

ORIGINAL ARTICLES

Anal fissures: Open lateral internal sphincterotomy results

Abdul-Wahid M Salih*

Department of Surgery, College of Medicine, University of Sulaimani, Kurdistan Region, Iraq

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ABSTRACT

Background: Lateral Internal Sphincterotomy is the procedure of choice for chronic anal fissure because it relieves symptoms and heals the fissure in nearly all patients. However, data on its postoperative complications are limited particularly fecal incontinence. Therefore, the aim of this study is to investigate the results of this procedure in terms of recurrence rate, complications and patient satisfaction.

Methods: The medical records of 80 patients from 4 centers were collected during 20 months and evaluated retrospectively.

Results: Incontinence was observed in 2 (2.5%) patients. The patients were discharged at the same day of the operation. During the average follow-up of 24 months, two patients (2.5%) developed recurrent disease. In addition, patients' satisfaction was high (95%).

Conclusions: Lateral internal sphincterotomy is the procedure of choice for chronic anal fissure because it relieves symptoms and heals the fissure in nearly all patients with very low rate of complications, negligible recurrence and good patient satisfaction.

Key Words: Lateral internal sphincterotomy, Incontinence, Patient satisfaction, Anal fissure

1. INTRODUCTION

Anal fissure is a linear tear in the skin of the distal anal canal below the dentate line. It is a common condition affecting all age groups particularly young adults. Men and women are equally affected. The pain is often severe and may vary from few minutes to several hours.^[1] Chronic anal fissures associate with persistent hypertonia and spasm of the internal anal sphincter but its mechanisms is unclear. Bowel movements result in more pain, and more anal spasm leading to decreasing blood flow to the area, and the cycle propagates. Combination of these factors with internal anal sphincter hypertonia explain poor wound healing and pain associated with chronic anal fissures.^[1-3] Treatment strategies are aimed at interrupting this cycle to promote healing of the

fissures.^[5] Classic treatment is to reduce the anal tone and eliminate sphincteric spasm. These findings suggest that the anal spasm may predate the onset of the fissure. The internal sphincter spasm is probably not secondary to pain as the application of topical local anaesthetic to a fissure alleviates the pain but does not reduce the anal spasm.^[6] The increase in anal sphincter muscle pressure results in a decrease in blood flow to the site of the injury, thus impairing healing of the wound. It has been reported that in elderly and postpartum patients anal fissures are associated with normal and even hypotonic sphincters.^[7,8]

Despite the advent of new modalities in the conservative treatment of chronic fissures, they frequently need surgical treatment. Several surgical methods are accepted for the

*Correspondence: Abdul-Wahid M Salih, Project Coordinator; Email: Abdulwahid.salih@univsul.edu.iq; Address: Department of surgery, School of Medicine, University of Sulaimani, Iraq.

treatment of chronic anal fissures. The most popular one is anal dilatation while recently lateral sphincterotomy has is more promising. This is a minor operation, which is usually done as day case surgery.^[9,10] Early sphincterotomy with generous division of the internal anal sphincter muscle are recommended.^[11] The objective of the current study is to evaluate the results of this procedure in terms of recurrence rate, complications and patient satisfaction.

2. PATIENTS AND METHODS

2.1 Study setting

This is multicenter based study. Sample collected from 4 hospitals.

2.2 Study design

A retrospective cohort design was applied for the implementation of the study.

2.3 Target population

A single cohort of 85 patients who underwent surgery between (2012 and 2014) were reviewed retrospectively using structured interview questionnaire which included information on socio-demography of the patients, complications, recurrence of the disease and patients satisfaction. Five patients were excluded from the study because of missed information, the remaining 80 patients underwent complete analysis.

2.4 Study procedures

Lateral internal sphincterotomy done with the patient under regional or general anesthesia in the lithotomy position by a standard open technique, which included 5-mm incision starting from right side of the anus into the perianal skin along the intersphincteric groove (see Figure 1). The internal anal sphincter was then dissected and a segment withdrawn with a pair of artery forces and divided with diathermy. The procedure involves division of the internal anal sphincter laterally.^[12,13] From its distal most end up to the dentate line, or for a distance equal to that of the fissure.^[14] The sphincter was divided in an open (through a radial or circumferential incision) fashion. Wound left open to heal by secondary intention.^[15] Sentinel skin tags, fissure edges and bed were removed (fissurectomy), and rarely combined with hemorrhoidectomy. The operation takes less than 20 minutes. The surgery is performed as an outpatient, same-day procedure.^[16] The researchers then contacted patients by phone, letter or home visit to request a meeting with the researchers for the purpose of obtaining informed consent. Following consent, sociodemographic data and history of various exposures were collected using a structured interview which is

researcher-administered and anthropometric measures were conducted.

3. STATISTICAL ANALYSIS

Data was collected and coded. The collected data were reviewed and analyzed using the Statistical Package for Social sciences (SPSS version 22). Descriptive statistics was used to describe the study sample.

4. ETHICAL CONSIDERATIONS

The researchers obtained the approval of the Sulaimani medical school Ethical Committee for conducting this study. It is complied with the international Ethical Research Guidelines. Informed consents were obtained from the participants and confidentiality was assured.

