Management of the Anal Fissure: A Comparison Between Lateral Internal Sphincterotomy with Manual Dilatation of Anus

S A U REHMAN G AHMED M Z ANJUM *M MUNEER*
Department of Surgery, Quaid-e-Azam Medical College/Bahawal Victoria Hospital, Lahore
Correspondence to Dr. Sheikh Atiq ur Rehman, Senior Registrar

Design: It was a comparative study of randomly selected sample of 50 patients. **Purpose:** To compare the results of lateral internal sphincterotomy with manual dilatation of anus under general anaesthesia in the management of fissure in ano in terms of (Relief of symptoms, Post operative complications). **Place & Duration of study:**Patients presented to Surgical unit, Bahawal Victoria Hospital, Bahawalpur from 15-02-2002 to 14-02-2004.**Material & method:** This was a prospective type of comparative study. The patients of fissure in ano were randomly divided into two groups. Group A patients were treated by lateral sphincterotomy & Group B patients were treated by manual dilatation of anus under anesthesia. Follow up protocol was also maintained. Patients were examined and evaluated according to the comparison criteria which were (Relief of symptoms, Complications developed, Recurrence & Healing of fissure). **Result:** Out of these 50 patients, 32 were male and were female. In Group-A, 92% of patients were completely cured, 4% of patients developed retention of urine while 4% of patients developed post-operative bleeding. The success rate was 92%. In Group-B, success rate was 72% out of remaining 8% developed incontinence of flatus, 8% developed incontinence of faeces, 4% developed retention of urine while haematoma was observed in 4% of cases.The data was analysed with "SPSS" on computer, Standard Error of Difference Between Two Proportions was applied. Chi square test was applied and P value found to be 0.04 which is less than 0.05 (Statistically insignificant). **Conclusion:** On the basis of this study, it was concluded that the results of Lateral Internal Sphincterotomy in the management of anal fissure is safer and more effective than manual dilatation of anus under anaesthesia.

Key Words: Anal Fissure, Anal Dilatation, Lateral Sphincterotomy.

Fissure in ano or anal fissure is a linear tear in the lining of the distal anal canal below the dentate line. It is a common condition affecting all age groups, but it is particularly seen in young and otherwise healthy adults. The incidence is equal in both sexes.1,2 The classic symptoms are anal pain during or after defecation which may be accompanied by the passage of bright red blood per anus. The pain often is severe and may last for a few minutes during or persist for several hours after defecation[20,22,23]. Bleeding from an anal fissure usually is modest and separate from the stool. Significant loss of fresh blood may be from another source such as hemorrhoids because these two conditions commonly coexist; altered blood or blood mixed with the stool indicates other pathology[2,4,19]. Pruritus ani accompanies anal fissure in 50% of cases[2,3,4] Symptoms from fissures cause considerable morbidity and reduction in quality of life in otherwise healthy individuals[1,4]. On examination, the fissure may be apparent as a linear or pear-shaped split in the lining of the distal anal canal as the buttocks are parted, but there is often a marked spasm of the anal sphincter that obscures the view. The combination of spasm and intolerable pain often precludes a digital rectal or proctoscopic examination, but a typical history supported by clinical findings of anal spasm makes the diagnosis of anal fissure highly likely. If visualized, an early fissure has sharply demarcated fresh mucosal edges, and there may be granulation tissue in its base. With increasing chronicity, the margins of the fissure become indurated and there is a distinct lack of granulation tissue. Horizontal fibers of the internal sphincter muscle may be evident in the base of the mucosal defect, and secondary changes, such as a sentinel skin tag, hypertrophied anal papilla, or a degree of anal stenosis, frequently accompany chronic fissures[18,19,23]. Most anal fissures are acute and relatively short-lived, resolving spontaneously or with simple dietary modification to increase fiber and stool-softening laxatives when appropriate. The distinction between acute and chronic fissures is arbitrary and cannot be made reliably solely on the appearance of the fissure. The accepted definition is that fissures failing to heal within 6 weeks despite straightforward dietary measures generally are designated as chronic[1,2,3].

