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ACUTE FISSURE IN ANO: COMPARATIVE STUDY BETWEEN MEDICAL & LATERAL INTERNAL SPHINCTEROTOMY

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Abstract
Background: Fissure-in-ano is a common butannoying condition. This painful condition can be treated either by an operative or non-operative method. The results of both treatments are not consistent in the medical literature. Hence the comparison between medical & lateral internal Sphincterotomy was evaluated in the present study. **Methods:** The study was conducted in 50 patients withanacute fissure in ano. It was a prospective interventional study. All the study subjects were divided into two groups depending on the treatment they received, one group treated with diltiazem and other group treated with lateral internal sphincterotomy. The outcome was assessed based on the following parameters like pain relief based on visual analog scale and healing of an ulcer. **Results:** Most of the patients were young adults with a slight female dominance. Pain during defecation and bleeding per rectum were the major presenting complaints.24 Patients who got treatment with diltiazem-ointment got relief of symptoms in 6 weeks. 18 patients who got treatment with lateral internal sphincterotomy got relief of symptoms in 6 weeks. **Conclusions:** This study proves that medical sphincterotomy is better than surgical lateral internal sphincterotomy.

Keywords--- diltiazem, analspasm, sentinelpile, bleeding per rectum

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INTRODUCTION

History of the Anal disorder is as old asthehistory of mankind. It includes various pathological conditions.The similarity of all these disorders is in producing remarkable anal discomfort. Though anal lesionsare small in size they produce severe dysfunction associated with pain.

Anal Fissure easily diagnosed by complaints like bright red Bleeding, painful defecation, and sign of anal spasm with Skin tag with palpable fissure. An anal fissure is defined as a tear in the mucous membrane of anal canal[1].

Anal fissure most commonly occurs in Young- Adult. It is most common in females than in males. Fissure in anoisadue combination of internal anal sphincter hypertonicity and ischemia in the posterior midline part of the anal canal secondary to constipation with hard stool[2].

Anal Fissure treatment include suppression of pain, spasm, and ischemia. Medical sphincterotomy consists of the application of local ointment like calcium channel blocker such as diltiazem. A common recommendation is to treat anal fissure with a conservative line of management than surgical[3].

Another treatment option is surgical it includes mainly lords anal dilatation and lateral internal sphincterotomy.

Lateral sphincterotomy involved incision lateral to anal canal and cutting of internal sphincter fibers. The first lateral internal Sphincterotomy is done by Eissenammer in 1951. Nowadays it is the most frequently used procedure for anal fissure as the anatomy of the anorectal ring is better understood so that rate of complication has been reduced.[4]

The study by Jensen SL, in his study, depicts promising results with conservative measures like warm seitz baths combined with the intake of dietary fibers,[5] and significantly better than the application of lignocaine or hydrocortisone ointment to the anal canal[1].

The 2014 American College of Gastroenterology clinical guideline on the management of benign anorectal disorders has recommended acute anal fissure should be treated non-operatively in the initial phase[5]. But Adriano tocchhi,et al [6]reported a healing rate of 100% with internal sphincterotomy at the end of 6 weeks with a patient satisfaction rate of 96% but not without the threat of dreaded complications like anal incontinence. Considering less evidence related to the efficacy of medical sphincterotomy in medical literature the present was undertaken.

METHODS

The present study was undertaken in the department of surgery, Datta Meghemedical college Hingana, Nagpur, in collaboration with Jawaharlal Nehru Medical College, DattaMegheInstitute of medical sciences (DMIMS), Sawangi, Meghe, Wardha, Maharashtra India. This study was a prospective interventional study. The duration of this study was from January 2019 to January 2020. The numbers of patients were 50.

The patients who had a fissure in ano and willing for treatment either medical or lateral internal sphincterotomy included in the study' A detailed history of presenting complaints was recorded with special reference to pain during defecation, bleeding per rectum, constipation, and perianal itching. In recording history, previous similar episode and treatment if any also recorded. The dietary habits of the patients were noted.

Inclusion Criteria

1) All patients of a fissure in ano

Exclusion Criteria

1) haemorrhoids
2) fistula in ano
3) Fungating mass or advanced malignancy of anal canal.

Rectal examination was done with a gloved index finger gently after positioning the patient in the left lateral position and applying lignocaine gel. Bleeding per rectum, site of the fissure, condition of the fissure, presence of sentinel pile, state of anal sphincter, and presence of hypertrophied anal papilla were noted. One group including 25 patients treated with medical sphincterotomyanother group of 25 patients with surgical lateral internal sphincterotomy.

In medical sphincterotomy, medical therapy with 2% Diltiazem gel for the local application was advised. Patients were instructed to apply the gel at least 1.5 cm to 2 cm into the anus twice daily for 6 consecutive weeks. Patients were advised to wash their hands before and after the use of gel.

In lateral internal sphincterotomy, patient was given spinal anesthesia.Preoperativeassessment of the patient was done.Inform written consent taken.

One dose of injectable antibiotics given just at the time of spinal anaesthesia. The incision is given laterally to the anal canal and internal sphincter muscle fiberscut.All the patients were followed up on 2 weeks, 4 weeks, and 6 weeks. Parameters like pain relief based on linear visual analog scale, bleeding per rectum, and healing of fissure were evaluated.

All the data were collected using a detailed proforma and statistical analysis was done using SPSS 17.0 statistical software. Ethical approval for the study was obtained from the ethics committee of DMIMS University.

RESULTS

Table 1. Distribution of patients according to age

Age Group in years	No. of patients
1-10	1 (1.2%)
11-20	9 (18.2%)
21-30	17 (35.2%)
31-40	15 (30.9%)
41-50	5 (10.9%)
51-60	2 (2.4%)
61-70	1 (1.2%)
>70	0
Total	50 (100%)

Most of the patients belonged to the age group 21-40 (66.1%) with a slight female preponderance. There were two cases of an acute fissure in ano in less than 10 age groups.

