

Comparative Study of Lateral Internal Sphincterotomy vs Glyceryl Trinitrate Ointment for Fissure in Ano

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Abstract

Aim: To compare and find out the effectiveness of lateral internal sphincterotomy as well as glyceryl trinitrate in the treatment of anal fissure.

Materials & Method : A prospective study of 100 patients at the surgery department of a medical college and tertiary health care centre, over a period of 6 months that included cases of fissure in ano in the age group of 18 yrs and 70 years. They were randomly assigned to two different groups. One for surgery and the other for medical management with GTN. Each group had 50 patients in it .

Results: The pain relief of the patients after the surgical operation was fast and very satisfactory. On follow up at 2 weeks post operatively, pain and other symptoms were present in only 10 patients (20 %) . Whereas the pain relief in medical management group was not fully satisfactory and it took more time.. and it was only temporary and how ever on follow up at 2 weeks, 15 patients came with recurrent pain and other symptoms.(30%). On follow up at 8 weeks , in both groups ,all the 100 patients were symptoms free (100%) in this study. The complications that were observed during this study were soiling in 5 patients (10 %) and incontinence to flatus in 2 patients (4%) in the surgical group and headache in 10 patients (20%) and peri anal itching in 4 patients (8%) in the medical management group.. how ever there was no recurrence of anal fissure observed in this study group.

Conclusion: From the above study, it is proved that lateral internal sphincterotomy is by far the best operation for pain relief and rapid cure for fissure in ano

Keywords : *Fissure in ano, lateral sphincterotomy, chemical sphincterotomy, glyceryl trinitrate.*

Introduction

Perianal pain forms large volume of patients in any surgical OPD. Fissure in ano is a common surgical problem . It causes a lot of pain. It causes loss of many functioning man – hours. Anal fissure is an ulcer in the long axis of lower anal canal.

Young individuals of both sexes are equally affected. Patient present with severe anal pain during defecation and / or rectal bleeding. Chronicity of a fissure relates to duration of greater than 6 weeks.

Most fissures occur in the posterior midline, this may be anatomically related as there is a lack of tissue support posteriorly within the anal canal. Fissures associated with pregnancy are commonly located anteriorly. Other causes of fissures include crohn's disease, syphilis, human immune – deficiency virus. (HIV) or tuberculosis. These are secondary fissures.

The exact aetiology of primary anal fissure is unknown. High resting anal pressure and reduced vascular perfusion at the base caused by increased internal sphincter tone appears to be the underlying pathological factor.

We manage large number of patients of anal fissure. Many patients are fearing for surgery and want to try newly emerging non surgical procedures.. like GTN

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ointment and calcium channel blockers and botulinum injection .

Materials and Method

Inclusion Criteria

Study was carried out on patients aged 18 yrs and above, who were diagnosed clinically as anal fissure and attended the surgery outpatient clinic.

Exclusion Criteria

Age less than 18 yrs

Important secondary changes in the anal fissure such as cicatricial deformation, large sentinel pile and subfissural infiltration.

Any previous anal surgery

Patient with systemic diseases (Diabetes Mellitus, chronic liver disease and collagen vascular diseases)

Patients under treatment with diltiazem or nitroglycerine for other diseases such as ischemic heart diseases.

Pregnant women were also excluded from the study.

Study of anal fissure associated with other local diseases such as internal piles, fistula and with diseases like inflammatory bowel disease and rectal cancer.

Methodology

The study was carried out as a prospective observational study of 100 patients at surgery department of a medical college and tertiary health care centre, over a period of 6 months that included cases of anal fissure in the age group of 18 yrs and above for conservative and surgical management. In this study the case definition of anal fissure was:

Evidence of posterior circumscribed ulcer with a large sentinel tag of skin.

Induration at the edges

Exposure of horizontal fibres of the internal anal sphincter (IAS)

Symptoms such as : post defecatory or nocturnal pain, bleeding or both and pruritus ani lasting for more than 2 months and constipation

Each patient in the study was informed in detail about the aim of the study and the type of the procedure.

A fully informed written consent was obtained from him / her prior to the study.

Appropriate ethical committee approval was taken.

All patients subjected to lateral internal sphincterotomy were treated by the same surgeons using uniform method of lateral sphincterotomy in the lithotomy position. (surgical procedure is mentioned later)

All patients received stool softeners, daily sitz bath and fibre supplement diet.

All the patient were followed up at 2 weeks interval for 8 weeks. In each follow up visit, the patients were evaluated for the criteria mentioned later.

All the patients were informed to report SOS in case of any side effects or adverse effects.

All patients were followed up for three months for evidence of recurrence of the fissure and the presence of possible side effects.

The complications of surgery in relation to incontinence & recurrence were observed only within the time frame of this study. The other post operative complications e.g. soilage, pain, bleeding were studied.

All patients who underwent surgery received spinal or general **anaesthesia**

Operative procedure (Lateral Internal Anal Sphincterotomy)

This procedure was carried out under spinal anaesthesia or general anaesthesia in all the patients. Once in lithotomy position, 5ml of 2 % lignocaine + adrenaline was injected at the proposed site of incision at either 3 or 9'o clock position in the intersphincteric plane. This facilitated bloodless dissection. A transverse incision was made at 3 or 9'o clock position and blunt dissection was carried out in the plane between internal and external sphincters. The internal sphincter was dissected away from anal mucosa. Once free in both planes, the sphincter was grasped between two haemostats and was brought on to the surface of wound. The haemostats were kept for 30 seconds and lower half of sphincter (approximately 1cm) was divided with

the help of scissors. The wound was left open and a small wick was placed to control oozing. The dressing was removed on first post operative day after sitz bath. Patients were discharged on second post operative day with advice to have sitz bath for next two weeks.

