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Comparative Study of Pharmacotherapy, Outpatient CLAS and CLAS with Anal Stretching for Anal fissure Treatment

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Abstract
Background: *Fissure in ano is a linear ulcer of the lower half of the anal canal, usually located in the posterior commisure in the midline. Fissure presents with anal pain, spasm and/or bleeding with defecation.*
Objective: *To determine the best treatment option for anal fissure acute or chronic in terms of relief in pain, bleeding and pain free defecation.*
Methods: *Retrospectively, I randomly selected 180 patients being treated for anal fissure between the Sept 2016 –July 2018 in 3 equal groups. Group A: Patient who received medical treatment and presenting illness less than 1 month. Group B: Patients treated with outpatient CLAS and presenting illness more than 1 month but less than 2 months. Group C: Patients treated with CLAS and Anal stretching and presenting illness like group B.*
Result: *The result were then correlated with the statistical program SPSS using chi-square test. Main presenting complain in all three groups is anal pain with burning, painful defecation and occasional bleeding. The response to treatment for relieving pain was 56% in A, 73% in B and 88% in C. Response of treatment for healing of fissure was 44% in A,64%in B and 91% in C.*
Conclusion: *Despite fairly good response to medical treatment surgical treatment was more effective. Outpatient CLAS alone is effective in acute fissure but combined CLAS with Anal stretching is more effective in chronic anal fissures.*
Keywords: *Acute fissure,Chronic fissure,Closed Lateral Anal Sphincterotomy (CLAS).*

Introduction

Fissure in ano is a linear ulcer of the lower half of the anal canal, usually located in the posterior commisure in the midline. Location may vary, and an anterior midline fissure is seen more often in women, although most fissures in women and men reside in the posterior midline[(1)]. It is one of the most common pathologies of the anorectal region and can change the quality of life as it causes the pain and emotional stress while defecation[(2,3)]. It can be categorized as acute or chronic. Acute fissures present with anal pain, spasm, and/or bleeding with defecation. Chronic fissure symptoms may includes pain, sometimes severe, during bowel movements, pain after bowel movements that can last up to several hours, bright red blood on the stool or toilet paper after a bowel movement, itching or irritation around the anus, visible crack in the skin around the anus.

The diagnosis can typically be confirmed by physical examination and anoscopy in the office if tolerated by the patient. By gentle separation of the buttocks and examination of the anus, a linear

separation of the anoderm can be identified at the lower half of the anal canal.

Causes are still unknown, but it may be due to increased sphincter pressure which is significantly higher [even at rest] in patients with an anal fissure, in companion with the passage of stiff fecal material [4,5]...

Treatment of anal fissure usually involves reduction of sphincter pressure whether by physical or chemical means. Medical treatment of anal fissure has been known quite effective in recent literature, and there has been so beneficial[2-5,8,9]. In this article, we are going to compare the efficacy of medical treatment (diltiazem and nitroglycerin with sitz bath), outpatient surgical closed lateral anal (internal) sphincterotomy and inpatient anal stretching with sphincterotomy.

Objective

To determine the best treatment option for anal fissure acute or chronic in terms of relief in pain, bleeding and pain free defecation.

Material and Method

Retrospectively, I randomly selected 180 patients being treated for anal fissure between the years Sept 2016 –July 2018 in 3 equal groups.

Group A: Patient who received medical treatment and presenting illness less than 1 month.

Group B: Patients treated with outpatient CLAS and presenting illness more than 1 month but less than 2 months.

Group C: Patients treated with CLAS and Anal stretching and presenting illness like group B.

Study was performed retrospectively on [n=180] patients at chittora hospital for anal fissure between the year Sept 2008- July 2016. Patients included in the study were: suffering from anal fissure for more than 1 week. Patients were randomly divided into 3 groups:

Group A) being treated with topical nitroglycerin, diltiazem, xylocaine 5% ointment, Group B) patients treated with outpatient closed lateral anal sphincterotomy under local anaesthesia (CLAS) Group C) patient undergone anal stretching with closed lateral anal sphincterotomy under general anaesthesia.