Table 2. Distribution of symptoms

Symptoms	No of patients N=50	Percentage (%)
Pain during defecation	50	100
Bleeding per rectum	43	86.1
Constipation	39	77.6
Hard stools	41	81.2
Perianal itching	7	13.3
Diarrhea	4	6.1

In the present study, the most common presentation of an acute fissure in ano was pain during defecation; 50 (100%), cases, followed by bleeding per rectum; 43 (86.1%) cases. Constipation was present in 39 (77.6%) patients with an acute fissure in ano. 81.2% of patients complained of passing hard stools. Perianal itching was the presenting symptom in 7 (13.3%).

Table 3. Distribution according to clinical Signs in an acute fissure in ano

Signs	No of Patients (N=50)	Percentage
Increased anal tone	50	100%
Bleeding PR	36	73.33%
Tenderness	50	100%
Anterior fissure	8	16.36%
Posterior fissure	41	83.64%

Most of the patient presented with increased anal tone and bleeding per rectum and fissure on the posterior part of the anal canal.

Table 4. Painrelief with medical sphincterotomy in an acute fissure in ano

Relief of Symptoms	2 weeks	4 weeks	6 weeks
Present	18(73.94%)	23(92.12%)	24(97.58%)
Absent	7(26.06%)	2(7.88%)	1 (2.42%)
Total	25	25	25

18 The patient had relief of symptoms in 2 weeks,23 patients had in 4 weeks and 24 in 6 weeks.

Table 5. Pain relief with surgical management in an acute fissure in ano

Relief of Symptoms	2 weeks	4 weeks	6 weeks
Present	13(51.93%)	15(59.83%)	18(72.44%)
Absent	12(48.07%)	10(40.17%)	7 (27.56%)
Total	25	25	25

13 patients had relief of symptoms with surgical management in 2 weeks and 15 patients in 4 weeks and 18 patients in 6 weeks.

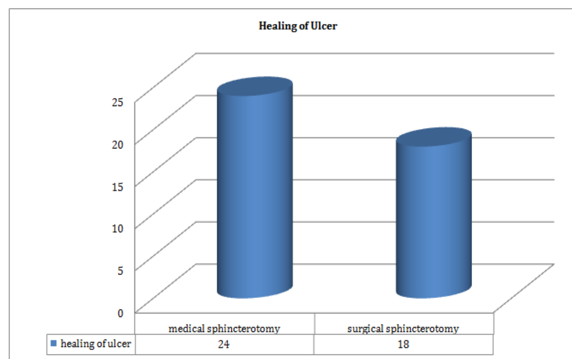

Figure 1. Distribution of ulcer healing after medical and surgical sphincterotomy

In our study healing of ulcer occur in 24 patients in medical sphincterotomy patients as compared to 18 patients in surgical sphincterotomy patients.

DISCUSSION

This study proves the efficacy of medical sphincterotomy over lateral internal sphincterotomy [see figure 1, table 4, and 5]. Healing of ulceroccurs in 24 patients in medical sphincterotomy compare to 18 patients in lateral internal sphincterotomy.The 2014 American College of Gastroenterology clinical guideline on the management of benign anorectal disorders has recommended acute anal fissure should be treated non-operatively in the initial phase[5]Fissure in ano is a disease of young adults. It causes morbidity and affects the quality of life. Calcium channel blocker lower resting anal sphincter tone and promote healing. Diltiazem, a calcium channel blocker causes vascular smooth muscle relaxation and dilatation.

Jensen SL et al [1]studied 90 patients with an acute fissure in ano and reported a mean age of 45.[8] Raj VK et [7] has observed that 36.67% of an acute fissure in ano and 43.33% of a chronic fissure in ano cases occurs in the age group 21-30. We had similar results in the present study with a maximum number of cases of an acute fissure in ano belonged to 20 to 40 age group.[see table 1].

In our study pain during defecation and bleeding per rectum were present in 50 and 43 patientsrespectively.[see table 2 and 3] which is similar to another study. The work by Hananel N et al[8] reported that dominant presenting symptoms were a pain in 90.8% and bleeding in 71.4% patients.

In our study patients who were treated with medical sphincterotomy had relief of symptoms and ulcer healing in 24 patients,and patients who underwent surgical management had relief of symptoms and ulcer healing in 18 patients.[see Tables 4 and 5].

The majority of acute anal fissures can be managed medically. Almost half will heal wit conservative therapy alone using warm baths and increased fiber intake. Increasing dietary fiber and water intake should be coupled with fiber supplementation. Jensen SL in 1987observed that high-fiber residue diet can heal as well as prevent recurrence of acute anal fissure.

In our study patients treated with diltiazem were pain-free at the end of 2 weeks and maximum at 6 weeks and ulcer healing rate was 99% with no complication due to diltiazem like perianal dermatitis and headache.

In our study complications due to internal sphincterotomy were not seen after follow up for 6 weeks. The pain was present upto 1 week after surgery and ulcer healing rate was less compare to diltiazem-ointment. Long term follows up of cases will be required to assess the recurrence of fissure after treatment with diltiazem-ointment.

CONCLUSION

Acute fissure in ano is a common anorectal disease that can be easily managed with diet modification.Conservative treatment modalities like stool softeners and calcium channel blockers likediltiazem-ointment for local application. It is very essential to explain the benefits of a conservative line of management to the patients and gain their confidence. This way we can avoid unnecessary surgical procedures and morbidity among patients with an acute fissure in ano. A strict follow up is necessary.

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Ethical approval: The study was approved by the institutional ethics committee.

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