Original Article

Comparative study of manual anal dilatation with fissurectomy versus lateral anal sphincterotomy in chronic fissure in ano

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Abstract

Introduction: Anal fissure is a distinct clinic pathological condition of the lower anal canal. It can be defined as a longitudinal ulcer in the anoderm usually in the posterior midline, less frequently in the anterior midline, and rarely in the lateral position of the anal canal. When traction is applied on each side of the anus, the fissure appears to be triangular in shape, with the apex near the dentate line and the base over the lower anal canal. **Aims and Objectives:** To Study Manual Anal Dilatation With Fissurectomy Versus Lateral Anal Sphincterotomy In Chronic Fissure In Ano **Methodology:** This was A prospective study carried out at Department of General Surgery Aarupadai Veedu Medical College and Hospital form October 2013 to August 2015. Patients with chronic anal fissure from all surgical units (S1 to S4) who were not responding to conservative management were studied total 120 patients were included into study. **Result:** 88 patients (73.3%) of the total 120 patients underwent lateral sphincterotomy (LAS). 32 patients (26.67%) of the total 120 patients underwent manual anal dilatation with fissurectomy (MAD+F). patients (5%) were below 20 years. 82 patients (68.33%) were between 20 and 39 years. 32 patients (26.67%) were above 40 years. 52 patients (43.33%) were males. 68 patients (56.67%) were females. 32 patients of 120(26.67%) had an associated haemorrhoids. 2 patients of 120 had a fistula-in-ano54 patients of 120 (45%) complained of persistent pain. Remaining 66 had no pain. Of the 54 who had pain, 30 patients (34% out of 88) belonged to lateral sphincterotomy group and 24 patients (75% out of 32) belonged to the fissurectomy group28 patients of 120 (23.33%) complained of persistent bleeding. Remaining 92 had no bleeding. Of the 28 who had bleeding, 19 patients (21.6% out of 88) belonged to the sphincterotomy group and 9 (28.13% out of 32) belonged to the fissurectomy group. 30 patients (25%) of the 120 developed urinary retention. Of them, 18 (20.45% out of 88) belonged to the sphincterotomy group and 12 (37.5% out of 32) belonged to the fissurectomy group. **Conclusion:** It can be concluded that given the lower rate of complications but for the higher chances of pain, manual anal dilatation with fissurectomy might be considered as an alternative procedure in the surgical management of chronic anal fissures. However, much remains to be done regarding its long term results through more extensive and larger clinical trials

Keywords: Manual Anal Dilatation with Fissurectomy, Lateral Anal Sphincterotomy, Chronic Fissure In Ano.

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INTRODUCTION

Anal fissure is a distinct clinic pathological condition of the lower anal canal. It can be defined as a longitudinal ulcer in the anoderm usually in the posterior midline, less frequently in the anterior midline, and rarely in the lateral position of the anal canal.[1-4] When traction is applied on each side of the anus, the fissure appears to be triangular in shape, with the apex near the dentate line and the base over the lower anal canal.[1,5] The fissures can be divided into the idiopathic or primary type and the secondary type. The primary type is most common but the exact cause of this type of fissure is not known[2,4]. Commonly

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such type of fissure is present in the midline, posteriorly or anteriorly. If the primary fissure is not treated in its acute stage then permanent organic changes take place in tissues leading to chronic stage. These are indurations of the ulcer margins, fibrosis in the ulcer base, development of sentinel pile and anal papilla. The secondary types of fissures are caused by some pathological conditions of the anal canal such as Crohn's disease, ulcerative colitis, trauma, operation or infection.[1,5] They will heal only when that causative pathology is removed or treated. Mostly, such types of fissures are situated eccentrically around the anal margin. There is no trace of surgery of anal fissure in literature before 19th century.At that time only conservative measures such as high fiber diet and stool softeners were prescribed. Recamier recommended stretching of anal sphincter in 1829, which became popular in 1968 when Lord also used this procedure on a large number of patients[3,4,5,6]. High ratios of complications lead Eisenhammer to describe internal sphincterotomy by dividing the sphincter in the posterior midline. Due to the comparatively long healing time required forthis type of operation Parks described open LAS in 1967.This was further simplified to the closed lateral anal sphincterotomy by Notaras in 1969. Now days, a plethora of surgical techniques are in vogue worldwide. An ideal management of primary chronic anal fissure continues to be a subject of debate especially for the young surgeons and those working in the peripheral hospitals having limited surgical facilities. The four fingers MAD and LAS are being performed in almost all the hospitals of our country because of their simplicity and good results. This study was designed to study the hypothesis that chronic anal fissures unresponsive to conservative treatment may be regarded as unstable scar tissue. Manual anal dilatation with fissurectomy to create a fresh surgical wound might then allow stable wound healing. The objective of the study was to find out which one of these two procedures is having better results.

