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A study of outcome after lateral internal anal sphincterotomy for anal fissure

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Abstract

Anal fissure is a common and painful condition which causes significant morbidity in the population. If conservative treatment fails or fissure recurs (frequently), a surgical treatment is indicated. Three surgical procedures are available. 1. Anal sphincter stretching (dilatation), 2. Lateral internal anal sphincterotomy, and 3. Anal advancement or rotation flap. Sphincter stretching has now become practically obsolete. A flap may be indicated in women who have had previous sphincter damage. Otherwise, lateral internal anal sphincterotomy is the surgical procedure of choice in most of the patients. The operative procedure may be performed by closed technique or open technique, and under local analgesia, caudal block, or general anaesthesia. We prefer open technique under general anaesthesia.

A retrospective analysis of patients with anal fissure who underwent lateral internal anal sphincterotomy, was done in our hospital attached to a rural medical college. The period of study was one year. The patients were followed up for 06 months after the operation, and evaluated for relief of pain, incontinence of faeces or flatus or both, wound haematoma and wound infection.

Pain was relieved, and the pain relief was maintained in majority of patients. Incontinence to flatus occurred in 30 (68.18%) patients. Incontinence to faeces, of a 'minor degree' though, occurred in 9 (20.45%) patients. Interestingly, none of the patients suffered from wound haematoma and infection. Also, none of the patients came back with recurrence during the study period of six months after the operation.

Open lateral internal anal sphincterotomy is a safe procedure with excellent results.

Keywords: anal fissure, lateral internal anal sphincterotomy.

1. Introduction

An anal fissure is a linear tear/ulcer which occurs in the mucosa of anal canal just distal to the dentate line. Although constipation is commonly associated with fissure like with many other anorectal disorders, constipation is not necessarily the causative factor; rather than aetiologically responsible, it is more likely a response to the pain. Anal fissure commonly occurs as a primary condition (i.e. exact cause is not known). It affects both men and women of any age (including children). The highest incidence is between 30 and 40 years of age.

Fissure is a common anal problem. It may occur either as an isolated entity or in combination with other common problems like piles. Anal fissure may be acute or chronic. A fissure that has been present for at least 06 weeks is called chronic fissure. It is proposed that elevated sphincter pressures may cause ischaemia of the anal lining which in turn may be responsible for the pain and failure of fissure to heal^[1].

The purpose of the study was to find out operative outcome of open lateral internal anal sphincterotomy in patients with anal fissure, with respect to success and complications of the procedure.

Lateral internal anal sphincterotomy when indicated, remains the gold standard for surgical management of anal fissure^[2].

2. Material and Methods

This study was conducted on 44 operated cases of anal fissure between January 2014 and December 2014 in our hospital.

The cases included both male and female patients above (and including) the age of 16 years. Patients below 16 years of age were excluded.

The operation performed was exclusively open lateral (3 or 9 o'clock) internal anal sphincterotomy under general anaesthesia without intubation and without a relaxant. The edge of internal sphincter was identified by a 'step' when a finger is swept from within the anal canal to perianal area. If a relaxant is administered (by anaesthesiologist), the internal sphincter loses its tone with disappearance of the 'step'; consequently making identification of the sphincter difficult. Hence, anaesthesiologist was specifically requested not to administer a relaxant. Endotracheal intubation is usually not required as the procedure is relatively 'short'. Any sentinel pile when present, was excised, but sphincterotomy was performed strictly at 3 or 9 o'clock position. After accomplishing internal sphincterotomy, a wash was given with H₂O₂, the resultant small dead space packed for a while to give pressure to achieve haemostasis, and the wound was closed with a (3-0) absorbable suture 'a bit loosely'. Post-operatively, the patients were prescribed antibiotics (Amoxicillin 500 mg tid + Tinidazole 500 mg bid) and Sitz bath for 5 days, in addition to appropriate analgesic.

All types of anal fissure (i.e. acute, recurrent, and chronic) were included in this study which were fulfilling the criteria of indication for surgery. Patients with isolated fissure alone were included in the study. Patients with combined problems such as fissure + piles, fissure + polyp etc. were excluded from our study to ensure uniformity of result with respect to success/failure rates.

All the patients were not necessarily hospitalized. The patients who were fit for general anaesthesia in ASA grade 1 and operated upon in the morning were allowed to go home on the same day after noon. Other patients were hospitalized for a day.

Post-surgery, the patients were followed up for six months. Success was measured in terms of relief of pain and healing of fissure.

The occurrence of incontinence to flatus/faeces, and its duration was noted.

The occurrence or otherwise of wound haematoma and infection was noted as well.

3. Results

Out of 44 patients, 29 (65.9%) belonged to 16 to 30 year age-group. The remaining patients were above 30 years of age. Thirty eight (86.36%) patients were males while 6 (13.63%) were females.

