



# Chronic anal fissures: Open lateral internal sphincterotomy result; a case series study



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## HIGHLIGHTS

- Anal fissures are defined as a tear in the skin of the anal canal distal to dentate line.
- There are several modalities of management of anal fissure including anal dilatation and sphincterotomy.
- The current study analyze the outcome of lateral sphenerotomy along in the management of chronic anal fissure.

## ARTICLE INFO

### Article history:

Received 9 December 2016

Received in revised form

9 February 2017

Accepted 9 February 2017

### Keywords:

Lateral sphincterotomy

Internal anal sphincter

Chronic anal fissure

## ABSTRACT

**Introduction:** Anal fissure are defined as a tear in the skin of the anal canal distal to dentate line. Although still there are controversies about the exact management, lateral sphincterotomy is promising. The aim of this series is to present the outcome of lateral sphincterotomy for internal anal sphincter in term of patient satisfaction and complication.

**Patient and methods:** A prospective single cohort study, 190 patients, who were undergone lateral sphincterotomy for internal anal sphincter from 2010 to 2014, were analyzed. The operation was performed as a day case procedure. The median duration of follow up was 5 years (ranging from 3 to 6). The data were analyzed using the Statistical Package for Social sciences (SPSS) version 22. Descriptive statistic was used to describe findings.

**Results:** Forty three males (22.6%) and 147 females (77.4%) with a mean  $\pm$  SD of age of  $31.19 \pm 7.78$  years. Constipation was reported in 152 (80%) patients, bleeding in 131 (68.6%) cases, and pain in 142 (74.7%) patients. The median duration of the disease was 20 months (ranging from 1 to 30 months). Post-operatively, patient satisfaction was high (98.4%) with only 3 cases (1.6%) of recurrence.

**Conclusion:** lateral sphincterotomy for internal anal sphincter, along, is the procedure of choice for management of CAF because it is effective and it can cure the disease in nearly all patients with good patient satisfaction.

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## 1. Introduction

Anal fissures are defined as a tear in the skin of the anal canal distal to the dentate line. Although affecting all age group, it is more common among young adults [1]. The main presenting symptom is pain during defecation which may last from few seconds to few hours [1]. Spasm and persistent hypertonia of the internal anal sphincter (IAS) may develop in chronic cases leading to impairment of blood supply to the affected area and subsequent poor wound healing and recurrence [2]. Any therapeutic strategy interrupting this cycle may promote healing, relieve the pain and prevent re-

appearance of the disease [3]. Chronic anal fissure (CAF) is a fissure lasting 8 weeks [4]. Patients with frequently need surgical intervention despite of advent of multiple conservative modalities including local injection [5]. Now a day, several techniques are accepted for the management of CAF. Among those techniques, anal dilatation is the most common one with recently added lateral sphincterotomy (LS) for the IAS [6]. The latter includes open generous division of the lateral side of the IAS muscles. Although there are too many controversies about the exact management of CAF, LS for IAS is promising despite risk of insentience [7]. There are too many studies combining the anal dilatation with lateral sphincterotomy but studies regarding lateral sphincterotomy along for the management of CAF are few. Nyam et al. reported 96% cure rate among 585 patients with some degree of incontinence in 45%

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of patient after LS. Incontinence was temporary in most of the case with only 3% remain after 72 months of follow up [8]. Mentes and colleagues concluded that only few patients reported deterioration of quality of life after LS because of incontinence (1.2% among 244 patients undergoing LS for IAS) [9]. The aim of the current series is to present the outcome of open LS for the IAS along without other intervention in terms of complications, recurrence rate and patient satisfaction.

## 2. Patient and methods

### 2.1. Patient selection

This is prospective multicenter study. A series of 190 patients who were undergone operation during 4 years (2010–2014) were analyzed. The data were taken from the medical records and structured interview form. The patients selected consecutively according to their visit to those centers. All patients with comorbidities which would impair their healing process such as being on long-term steroids, immunosuppression e.g. AIDs, if they had diabetes - or conditions linked to fissures (E.g. Crohn's disease) were excluded from the study. Patients with contraindication to anesthesia also exclude.

### 2.2. Procedure

Using regional or general anesthesia with lithotomy position open LS was performed for IAS muscles in which 5-mm incision was done starting from right side of the anal canal into the perianal skin through the intersphincteric groove (Fig. 1). The lateral side of IAS was dissected and a segment of which was withdrawn to outside using artery forces and then divided completely with electrodiathermy. The wound was left open to heal by secondary intention. Meanwhile fissure edges and bed with sentinel skin tags were resected (fissurectomy). The operation was performed as a day case procedure. The median duration of follow up was 5 years. The data were analyzed using the Statistical Package for Social sciences (SPSS) version 22. Descriptive statistics were used to describe findings. For conducting of the study, approval of the Ethical Committee of the Sulaimani medical school has been taken which complies with the International Ethical Research Guidelines. Written and verbal informed consents were obtained from all participants. The information was kept confidential. The primary outcome was complete healing and the secondary outcome was free from incontinence. The work has been reported in line with the PROCESS criteria [10].