Pharmacotherapy is given for 4 weeks of using xylocaine ointment just before going to pass motion then sitz bath for 10-15 minutes after passing motion followed by using topical agents (0.2% nitroglycerin or 2% diltiazem every 12 hours). Group B patient were treated with CLAS under local anaesthesia using 2-3 ml of lignocaine 2%, infilterated subcutaneously at 4'o' clock position and small 3-4mm incision is made at 4'o'clock, sphincer fibres are hooked by fine mosquito forcep and divided with electrocautery, firm pressure applied for 3-4 min and wound left open for secondary healing. Group C patients were treated with anal stretching with CLAS under general anaesthesia.

Patients were followed at first, second, fourth and ultimately at six weeks after intervention. Response to treatments was assessed as both pain relief and fissure healing (complete epithelialization of wound).

Patients were also followed for complications and side effects of either pharmacotherapy or surgical intervention.

Statistical Analysis

Data were analyzed by chi-square test. P. values ≤ 0.05 were credited

Result

In a period of around 19 months (Sept 2016-July2018) 180 patients were followed in three different groups (Table 1). Male to female ratio in study was 1.60. According to the results of comparison between pain and healing in two groups (A and C or B and C), the P that calculates with Chi2 test and Fisher exact test was less than 0.001. The effect size of the test was 0.282 or 0.239, so the power of sample size respectively was 90% and 97%.

Table 1 Demographic Data

Sex	Diltiazem (Group A)	NGT (GroupA)	CLAS (Group B)	CLAS+Anal stretching (Group C)
Male	21	18	34	38
Female	9	12	26	22
Total	**30**	**30**	**60**	**60**

In Group A half of the patients received treatment with Diltiazem and other half received treatment with Nitroglycerine.

Table 2 shows the distribution of patients according to age .Mean age in this study was 33years.

Table 2 Age in Years

Treatment	n	Mean	Minimum	Maximum	SD(Standard deviation)	*P*
Diltiazem	30	31.1	15	62	11.899	
NGT	30	32.2	16	67	13.135	
CLAS	60	33.8	21	56	8.297	
Anal stretching+CLAS	60	36.8	24	61	9.642	
Total	180	33.4				0.976

Table 3.shows the treatment response in terms of pain relief. In Group A only 23% patients got relief in pain after 1st week, while 80% and 78.3% respectively in Group B and Group C.

At the end of 6th week pain completely relieved in more than 90% patients of Group B and Group C. On the other hand 70 % patients get relief in pain after 6weeks in Group A.There is little difference in results in terms of pain relief in Group B (91.6%) and Group C (93.3%).

Table 3. Pain relief

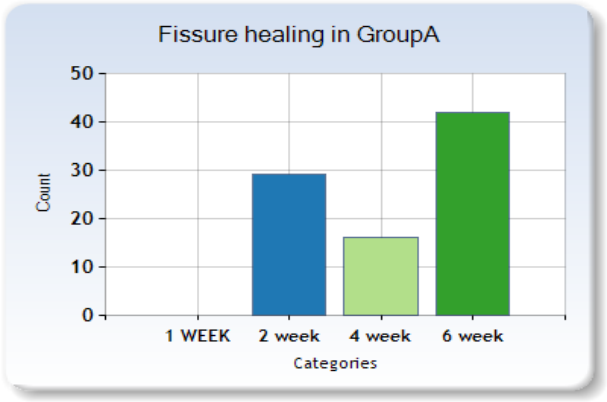
	1st week	2nd week	4th week	6th week
Group A	23(38.3%)	29(48.3%)	39 (65%)	42 (70%)
Group B	48(80%)	51(85%)	53 (88.3)	55 (91.6%)
Group C	47(78.3%)	52(86.6%)	54 (90%)	56 (93.3%)
Total= 180				
	65.5%	73.3%	81.1%	85%

