ORIGINAL ARTICLE

ROLE OF LATERAL INTERNAL SPHINCTEROTOMY IN THE SURGICAL TREATMENT OF CHRONIC ANAL FISSURE

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ABSTRACT

Background: Lateral internal sphincterotomy is one of the many treatment modalities for chronic anal fissure. This study was designed to evaluate the outcome of lateral internal sphincterotomy for the treatment of chronic anal fissure.

Patients & Methods: Forty-five patients treated surgically by Lateral internal sphincterotomy for chronic anal fissure were included in this prospective observational study. They presented to the Surgical Out Patient Department of Khyber Teaching Hospital from February 2004 to March 2005. They were followed for 12 weeks to establish the benefits of Lateral internal sphincterotomy.

Results: Thirty males and 15 females (M:F ratio 2:1) with anal pain due to chronic anal fissure were included in the study. Mean age was 34 years. Painful defecation, blood streak with stools and chronic constipation were common complaints. They were all treated surgically by Lateral internal sphincterotomy after proper preparation and followed for 3 months. Pain, bleeding from wound site and wound sepsis were the common complications followed by transient urinary retention, incontinence and recurrence. Hospital stay ranged from 2 to 6 days with a mean of 3 days.

Conclusion: Lateral internal sphincterotomy is a suitable and safe procedure for patients with chronic anal fissure. It can be done effectively and safely on out patient basis and is associated with complete healing of the tear.

Key words: Anal fissure, Lateral internal sphincterotomy, Anal sphincter.

INTRODUCTION

Anal fissure was first described by Recamier in 1829 who recommended stretching the anal sphincter to treat this condition.[1] It is simply a tear in the anoderm which occurs close to the posterior midline in males and most women.[2] Anal stretching beyond its capability is a known cause of this tear and commonly occurs in women after childbirth, after difficult bowel movement, anal sex and in infants following constipation.[3] Blood supply to the anal canal has to pass through the internal sphincter and spasm of this muscle reduces the blood flow and oxygen tension leading to non-healing.

Anal fissure may be noticed by bright red anal bleeding on the toilet paper. If acute, there may be severe periodic pain after defecation[4] but with chronic fissure pain intensity is often less. The diagnosis is by the typical history of pain, bleeding and discharge, and clinical findings. Carefully spreading the buttocks apart reveals the linear ulceration. Further examination at this point with either finger or instrument is unnecessary and can be quite painful.[5] In acute stage digital rectal examination is only possible after local application of surface anesthetic like 5% xylocain on a pleget of cotton wool, left in place for five minutes and it will reveal a characteristic crater like vertical button hole in the established cases. Diagnosis beyond doubt can only be established under general anesthesia.

Non-surgical treatment is by stool softeners and chemical agents like Nitric Oxide, Glycerile trinitrate, calcium channel blockers like Diltiazem, or self dilatation with xylocain ointment. When these measures fail or fissure is chronic with fibrosis, skin tag or mucus polyps, surgical measures are conducted.

Lateral internal sphincterotomy was described in 1951 and 1959. Among many treatment modalities for chronic anal fissure, it remains the first line of treatment.[6,7] It is usually performed under general anesthesia but can be carried out under local anesthesia in the Out Patients Department.[8] The aim of Lateral internal sphincterotomy is to divide the distal third to half of internal anal

sphincter to reduce the resting anal pressure by decreasing the hypertonia.[9]

This study was designed to evaluate the outcome of lateral internal sphincterotomy in the surgical treatment of chronic anal fissure.

PATIENTS AND METHODS

This descriptive study was conducted in the Surgical Department of Khyber Teaching Hospital. Forty-five patients from February 2004 to March 2005. Patients with chronic anal fissure having had 6 weeks failed conservative treatment were included. Patients with anal pain due to acute anal fissure, thrombosed hemorrhoids, anorectal abscess as well as patients with carcinoma anus, tuberculous ulcer and proctalgia fugax were excluded from the study. Painful defecation, bleeding per anum, discharge with pruritis and chronic constipation were the common symptoms.

Anorectal examination revealed sentinel tag below the lower end of the fissure. On digital rectal examination a button like crater of the chronic fissure was felt and stain of blood was noted on the finger. Patients were admitted after counseling. Baseline investigations along with stool examination were performed and patients were prepared for Lateral internal sphincterotomy after taking informed consent.

A bivalve type of anal speculum and a long No. 7 scalpel handle carrying a small No. 10 blade were the instruments used for this procedure. Small guaze pladgets soaked in 1 in 1000 adrenaline hydrochloride solution were handy to control hemorrhage and permit a better view of the operation site. The anal speculum was inserted into the anus to place the internal sphincter on a slight stretch to assist in identification. A radial incision was made laterally at the lower border of the internal sphincter into the inter-sphincteric groove. The distal internal sphincter was grasped with Allis forceps and bluntly freed. The lower one-third to one-half was divided with scissor. The wound was left to heal secondarily. Postoperatively intravenous metronidazole, analgesia, stool softeners and antiseptic sitz baths were given and the patients observed for morbid condition related to surgery. Patients were sent home after removal of the anal packs. They were followed for 12 weeks for symptoms improvement, healing, complications as well as recurrence.