## 3. Results

The study included 190 patients, 43 males (22.6%) and 147 females (77.4%) with a mean  $\pm$  SD of age of  $31.19 \pm 7.78$  years (ranging from 20 to 62 years). All patients have history of chronic anal fissures. Constipation was reported in 152 (80%) patients, bleeding in 131 (68.6%) cases, and pain in 142 (74.7%) patients. The median duration of the disease was 20 months (ranging from 2 to 30 months). Patient satisfaction (98.4%) was high and complete healing was seen at 4 weeks with only 3 cases (1.6%) of recurrence. Table 1 shows the outcome of the procedure with median follow up 5 years.

The bleeding was minimum and does not need surgical intervention; all of them were treated by changing the dressing. There was no incontinence.

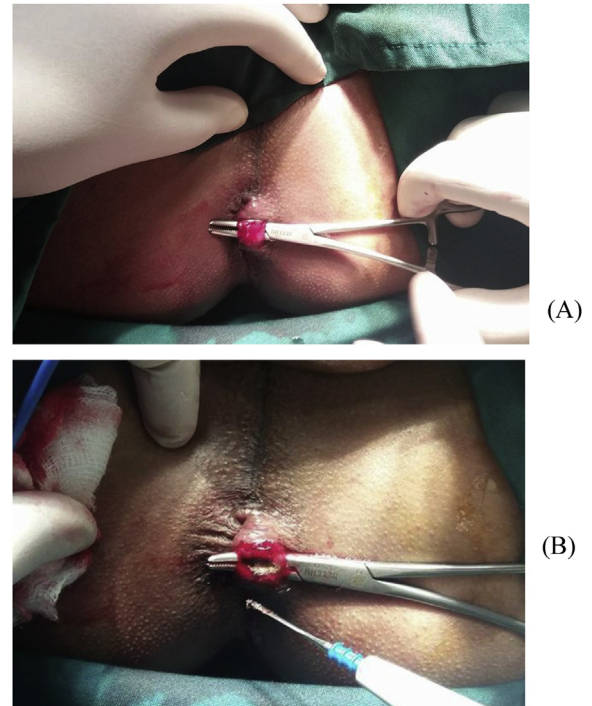


Fig. 1. Lateral sphincter (A) identification of the lateral sphincter muscle. (B) the process of division.

## 4. Discussion

In 1818 for the first time, Boyer suggested sphincterotomy as a treatment of anal fissures [11]. Later on, several surgical techniques (fissurectomy, anal dilation, posterior and lateral sphincterotomy and advanced flap) have been performed for management of CAF [12]. The application of medications that relax the IAS can effectively decrease anal pressure leading to healing of the chronic fissures. However, this effect is reversible and the problem re-appears once the medication is discontinued, even after complete healing of the fissure [2,6,13]. In comparison to other surgical and medical treatment modalities, sphincterotomy remains the most effective and successful method of management in patients with CAF [11]. Valizedah et al. [14], in a prospective randomized controlled trial, compared botulinum toxin injection with LS for IAS for the treatment of CAF. After six months of follow up, they found that the rate of fissure recurrence was significantly higher in botulinum toxin group in comparison to LS group (76% versus 12% respectively) [15]. Richard et al. [16] also found that LS improved healing rate (89% vs. 29%) and decrease further requirement for operation (3% vs. 89%) [17]. In the current series, surgical intervention was required for 3 (1.6%) individuals who presented with recurrence. This is even lower than what is reported in literature [17,18]. Anal dilatation carries the risk of incontinence [12]. We did not combined anal dilatation with LS. This may explain the absence of incontinence in

Table 1  
Shows the most important complications and outcomes reported during 5 year follow up.

Complications & outcomes	Number (%)
Recurrence	3 (1.4)
Bleeding	28 (14.7)
Pain (1st post operative week)	32 (16.8)
Patients satisfaction	188 (99)

the current study. Our study is in line with other studies in term of short hospital stay, rapid wound healing, patient satisfaction and low recurrence rate [19]. In case of CAF, usually men and female are equally affected [1]. High rate of CAF among ladies in our sample (77.4%) may be explained by cultural and social factors. Because of absence of female anologist in our region, ladies shy to be examined by male surgeon until their disease progress to chronic one when surgical interventions are indicated. However more studies with higher statistical power are required to confirm and explain this finding.

There are some important limitations regarding this study. First, the sample size is small. Second, the design of the study (single cohort) does not give us firm evidence.

## 5. Conclusion

The learning point from the above data is that LS for IAS with fissurectomy is the procedure of choice for management of CAF because it is effective and cure the disease in nearly all patients with good patient satisfaction. The complications are minimal and negligible. Randomized clinical controlled trials with large sample sizes are recommended.

## Ethical approval

Approval has been taken from Sulaimani university ethical committee.

## Funding

There is not source of funding.

## Author contribution

Abdulwahid M. Salih: Surgeon performed the operation, follow up and drafting the manuscript.

## Conflict of interest

None to be declared.

## Research registration unique identifying number (UIN)

researchregistry1739.

## Guarantor

Abdulwahid M. Salih.

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