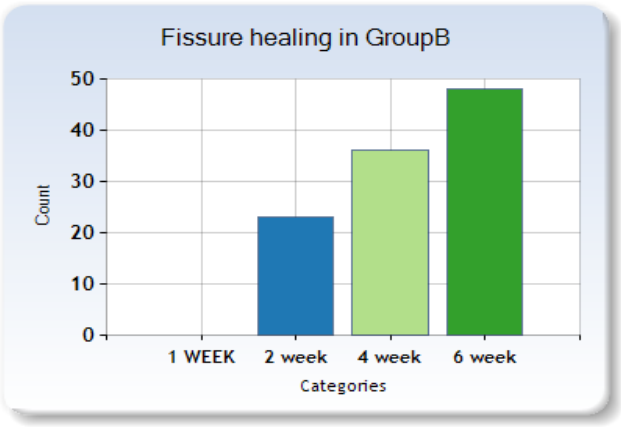
Table 4. shows healing of fissure in different groups. After 6week of treatment fissure haling was 70% in group A,80% in Group B and 93.3% in group C.

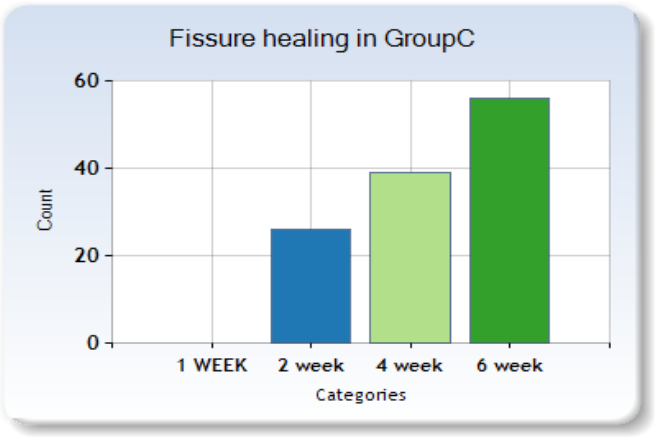
Table 4 Results in terms of Fissure healing

	Person 1st week	Person 2nd wek	Person 4th week	Person 6th week
Group A	0 (0 %)	16(26.6%)	29(48.3%)	42(70%)
Group B	0 (0%)	23(38.3%)	36(60%)	48(80%)
Group C	0(0 %)	26(43.3%)	39(65%)	56(93.3%)
180	0%	36.1%	57.7%	81.1%

In my study patients who underwent CLAS under local anaesthesia as outpatient treatment were most satisfied. But in old age patients with chronic constipation, occasional bleeding with burning and itching results are more promising wit combined CLAS + anal stretching under general anaesthesia.







Discussion

There have been many changes in the treatment of anal fissure since last decade[1]. Medical treatment, as not injuring the anal sphincter, and being non-invasive, is presumed as the first option[3,5,8-10]. But surgical sphincterotomy remains the gold standard for treatment of anal fissure[6,7,11].

In a long-term study, Garcia-Aguilar et al[30] concluded that closed lateral sphincterotomy is preferable to open lateral sphincterotomy as it carries a similar rate of cure with less impairment of control[12]. The response of pain to medications (GTN and diltiazem) in our study was similar to that of previous studies[9].

Most complaints of patients were first pain and then anal bleeding. The average period of complaints was at least 9 months [in 80 %]. Fissures were situated 85% posteriorly and 15% anteriorly.

After starting the therapies for each group, patients were followed at first, second, fourth and sixth weeks for assessing response and problems.

In Group A**,** seven people did not want to continue medical treatment and underwent surgery. Seven patients who received medical treatment, after three months of follow-up, in four patients the pain disappeared. The pain continued for three people who were treated surgically. Eleven individuals in Group B continued medical treatment. At the end of the third month of treatment, four patients underwent surgery. One patient in group C had pain while being followed up at the end of 4th week. But the pain turned out to be because of an anal abscess and after drainage of the abscess, pain relieved.

Conclusion

Despite fairly good response to medical treatment (pharmacotherapy)surgical treatment was more effective. Closed lateral internal sphincterotomy is the treatment of choice for chronic fissures as it is effective, safe, less expensive, and associated with a lower rate of complications than the open sphincterotomy technique. Outpatient CLAS alone is effective in acute fissure but combined CLAS with Anal stretching is more effective in chronic anal fissures.

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