median age (range)	39 (17–69)
Pain during defecation	43 (100)
Rectal bleeding	29 (67.4)
History of constipation	25 (58)
Normal bowel movements	16 (37)
Diarrhea	2 (5)

Figures are in percentages

After the surgery, bleeding from the incision site occurred in 3 patients; all were on anticoagulants (i.e., clopidogrel or acetylsalicylic acid). A digital pressure and proper dressing are applied to the incision for hemostasis. Suturing to close the incision site was not needed. The most common complication was the

sensation of burning (n = 9, 20.9 %) around the anus, and one had incontinence to flatus that all healed completely after 1 month. Two patients (4.6 %) had itching around the anus. None of the patients developed fecal incontinence in the follow-up period. Discussion Notaras described subcutaneous lateral internal sphincterotomy in 1971 [6]. In his original description, the scalpel is inserted between the anoderm and internal sphincter, and sphincterotomy is performed medially to laterally below the dentate line. This technique has drawbacks: sphincterotomy that penetrates the anal mucosa may result in anal abscess and fistula formation. Internal hemorrhoidal plexus damage or external sphincter injury may also ensue. The classical subcutaneous technique, described by Hoffman and Goligher as the division of all sphincter fibers below the dentate line, creates a prominent groove beneath the anoderm [7]. This leads to soiling because a small amount of feces may accumulate in the defect. Fecal incontinence can also occur due to low resting anal canal pressures. Subcutaneous lateral internal partial sphincterotomy is performed laterally to medially, dividing one fourth of the internal sphincter, and obviates such morbidities. The concept of a limited division of the internal anal sphincter is not new; a few studies have drawn attention to the subject [8–11]. They all were concerned with the length of the sphincterotomy. This paper addresses an important area in the literature and introduces the concept of the width and length of the internal sphincterotomy required in the setting of a chronic anal fissure. The treatment of a chronic anal fissure is to relieve the pain. The anatomy of the anal canal should not be altered after the sphincterotomy. We do not perform anal manometry for fissure patients. This might be seen as a limitation in our study; however, it is difficult to perform and evaluate manometry in a patient with severe anal sphincter spasm and pain. The potential disadvantage of the technique is persistence of pain, which is defined as pain that fails to resolve after sphincterotomy (recurrence refers to pain occurring after an intervening period of at least 6 months of bowel movements without pain). Should pain persist after surgery, it is primarily due to inadequate division and further sphincter fibers can be divided safely

III. Conclusion

Our results revealed that subcutaneous lateral internal partial sphincterotomy is effective, safe, and a reproducible technique for the management of chronic fissure pain. Compliance with Ethical Standards Informed consent was obtained from all individual participants included in the study.

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