MATERIAL AND METHODS

This was A prospective study carried out at Department of General Surgery. Aarupadai Veedu Medical College andHospital form October 2013 to August 2015. Patients with chronic anal fissure from all surgical units (S1 to S4) who were not responding to conservative management were studied total120 patients were included into study. Patients with chronic anal fissure not responding to conservative management either presenting as fissure alone or associated with haemorrhoids and fistula-in-ano were included into study while Patients with either of the following: Tuberculosis, Multiple anal fissures, Anorectal abscesses, Anal malignancies Immunocompromised patients, Previous history of faecal incontinence or anal stenosis, Patients who have undergone previous anal surgeries, Patients with history of bleeding diathesis, Patients with history of urinary retention due to urological causes. Patients with history of diabetes or hypertension were excluded form study.

RESULT

All patients with chronic anal fissure were admitted and treated in the four surgical units of Aarupadai Veedu Medical College and Hospital. They were followed up and their complications were recorded and analyzed.88 patients (73.3%) of the total 120 patients underwent lateral sphincterotomy (LAS). 32 patients (26.67%) of the total 120 patients underwent manual anal dilatation with fissurectomy (MAD+F).patients (5%) were below 20 years. 82 patients(68.33%) were between 20 and 39 years. 32 patients(26.67%) were above 40 years.52 patients (43.33%) were males. 68 patients (56.67%) were females.

Table 1: Distribution of Patients as per the Associated Disease in Both the Group

Condition/Operation	LAS	MAD+F	Total
Hemorrhoids	23	9	32
Fistula –in -Ano	2	0	2
Total	**25**	**0**	**34**

From Table 1:32 patients of 120 (26.67%) had an associated haemorrhoids. 2 patients of 120 had a fistula-in-ano.

Table 2: Pain in both the Group

Perisistence of pain	LAS	MAD +F	Total	Total Percentage
Present	30	24	54	45%
Absent	58	8	66	54%
Total	88	32	120	
Percentage by Method	34%	75%		

From Table 2: 54 patients of 120 (45%) complained of persistent pain. Remaining 66 had no pain. Of the 54 who had pain, 30 patients (34% out of 88) belonged to lateral sphincterotomy group and 24 patients (75% out of 32) belonged to the fissurectomy group

Table 3: Bleeding in both the Groups

Persistence of Bleeding	LAS	MAD +F	Total	Total Percentage
Present	19	9	28	23.33%
Absent	69	23	92	76.67%
Total	88	32	120	
Percentage by Method	21.6%	28.13%		

From Table 3: 28 patients of 120 (23.33%) complained of persistent bleeding. Remaining 92 had no bleeding. Of the 28 who had bleeding, 19 patients (21.6% out of 88) belonged to the sphincterotomy group and 9 (28.13% out of 32) belonged to the fissurectomy group.

Table 4: Retention of Urine

Persistence of Bleeding	LAS	MAD +F	Total	Total Percentage
Present	18	12	30	25%
Absent	70	20	90	75%
Total	88	32	120	
Percentage by Method	20.45%	37.5%		

From Table 4: 30 patients (25%) of the 120 developed urinary retention. Of them, 18 (20.45% out of 88) belonged to the sphincterotomy group and 12 (37.5% out of 32) belonged to the fissurectomy group.