Five (11.36%) patients had acute fissure which had failed to respond to conservative treatment. Nine (20.45%) patients had recurrent acute fissure. The exact number of recurrences has not been considered for two reasons: 1. There is not always a clear-cut demarcating line between chronic and recurrent acute fissures. In fact both the clinical situations merge at some time which cannot be pinpointed. 2. The history is not always reliable consistently in all patients. Moreover, if the indication to operate is clear, then the number of recurrences is immaterial anyway.

Thirty eight (86.36%) patients had immediate relief of pain after surgery, and the relief of pain was maintained. The first experience of relief of pain was confirmed at the time of the 1st bowel action after surgery. The few patients who denied immediate relief of pain stated that their pain/discomfort gradually subsided over a period of a few weeks as the operative wounds healed.

The mean healing time for acute fissures was 2.2 weeks whereas that for chronic fissures was 3.5 weeks. However, it must be accepted that the exact time taken for the fissures to heal has not always been easy to gauge from the follow up notes. Incontinence of flatus occurred in 30 (68.18%) patients (Table 1). Minor incontinence of faeces occurred in 9 (20.45%) patients (Table 1). Deficient control of faeces was usually associated with loose motions. Such incontinence was seldom gross. Patients complaining of unaccustomed discharge soiling their underclothes were also included in 'minor faecal incontinence'. None of the patients had persistent incontinence to either flatus or faeces. Incontinence is said to be present if on several occasions since operation the patients had inadvertently passed flatus or faeces, often causing embarrassment, and that this mishap had never occurred preoperatively.

Interestingly, none of the patients suffered from wound haematoma or infection.

Table 1: Post-operative sequelae

Sequel	Number (out of 44)	Percentage	Duration	Number	Percentage (of 44)	Percentage Category-wise
Incontinence to flatus	30	68.18	1 week	19 / 30	43.18	66.33
			2 weeks	7 / 30	15.9	23.33
			3 weeks	4 / 30	9.09	13.33
'Minor' incontinence to faeces	9	20.45	1 week	6 / 9	13.63	66.66
			2 weeks	3 / 9	6.81	33.33

4. Discussion

The great majority of patients were pleased with the result of their operation. Thirty eight (86.36%) patients had immediate relief of pain after surgery; the first experience of the relief being confirmed at the time of the 1st bowel action after surgery. Interestingly, the pain was relieved despite the operation wound; this probably suggests how severe the intensity of pain due to fissure must have been. The relief of pain which was almost complete and lasting outweighed any disadvantages.

There are two techniques of performing internal anal sphincterotomy – open and closed. Also, either may be performed under local analgesia, caudal block, or general

anaesthesia. Each operative technique has its pros and cons. Similarly, each type of anaesthesia has its advantages, disadvantages, indications and contraindications. Our personal choice is to perform the procedure by open technique under general anaesthesia. Basically, internal anal sphincterotomy is performed in lithotomy position which is awkward; hence general anaesthesia is preferred. Advantages of open technique are: 1. Internal sphincter is divided under vision. 2. As proper plane is created on either side of the internal sphincter, there is no risk of accidental injury to either external sphincter or anal mucosa. 3. As the wound is reconstituted with loose suturing, neither blood nor pus can accumulate in the dead space created after division of

internal sphincter. Most probably because of this reason, none of our patients suffered from either wound haematoma or wound infection. Additionally, two more factors might have contributed to prevent wound infection: 1. the procedure is basically a minor one, without any tissue destruction as such. 2. Post-op period was covered with antibiotics (Amoxicillin + Tinidazole).

Incontinence to flatus/faeces seems more as a sequel rather than a complication. This may be explained by loss of tone of the sphincter until the two divided ends are bridged by reparative fibrous tissue, and consequently the sphincter regaining its action. Most of the patients regard incontinence as the price they must pay for comfort.

Recurrence of pain similar to that experienced pre-operatively, even if mild, was taken as a criterion of recurrence. None of the patients in our study had a recurrence during the follow up period of 06 months. A longer follow up of a few years might pick up some cases of recurrence, but practically a long follow up might not be possible because of two reasons: 1. Most of the patients who never have any problem later are unlikely to take special effort to report their wellbeing, 2. Not all patients with recurrence will necessarily follow up with the same clinic/hospital. Study done by Shafiq ullah *et al*; showed recurrence rate of 12% [3]. Study done by E. Ram *et al*; showed recurrence rate of 2% with an average follow up of 11.2 months.

Open lateral internal anal sphincterotomy can be considered a safe procedure with excellent results, only temporary sequelae and no complication. It is simple to perform, and can be done without hospitalization if desired and feasible.

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