Although a proportion (probably <10%) of chronic fissures eventually resolves with conservative measures, most require further intervention to heal. Fissures usually are single and most commonly arise in the posterior midline, but 10% of men have fissures in the anterior midline[1,2,4,6]. In particular, women who develop symptoms postpartum (accounting for 3% to 11% of all chronic fissures) tend to have anterior fissures[6,7,23] Multiple fissures or fissures in a lateral position on the anal margin raise suspicion because there may be underlying inflammatory bowel disease, syphilis, or immunosuppression, including human immunodeficiency virus (HIV) infection. It is important to recognize that most fissures arising in patients with inflammatory bowel disease are posterior and are painful in at least 50% of cases.[9,10,13,18,19] Fissures that are resistant to treatment should prompt further investigation, including examination under anesthesia and appropriate biopsy[20,21].

Materials & methods:

Study Population::Fifty cases with anal fissure were included in this study during the period from 15-02-2002 to 14-02-2004.

Place of study: Department of General Surgery, Bahawal Victoria Hospital, Bahawalpur

STUDY DESIGN: Comparative (Interventional type)

Sampling Technique: Non probability purposive sampling technique was used.

Inclusion Criteria: Patients with anal fissure both acute and chronic were included in this study.

Exclusion Criteria:

1. Patients of anal fissure with associated anorectal disorders.
2. Patients with previous dilatation of anus
3. Patients with previous perineal surgery
4. Females with multiparity

Material The details of history and clinical examination in special reference to Anorectal examination were noted. All the patients were explained about the examination and procedure. After explaining about the examination and procedure, written consent was taken. All the patients were randomly divided in two groups i.e. A & B: Group A patients were managed with lateral internal sphincterotomy. Group B patients were managed by manual dilatation of anus under general anaesthesia. Patients of both groups were re-examined on day 7, 15, 28 and then monthly for another three months. The last follow up was after six month of treatment. The patients were inquired about:

1. Relief of symptoms
2. Any complication developed i.e. Incontinence of flatus and faeces and were examined for:

i. Perianal hematoma
ii. Healing of fissure
iii. Recurrence

The data was stored on a specially designed performa in computer data base programme. SPSS. At the end of study the results were compared and Chi-square test was applied and the data was analyzed with SPSS computer programme. Standard error of difference between two groups was applied when and where needed. End point of study was development of complications, recurrence and complete recovery.

Test of Significance: Data collected on SPSS and was analyzed, the efficacy of the two procedures were assessed by two variables.

1. Relief of Symptoms (Complete, Incomplete, No relief)
2. Complications (major, minor, transient or no complication)

As these are qualitative variables, chi square test was the most suitable test, the P value was calculated and a value of less than 0.05 was considered to be statistically insignificant.

Results:

This study comprised 50 patients of fissure in ano presented to Surgical Department of Bahawal Victoria Hospital, Bahawalpur from 15-02-2002 to 14-02-2004. The results of study are presented below.

Age & sex incidence:

Out of 25 patients of Group A, 14(56%) were male and 11(44%) were female, with male to female ratio 1.3:1(Table No.1). Age ranged from 20 to 60 years with mean age 38 years. Most of the patients were 41 to 50 years i.e. 10(40%) followed by age group of 31 to 40 years 8(32%) 20 to 30 years 5(20%), 51 to 60 years 2(8%)(Table No. 2). Out of the 25 patients in Group B, 18(72%) were male and 7(28%) were female with male to female ratio 2.5:1(Table No. 1). Age ranged from 20 to 60 years with mean age of 38 years, most of the patients were of age group 31 to 40 years 10(40%) followed by age group of 51 to 60 years 6(24%), 20 to 30 years 5(20%) and 41 to 50 years 4(16%)(Table No. 2).