RESULTS

Forty-five patients presenting with chronic anal fissure to the Surgical Out Patient Department were included in the study. Age ranged from 23 to 45 years (Mean 34$\pm$7.48 years). Thirty (66.66%) patients were males and 15 (33.33%) females with male to female ratio of 2:1.

Painful defecation was complained by all (100%) patients. Bleeding /blood streak with stool was present in 32 (71.11%) patients while discharge in 17 (37.77%) patients. Thirty-five (77.77%) patients were chronically constipated. Thirty-nine (86.66%) patients had sentinel tag at the lower end of the fissure. Fissure was located in posterior midline in 41 (91.11%) patients and anterior midline in 4 (8.88%) patients. Digital Rectal Examination was done in all (100%) patients, which revealed the crater of fissure. Blood stain was seen on glove in 23 (51.11%) patients.

Table 1: Age distribution of patients.

Age (years)	Number of patients	Percentage
23-30	15	33.33
31-38	22	48.88
39-45	8	17.77

Table 2: Sex distribution of patients.

Sex	Number of patients	Percentage
Male	30	66.66
Female	15	33.33

Table 3: Clinical features of patients with anal fissure.

Symptoms	Number of patients	Percentage
Pain	45	100
Bleeding	32	71.11
Discharge/ pruritis	17	37.77
Chronic constipation	35	77.77
Skin tag	39	86.66
Site of fissure:		
Posterior	41	91.99
Anterior	4	8.88
Crater on Digital rectal examination	45	100
Blood stain on gloves	23	51.11

Table 4: Postoperative complications.

Complications	Number of patients	Percentage
Pain	31	68.88
Bleeding	11	24.44
Infection	7	15.55
Urinary retention	4	8.88
Incontinence	2	6.66
Recurrence	3	6.66

Lateral internal sphincterotomy was performed under general anesthesia in all (100%) patients. They were observed for immediate complications and followed for 12 weeks to look for any late complications. Postoperatively, 31 (68.88%) patients complained of pain, 9 (20%) bleeding from wound site and wound sepsis occurred in 7 (15.55%) patients. Four (8.88%) patients developed transient urinary retention while recurrence occurred in 3 (6.66%) patients. Three (6.66%) patients came back with complaint of minor incontinence of stool. They were reassured, pelvic exercises advised and they improved with conservative management.

The mean hospital stay was 3 ± 0.89 days with a range of 2 to 6days. No mortality occurred in our study.

DISCUSSION

A common disease, anal fissure causes considerable discomfort, loss of working days and reduction in quality of life.[10,11] Males are more commonly affected than females as revealed in our study and others.[7,10,12] Anal fissure affects all age groups, particularly young adults.[11] Mean age in our study was 34 years which is closely comparable to the mean age of 30-45 years reported in various studies.[13-15]

Painful defecation and bleeding per anum were the common complaints in our study as observed in other studies as well.[15,16]

In our study 91.99% patients had a tear in the anoderm in the midline posteriorly. 90% of all fissures occur posteriorly, 10% anteriorly and less than 1% patients have both anterior and posterior fissure.[1] Mazier and Levienl described that anal fissure is more common posteriorly.[6] Nahas reported 86.1% posterior midline and 13.9% anterior fissure.[7] Skin tag was found at the lower end of fissure in 86.66% patients in our study which has been observed a usual finding overlying the fissure in various studies.[3] The resting pressure in the anal canal is largely a function of the internal sphincter.

The continuous partial contraction of the sphincter is due to an internal myogenic tone and alpha adrenergic nerve mediated pathology.[17] Patient with chronic fissure have a raised resting anal pressure due to hypertrophy of the internal sphincter.[9]

This reduces perfusion of the anal mucosa as the blood vessels supplying the distal anal canal and traversing the internal sphincter enroute to the anal mucosa may be so compressed by the hypertonic muscles leading to Chronic Anal Fissure. Eliminating the sphincter hypertonia by chemical or surgical sphincterotomy results in an increase in the local tissue perfusion and healing of the chronic anal fissure.

Complete and instant healing rate was observed after lateral internal sphincterotomy in our study. Ninety to 95% healing rate has been shown by others.[1]

Complications related to wound like pain, urinary retention, bleeding and wound sepsis were less in our study as compared to others.[18,19] Incontinence occurred in 4.44% of patients in our study. Minor but potential incontinence has been described by various authors.[20] Incontinence rate of up to 35% has been reported in some studies.[21]

Lateral Internal Sphincterotomy was the preferred procedure in our study which has been reported with encouraging results and less postoperative complications in various studies.[22,23]

CONCLUSION

Lateral internal sphinterotomy is a suitable and effective treatment for chronic anal fissure in patients who do not respond to conservative treatment.

It is associated with significantly less postoperative discomfort, and increased healing rate, with less morbidity.

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