DISCUSSION

Acute and Chronic fissures: Anal fissures are considered to be acute if they have been present for less than 6 weeks, superficial, and have well-demarcated edges. They are considered chronic, instead, if they have been present for more than 6 weeks and have keratinous edges, if there is a sentinel pile and hypertrophied anal papillae and if the fibers of the internal anal sphincter are visible.[7-10] Primary anal fissures are not caused by underlying chronic disease whereas secondary anal fissures are associated with other diseases, such as chronic inflammatory intestinal diseases, human immunodeficiency virus, tuberculosis, syphilis, and some neoplasms. Primary anal fissures are most frequent in young adults of both sexes[11]. In 80-90% of the cases, they are located in the posterior midline[11-13], and more rarely in the anterior region. Associated pathologies should be suspected if there are anal fissures in other regions than the posterior region[7,12,14]. Anterior lesions are more frequent in women than in men[13, 15]. Anal fissures are not common in patients older than 65 years, and in this age group must be suspected to be associated with other pathologies[8].The lifetime incidence is calculated to be 11% [16]. There are 3 modalities of treatment of fissure in ano: Conservative, Medical, Surgical Conservative Line of Management includes Dietary and Life Style Modifications32-35. Medical Line of Management: It Is Usually A Combination Of Conservative Treatment along with chemical sphincterotomy. Surgical modalities are: Manual anal dilatation (sphincter stretch), Internal anal sphincterotomy, Posterior anal sphincterotomy, Lateral anal sphincterotomy, open method, closed method. Associated diseases like haemorrhoids and anal fistula were also treated along with the surgery for anal fissure. Haemorrhoids accounted for the majority (26.67%). Only two patients presented with a low fistula-in-ano. For these two patients, lateral sphincterotomy was done along with fistulectomy. Urinary retention, usually, the most common complication after such surgeries was seen incidentally in 30 patients of the operated 120. This accounted for 25%. However, among those who developed such a complication, the majority fell in the lateral sphincterotomy group (around 18 patients, 20.45 % out of 88) compared to the other group which had only 12 patients(37.5% out of 32). There seemed to be an increased incidence of urinary retention among the lateral sphincterotomy group. So the same data was subjected to a Chi square test to test the significance of relationship between the incidence of urinary retention and the surgery performed. The test revealed that there was no significantrelationship between urinary retention and the operation which was performed ($p<0.05$). Pain persisted in 45% of the patients after surgery. Among these patients, the majority fell in the lateral sphincterotomy group. But on closer observation, it was found that 75% of the patients who had undergone manual anal dilatation with fissurectomy developed pain whereas only 34% of the 88 who had undergone lateral sphincterotomy group developed pain. Hence a Chi square test was resorted to check this discrepancy. The test revealed that there was a higher chance of pain developing in patients who underwent manual anal dilatation with fissurectomy as compared to those who underwent lateral sphincterotomy ($p<0.001$). Bleeding was noticed in 28 patients (23.33%) of the 120 who were operated. 19 patients had undergone lateral sphincterotomy compared to 9 who underwent manual anal dilatation with fissurectomy. But the latter group accounted for higher percentage (28.13% out of 32) compared to the earlier group which had a lower incidence (21.6% of 88). Again, a Chi square test was done to see whether bleeding was higher in manual anal dilatation with fissurectomy. The test refuted this hypothesis. Thus no significant relationship was found between the chance of persistent bleeding and manual anal dilatation with fissurectomy ($p<0.05$). Recent studies have shown that lateral internal sphincterotomy is detrimental to the continence mechanism. Relevant studies done showed fissurectomy may be a sphincter-sparing alternative and perhaps a preferable surgical technique in management of chronic fissure in ano[17, 18]

CONCLUSION

120 patients with chronic anal fissure who were not responding to conservative management were subjected to either of two procedures: lateral sphincterotomy against manual anal dilatation with fissurectomy. It can be concluded that given the lower rate of complications but for the higher chances of pain, manual anal dilatation with fissurectomy might be considered as an alternative procedure in the surgical management of chronic anal fissures. However, much remains to be done regarding its long term results through more extensive and larger clinical trials.

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