Clinical presentation:

The presenting symptoms of the patients are documented in table No. 3. Pain was present in all the 50 patients (100%) while rectal bleeding was present in 46(92%). Constipation was present in 38(76%) patients and 27(54%) patients presented with pruritus ani while discharge was present in 16(32%).

Anatomical sites of fissure:

Fissure was located in midline posteriorly, in Group A 21 (84%) and in Group B 22(88%) and in midline anteriorly in Group A 2(8%) and in Group B 2(8%) cases while anterior as well as posterior fissure in Group A 3(12%) in Group B 1(4%) of the cases. (Table No. 4)

Treatment and complications:

In this study Group A was treated by lateral internal sphincterotomy; out of 25, 23(92%) were successfully treated while 2(8%) had un-satisfactory response. Out of these two,1 (4%) had retention of urine relieved by passing catheter and 1(4%) had post-operative bleeding due to that patient was taken to operation theatre and hemostasis secured. (Table 5 & 6). Group B was treated by manual dilatation of anus under General Anaesthesia; out of 25, 18(72%) completely cured, 1(4%) developed recurrence after two months, which was later on managed by lateral internal sphincterotomy, 1(4%) had retention of urine managed by passing catheter, 1(4%) had perianal hematoma, 2(8%) had incontinence of flatus that was temporary and improved after 2 weeks, 2(8%) had incontinence of faeces, improved by exercise after 2-3 weeks.

Table 1: Sex incidence

Sex	No. of Patients		Total	%age
	Group A	Group B		
Male	14	18	32	64
Female	11	07	18	36
Total	25	25	50	100

Table 2: Age distribution

Sex	No. of Patients		Total	%age
	Group A	Group B		
20-30	05	05	10	20
31-40	08	10	18	36
41-50	10	04	14	28
51-60	02	06	08	16
Total	25	25	50	100

Table 3: Clinical presentation

Symptoms	No. of Patients		Total	%age
	Group A	Group B		
Pain	25	25	50	100
Bleeding	23	23	46	92
Constipation	20	18	38	76
Pruritus ani	15	12	27	54
Discharge	03	02	05	10

Table 4: Anatomical sites of fissure

Site	No. of patients		Total;	%age
	Group A	Group B		
Posterior	21	22	43	86
Anterior	02	02	04	08
Both	02	01	03	06

Table 5: Results of procedures

	Total pts.	Completely	Failure	%age
Group-A	25	23	02	92
Group B	25	18	07	72

Table 6: Complications

Complications	No. of patients		Total	%age
	Group A	Group A		
Incontinence of flatus	00	02	02	04
Incontinence faeces	00	02	02	04
Haematoma	00	01	01	02
Retention of urine	01	01	02	04
Bleeding	01	00	01	02
Recurrence	00	01	01	02

Table 7: Follow up

Weeks	Healing of fissure		Total	%age
	Group A	Group B		
2 weeks	05	05	10	20
4 weeks	17	13	30	60
6 weeks	02	04	06	12
8 weeks	01	02	03	06

Follow up:

Healing of fissure was observed during follow up visits. In Group-A treated with lateral internal sphincterotomy out of 25, 5(20%) showed healing in two weeks and in 17(68%) healing was observed in four weeks, while in 2(8%) healing was noted after six weeks and in 1(4%), healing was noted in 8 weeks. Group B treated with manual dilatation of anus; in two weeks healing was observed in 5(20%) and in four weeks 13(52%) patients showed healing while in 4(16%) patients healing was noted in six weeks and fissure healed in 2(8%) of cases in eight weeks. (Table 7)

Discussion:

Fissure in ano is not very uncommon in this region. The patients usually present with pain, bleeding and constipation. In this study the prevalence of disease was relatively in the third and forth decade of life. In our study most of the patients 18(36%) belonged to the age group 31-40 years. Zafar10 has reported that most of his patients belong to age 20-48 years with mean age of 28 years and according to Lock and Thompson11 mean age was 38 years ranging from 11 month to 72 years.