Results

Patients between the age of 31 to 40 yrs (47.5 %) were affected commonly by anal fissure. The overall incidence of posterior anal fissure in all age groups was as follow: 60 male (60%) and 40 female (40%) patients.

Pain was the commonest symptom observed (100%) in all the patients. Bleeding was associated in 80% of patients. 70% of patients complained constipation and 50 % complained of pruritus –ani.

Local examination revealed posterior circumscribed ulcer and induration in all the patients (100%) followed by sentinel (skin) tag in 60%.

The recovery of the patient after the operation was fast and the pain relief was dramatic. , When compared with medically managed group

. In follow up at 2 weeks post operatively pain and other symptoms were present only in 14 patients (28 %). On follow up at 8 weeks post operatively all 100 patients (100%) were symptom free in this study.

The fissure healing after lateral internal sphincterotomy was very fast with 85 % fissure healing (43 patients) with in 4 weeks post operatively and

97.5% fissure healing 49 patients at 8 weeks post operatively.

The defects of continence were minimal after lateral internal sphincterotomy. Soiling of undergarments was seen in 5 patients (10%) and incontinence to flatus was seen in 2 patients (4 %).

Discussion

The Anal fissure is an ulcer in the skin lined part of the anal canal. It occurs most frequently in young adults and affects both sexes equally⁹. The great majority of fissures occur in the posterior midline, although anterior midline fissures are seen in 25% if affected women and 8 % if affected men ¹. About 3% of patients have both anterior and posterior fissures.

Anal fissure is probably secondary to over stretching of the anoderm during the passage of a large or hard stool^{2, 10}. W.E. Miles had postulated the passage of a scybalum over that part of the anal canal, which was relatively immobile, i.e. the part situated over the so called pectin Band, developed as a result of constipation, just above Hilton's line.

In our study we found that average age incidence was 39 yrs and the patients in the age of 31-40 yrs were the commonest sufferers. Anal fissure produces pain out of proportion to its size and thus causes much discomfort.

Out of 100 patients studies 60 were males (60%) and 40 were female (40%) patients. Posterior fissure was the inclusion criteria of this study. James G. Petros et al ¹³have found that chronic fissures were equally common in males and females and that in both sexes most fissures were located posteriorly.

Pain was the most common symptom (100%), often associated with bleeding per rectally (80%) followed by constipation (70%) and pruritus ani (50%). While studying the clinical presentations of anal fissures James G. Petros et al ¹³have found that pain, bleeding and pruritus were the commonest symptoms. Patients who presented with bleeding were significantly younger than those without bleeding. In this study bleeding was most commonly seen in the age group of 31 to 40 yrs (48%).

The operative management of anal fissure was aimed to cause permanent functional changes in the internal sphincter, it has been shown that the resting tone of internal anal sphincter is higher in patients of chronic anal fissure. The computerized profiles of anal canal with the aid of manometry ³has shown that operative intervention significantly reduces the tone of internal anal sphincter, but still remains higher than normal making such persons prone to develop fissure. Xynos et al⁶ observed that increased anal sphincter activity was a major factor in anal fissure pathogenesis, and that successful internal sphincterotomy helps to heal fissure and improve the manometric performance of sphincter.

Chemical sphincterotomy is the technical term for application of Glyceryl trinitrate over the region.. Here it is used once in three hours for three to four days and to be continued accordingly for a reasonable length of time.

Sphincterotomy was initiated with the idea of decreasing the spasm of pectin band which was shown to be nothing but internal sphincter, Notaras^{7,11} developed the technique of lateral subcutaneous sphincterotomy. It was simpler and quick procedure which produced a small wound. Postoperative wound infection were negligible.

The reduction in the symptoms occurred immediately after lateral sphincterotomy. On follow up at 2 weeks post operatively the symptoms of pain, bleeding and pruritus ani were present in 14 patients (28%) this number reduced significantly throughout the study period and on follow up at 8 weeks post operatively all the 100 patients (100%) were symptom free. Garcea ET all reported persistence of symptoms after conservative sphincterotomy in 11.9% with only 9.2% needing topical analgesia.

In this study complete healing of fissures occurred in 85% within 4 weeks post operatively and by the end of 8 weeks fissures healed in 98% patients. The average time taken for fissure healing after lateral internal sphincterotomy was 3 and half weeks in P.R. Hawley's series¹⁸ and 3 weeks in Notaras' series¹¹.

In our study the post operative complications that occurred were soiling of undergarments in 5(10%) patients and incontinence to flatus in 2(4%)..

Collopy and Ryan found that on the basis of fewer recurrences and less incontinence, sphincterotomy appeared superior to manual stretch^{14,20}.

Jensen suggested that lateral sphincterotomy was superior to manual stretch on the basis of fewer persistence / recurrent fissures^{19,20}, the pain relief and minimal complications were the same as was the healing time.

Hoffman and goligher^{16,17} compared posterior sphincterotomy, lateral sphincterotomy and sphincter stretch and favoured lateral sphincterotomy.

There was no recurrence of anal fissure observed in this study group within the time frame of this study. According to reports, after lateral internal sphincterotomy, the long term results were excellent and the recurrence rate was low^{6,11,15}.

Conclusion

From the above study it has been proved that a

simple ' Lateral internal sphincterotomy' can cure the extremely painful chronic anal fissure., much better than the chemical sphincterotomy by GTN.

In patients not fit for surgery and in patients not willing for surgery, GTN may be considered.

Ethical Clearance: Taken from the Institute ethical committee

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