5. RESULTS

5.1 Main characteristics of participants

The study included 19 males (23.7%) and 61 females (76.3%) with a mean \pm SD of age of 31.09 ± 7.77 years (range, 20 to 62 years). 60 patients (75.0%) presented as chronic and 20 patients (25.0%) presents as acute anal fissures. The distribution of patients in according to demographic characteristics and return to work and are given in Table 1.

Table 1. Main demographic characteristics of the participants

Characteristics	No. (%)
Gender	
Male	19 (23.7)
Female	61 (76.3)
Address	
Inside city	49 (61.2)
Outside city	31 (38.8)
Married	
Yes	66 (82.5)
No	14 (17.5)
Presentation of the disease	
Constipation	
Yes	65 (81.25)
No	15 (18.75)
Bleeding	
Yes	56 (70.0)
No	24 (30.0)
Pain	
Yes	62 (77.5)
No	18 (22.5)
Median Duration of the disease/months	20

5.2 Post-operative complications

The distribution of complications is shown in Table 2, which were recorded during 24 months of follow-up. The patients were discharged at the same day of the operation.

Table 2. Distribution of anal fissure patients according post-operative complications, Recurrence and patient's satisfaction

Complications	No. (%)
Constipation	
Yes	17 (38.6)
No	27 (61.4)
Pain	
Yes	14 (17.5)
No	35 (82.5)
Bleeding	
Yes	12 (15.4)
No	68 (84.6)
Recurrence	
Yes	2 (2.5)
No	78 (97.5)
Patients satisfaction	
Yes	77 (96.25)
No	3 (3.75)

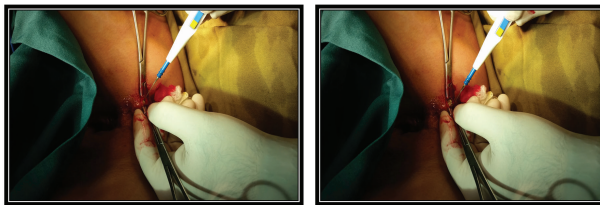


Figure 1. Open lateral internal sphincterotomy

6. DISCUSSION

Treatment of anal fissures by sphincterotomy was first suggested in 1818 by Boyer.^[17] Over the last century, a wide variety of surgical methods (anal dilation, fissurectomy, advanced flap, posterior and lateral sphincterotomy) have been described for management of chronic anal fissure. Since its introduction by Eisenhammer in 1951, lateral internal sphincterotomy has been used with increasing frequency and it is now considered the treatment of choice for chronic anal fissures.^[19-25]

The administration of pharmacological preparations that relaxes the internal anal sphincter effectively reducing anal pressure, can lead to healing of chronic fissures. However, this effect on the muscle is reversible and resting pressures appear to return to original values once treatment is discontinued, even after the fissure has healed.^[13]

Various medical treatment has been tried for management

of chronic anal fissures but none of them approached the efficacy of surgical sphincterectomy, although all patients were free from incontinence.^[27] In a prospective randomised controlled study carried out by Valizedah *et al.*^[28] botulinum toxin injection and lateral internal sphincterotomy were compared in the treatment of chronic anal fissure. After a follow up period of six months, it was found that the rate of recurrence was significantly higher in botulinum toxin injection Group.^[29] Richard *et al.*^[14] concluded that surgical sphincterotomy improved healing rate at 6 weeks (89% vs. 29%) and reduced the further requirement for surgery (3% vs. 89%) in his trial of 82 patients.^[30]

Precise and controlled division of the internal anal sphincter muscle is a highly effective and commonly used method to treat chronic and refractory anal fissures, with success rates reported to be over 90% and has a better success rate than any medicine that is used to treat long-term anal fissures but it is associated with potential long-term complications.^[31-34] Recurrence rates after sphincterotomy are exceedingly low when properly performed by a surgeon. We are utilizing the fissurectomy wound to enhance healing acceleration. Our study is in line with other studies in term of short hospital stay, rapid wound healing, low recurrence rate, and very low risk of incontinence.^[35] Surgery is highly successful and our results only go to support it.

High rate of chronic anal fissures among female patients in our study (76.3%) can be explained by social and cultural factors. As far as there is no female anologist in our region, female patients feel shame to consult male surgeon until their condition progress to chronic fissure which then need surgical interventions. However more studies with bigger sample size are necessary to confirm this finding and expose underline causes.

A number of limitations could be considered for this study. First: small sample size. Second: the quality of the recorded data was another matter. Some information was missed regarding the patients for instance contact number, therefore we excluded those patients in this study. Finally, this study was retrospective and the it was not recruited and compared with other surgical procedure.

7. CONCLUSIONS

Lateral internal sphincterotomy is the procedure of choice for chronic anal fissure because it relieves symptoms and heals the fissure in nearly all patients. The Advantages are good symptomatic relief, high rate of healing, and good patient satisfaction. It has very few complications and negligible rate of recurrence and incontinence. Future studies should be planned with a larger series of patients, including the comparison with other modalities of treatment.

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