According to McDonald12 the sex incidence in fissure in ano is 49% in males and 51% in females and in another study conducted by Shub14 this problem was observed in 53% males and 47% in females. While in the present study the fissure in ano was seen in 64% in males and 36% in females. This difference may be due to the fact that in our circumstances females are hesitant to report or reluctant for examination.

In this study almost 100% patients reported rectal pain and 92% reported rectal bleeding. Constipation was reported in 76% and discharge in 10% while pruritus ani was present in 54%. In the study of Lock and Thompson[15] pain was present in 87% and rectal bleeding in 82%, while pruritus ani in 74% and discharge in 7%. According to Birmingham Series 82% had complaints of pain and 74% had complaints of rectal bleeding, 14% presented with pruritus ani and 4% had history of discharge. This comparison also shows not much difference in clinical presentation of fissure in ano.

Regarding site of fissure in the present study, 86% of cases had posterior midline fissure and 8% had anterior midline fissure while 6% had both anterior and posterior midline fissures. According to Chris Vincet MD[16] fissure was 75 to 76% in posterior midline, 13 to 16% in anterior midline and 9 to 12% in other sites of the anus. In another study1 90% fissures are in the posterior midline and 10% in anterior midline.

The cure rate in our study was 92% with lateral internal sphincterotomy and 72% with manual dilatation of anus. Lock and Thompson[15] treated 82 patients with lateral internal sphincterotomy having 98% cure rate while Watt[20] reported cure rate 84% with manual dilatation of anus, so results of this study and other studies are almost comparable.

In present study in Group A treated with lateral internal sphincterotomy, there was no recurrence observed, 1 patient (4%), presented with bleeding and 1 patient (4%) had retention of urine. In Group B managed with manual dilatation of anus, recurrence was observed in 1 patient (4%), retention of urine in 1(4%), haematoma in 1(4%) while 2 patients (8%) presented with temporary incontinence of faeces and 2(8%) incontinence of

flatus.Watt8 reported 8% recurrence, 6% incontinence of faeces and 1% with prolapsed haemorrhoids treated with manual dilatation of anus. Another study having six month follow up, conducted by Oueidat-D17 shows 23% patients treated by manual dilatation of anus developed incontinence of flatus or faeces while 4% in lateral internal sphincterotomy. There was 7% recurrence in anal stretch group and 3% in lateral sphincterotomy group.In this study 98% patients showed healing in six weeks treated with lateral internal sphincterotomy and 96% patients showed healing in six weeks in group B treated with manual dilatation of anus. According to Bailey15 in treatment of anal fissure with lateral internal sphincterotomy median time of healing was more than six weeks. In another study conducted by Khubchandani and Reed[17] in treatment of fissure with lateral internal sphincterotomy, median time of healing was 5-6 weeks and 2-3% showed delayed healing i.e. more than six weeks. But according to Zafar[10] in treatment of anal fissure with manual dilatation of anus healing was observed in all the patients within two weeks. In another study "lateral internal sphincterotomy for fissure in ano" conducted by Hananel N[16] healing time was less than four weeks (11.6%), in four weeks (73.2%) in four to eight weeks (9.6%) and more than eight weeks (5.6%). So healing rate in my study and international studies is comparable. After a careful comparison of our study with international studies regarding recurrence and complications, the results are comparable.

Conclusion:

Based upon the findings of study and results following conclusions are made:

1. Fissure in anus is more common in males in this region
2. Fissure in ano is more commonly seen in young age group i.e. 31-40 years
3. Presenting feature is pain which is found in 100% of cases
4. After a careful comparison with international studies, we found lateral internal sphincterotomy is superior treatment as compared to other procedures and should be preferred when medical methods have failed.

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