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Original Research Article

Comparison between lateral sphincterometry and Lord's operation in treatment of anal fissure

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ABSTRACT

Background: Two widely performed surgeries include Lord's anal dilatation (LAD) and lateral internal sphincterotomy (LIS). LAD is one of the ancient and simple surgical techniques, but with high incidence of recurrence and incontinences. LIS is the preferred surgical technique these days, but again with high incidence of incontinence. Aim of this study was done to compare LAD with LIS in the treatment of anal fissure with regard to symptoms, post-operative complications and recurrence.
Methods: In the present study the age of patient was to be between 18–50 years, having CAF, all the patients having CAF not responded to the medical management for more than 6 weeks. The patients were randomly assigned to either group. Pre and post-operative pain was accessed using Wong-baker faces pain rating scale. Constipation was accessed by modified Longo score. Incontinence was accessed by scoring system reported by Wexner.
Results: When the Wong Bakers faces pain score was done there were 69% of patients with grade IV score and 31% had grade V pain score. The second most presenting complaint was of bleeding per rectum, it was found in 80% of the patients. For constipation the preoperative modified Longo score was 14. On examination sentinel tag was present in all the cases out of which 93% was posterior, 5% anterior and multiple in 2% cases.
Conclusions: A total of 200 patients were studied during the study. In this study, females were commonly affected than males. Constipation was the major predisposing factor among all cases 85%. Most of the fissures were located in the posterior midline 89%. Anterior fissures were slightly more common in females. It is our view that the role of pharmacological agents is likely to assume greater prominence in the future and that more effective agents and modes of delivery will be developed.

Keywords: Sphincterometry, Lord's operation, Treatment, Anal fissure

INTRODUCTION

Anal fissure is a common condition affecting all age groups, but it is seen particularly in young and otherwise healthy adults, with equal incidence across the genders. Anal fissure is a longitudinal split in the anoderm of distal anal canal extending from anal verge proximally towards dentate line and is most commonly seen in posterior midline, though anterior and lateral lying fissures are also seen. Anal fissure can be primary / idiopathic or secondary. It can be divided into two clinical subtypes depending upon the duration of disease, the acute and chronic fissures.[1,2]

Fistula-in-ano forms good majority treatable benign lesions of the rectum and anal canal. 90% or so of these cases are end results of crypto-glandular infections. It is not a life threatening diseases but causes lot of problems inconveniences to lead a normal life. It is a chronic disease and can only be met with surgery. Otherwise it is

forming abscesses causing troublesome pain. It may burst to discharge serous or purulent discharge which will come in the way of routine life and social mixing of the suffer with others. Though it is common disease in human beings, the conservative management is not a permanent relief in these cases.[3,4]

Chronic anal fissure (CAF) is a linear tear in the anoderm extending proximally from anal verge to the dentate line. It presents as pain, bleeding during defecation and constipation and is the most commonly encountered problem in proctology. Hard stools and internal sphincter hypertonia are some of the main etiological factors.[5]

Studies on the methods of treatment of chronic anal fissures range from medical applications to surgery; there is no general agreement on ideal therapy for chronic anal fissures. Management ranges from medical to surgical, but medical applications do not achieve satisfactory results while surgical techniques have their own advantages and disadvantages. Two widely performed surgeries include Lord's anal dilatation (LAD) and lateral internal sphincterotomy (LIS). LAD is one of the ancient and simple surgical techniques, but with high incidence of recurrence and incontienence. LIS is the preferred surgical technique these days, but again with high incidence of incontinence. Aim of this study was done to compare LAD with LIS in the treatment of anal fissure with regard to symptoms, post-operative complications and recurrence.

METHODS

The present study was a randomised, prospective trial done in the department of general surgery of a tertiary care hospital from July 2017 to June 2018. All the patients with anal pain for more than 8 weeks with presence of induraton of the edges of the fissure were included in the study.

Inclusion criteria followed in the study was the age of patient was to be between 18 – 50 years, having CAF, all the patients having CAF not responded to the medical management for more than 6 weeks. The patients were randomly assigned to either group. The patients with the following criteria were excluded from the study: Patients with inflammatory bowel disease, AIDS, tuberculosis, sexually transmitted diseases; pregnancy/ puerperium; patients on anticoagulation/immunosuppression medications; patients with other conditions affecting anal canal (tumours, incontinence, abscess, fistulas, hemorrhoids, stenosis); any previous anorectal surgery. All the included patients were explained about the study anbd the written inform consent was signed by all the patients. The institute ethical committee was informed about the study and the ethical clearance certificate was obtained from the committee.

Patient's particular, clinical details and examination findings were recorded on standardized proforma. Pre and post-operative pain was accessed using Wong-baker faces pain rating scale. Constipation was accessed by modified Longo score. Incontinence was accessed by scoring system reported by Wexner.

Second generation cephalosporin, metronidazole and amikacin were administered before surgery as prophylactic antibiotics in stat doses. Both procedures were carried out in spinal anaesthesia with patient in lithotomy position. After cleaning of the surgical field with Povidone-iodine, draping of the field was done.

Lord's anal dilatation

Anal dilatation was performed as described by Watts et al. First digital rectal examination, and proctoscopy was performed to confirm clinical findings, and to rule out other causes of bleeding. Thereafter fully lubricated index finger of right hand was introduced, and constriction band was palpated which corresponds to anorectal line. After palpating the constriction band, fully lubricated index finger of each hand was introduced in the anal canal and continuous gentle outward pressure was applied, till the constriction overcame. During this procedure hand repeatedly moved all around in order to relax all the segment. The procedure was stopped till the anal canal was relaxed enough to accept four fingers (two of each hand) at a time without much force.

Lateral internal sphincterotomy

First digital rectal examination followed by proctoscopy was done. After proctoscopy bivalve type of anal speculum was inserted, the tight distal internal sphincter was palpated as a tight band within the canal. The Intersphincteric groove, which marks the distal end of the internal sphincter, was palpated. A Vongraefe knife was introduced through the perianal skin at the left lateral aspect of the canal sandwiched parallel between the anoderm and the internal sphincter, when the tip reached the dentate line, the blade was turned outwards and the internal sphincter muscle divided with the blade till the give way feeling was appreciated, this give marked that fibers had been divided, and this ends the sphincterotomy, thereafter the blade was removed, and gentle pressure was applied to control bleeding.

Post-operative management

Post-operatively patient was given oral second-generation cephalosporin and metronidazole and discharged on same for one week. Injectable NSAIDs were administered the following evening and oral NSAIDs were started from the next day. Patients resumed eating after four hours of surgery. Sitz bath and laxatives were advised from the first postoperative day and continued for one week. Patients were discharged on third post-operative day, and any delay along with reason for the same, was noted. Patients were followed up to assess any complications of the procedure (pain, incontinence, abscess formation,

hematoma, and recurrence) initially in surgical OPD on weekly basis for four consecutive weeks. They were subsequently followed up monthly, telephonically and examined, if required in subsequent OPD in the third month and six months respectively.

Statistical analysis

Data were entered into MS-EXCEL 2010 spread sheet and analyzed using statistical software SPSS 20.

RESULTS

The male to female ratio was found to be 1.5:1. The majority of the population consisted of male.

Preoperative findings

There were complains of bleeding per rectum, itching on presentation and pain. The most common complaint was of pain and was present in 97% of cases. When the Wong Bakers faces pain score was done there were 69% of patients with grade IV score and 31% had grade V pain score. The second most presenting complaint was of bleeding per rectum, it was found in 80% of the patients. For constipation the preoperative modified Longo score was 14. On examination sentinel tag was present in all the cases out of which 93% was posterior, 5% anterior and multiple in 2% cases.

Post-operative findings

The post operative complains were mucous discharge, pain and bleeding. The evaluation of pain score at different points is shown in table below. The maximum pain score at 24 hours of operation were seen less in patient with LIS group as compared to LAD group. However, there was no significant difference in the pain score between the two groups when evaluated subsequently i.e. before discharge, 1 month, 3 month and 6 months respectively.

When the mucous discharge was evaluated in both the group, the 14 patient in LAD group were affected however the symptom got resolved in 10 patient and in 4 patient it was persisted for one month. Whereas in LIS group it was present in 6 patients it persisted for one month in 2 patients. The difference was not significant in both the groups.

A comparison between the number of patients having bleeding per rectum, post operatively, is shown in Table 2. Seventy four patients in LAD and 82 in LIS group observed bleeding in first 24 hours post operatively, which was clinically not bothering and subsided in subsequent days and were not found to be statistically significant.

Table 1: Pain score comparison between the two groups.

Follow up pain score	LIS	LAD
24 hours	74	94
Before discharge	86	74
1st month	18	22
3rd month	14	6
6th month	12	6

Table 2: Postoperative blooding comparison.

Follow up pain score	LIS	LAD
24 hours	82	74
Before discharge	50	54
1st month	12	10
3rd month	2	6
6th month	2	4

DISCUSSION

Patients with anal fissures present with pain, bleeding during defecation, and constipation; anal fissures are one of the most common medical conditions encountered in proctology.[6]

The etiology of anal fissures is not known. Anal fissures generally arise with local trauma caused by difficult defecation due to hard stools and internal sphincter hypertonia caused by persistence of these conditions, which in turn reduces blood flow of the posterior wall and results in a higher anal canal pressure, even at rest. Thus, anal fissures often become chronic.[7]

Chronic anal fissure (CAF) is a linear tear in the anoderm extending proximally from anal verge to the dentate line. It presents as pain, bleeding during defecation and constipation and is the most commonly encountered problem in proctology. Hard stools and internal sphincter hypertonia are some of the main etiological factors.[5]

Lateral internal sphincterotomy (LIS) is a surgical procedure which is performed routinely in the treatment of chronic anal fissures, especially in cases that have failed traditional medical modalities. The results of open and closed LIS techniques are similar. Because of reports of the high incidence of incontinence (66%) with these techniques, alternative methods have been investigated.[8]

Two widely performed surgeries include Lord's anal dilatation (LAD) and Lateral internal sphincterotomy (LIS). LAD is one of the ancient and simple surgical techniques, but with high incidence of recurrence and incontienence.[4] LIS is the preferred surgical technique these days, but again with high incidence of incontinence. Hence the aim of this study was done to compare LAD with LIS in the treatment of anal fissure with regard to symptoms, post-operative complications and recurrence.

The postoperative symptoms, recurrences and the complications when compared between both the groups the LAD group patients had great similarity. The ratio of male and female in this study is comparable to other studies as of Nash et al.[10] In this study pain was main presenting complaint, followed by associated bleeding per rectum and constipation, this was in accordance to results by Mapel et al. On examination posterior anal fissure (6 O' Clock) was most common finding, followed by anterior (12 O' Clock) and mixed. These observations were in accordance with observations of previous studies.[9-11]

In this study, pain score in first 24 hours was significantly higher in LAD group as compared to LIS group reason might be due to inter-individual difference in the application of force in anal dilatation, intra-operatively. This difference was negated in subsequent days and difference at the time of discharge was non-significant.

CONCLUSION

Non-operative treatment of chronic anal fissure may be applied as the initial choice of treatment with a chance of cure that is better but less effective than surgery. A total of 200 patients were studied during the study. In this study, females were commonly affected than males. Constipation was the major predisposing factor among all cases 85%. Most of the fissures were located in the posterior midline 89%. Anterior fissures were slightly more common in females. It is our view that the role of pharmacological agents is likely to assume greater prominence in the future and that more effective agents and modes of delivery will be developed.

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