ORIGINAL ARTICLE

LATERAL INTERNAL ANAL SPHICTEROTOMY FOR MANAGEMENT OF CHRONIC ANAL FISSURE

Amir Amanullah

Department of Surgery, Mufti Mahmood Memorial Teaching Hospital, D.I.Khan, Pakistan

ABSTRACT

Background: Anal fissure is a common problem that causes substantial morbidity in persons who are otherwise healthy. This study was conducted to evaluate the effectiveness of lateral internal anal sphincterotomy as the surgical management of anal fissure.

Material and Methods: This was a descriptive study conducted in the Department of Surgery, Mufti Mahmood Memorial Teaching Hospital D.I.Khan over a period of one year, from June 2007 to May 2008. A total of 60 patients were included in this study who did not respond to conservative treatment.

Results: Fifty patients were males and 10 females. Age range was 20-55 years. Fifty-six (93%) patients had posterior and 4 (6%) anterior anal fissure. Fifty-eight (96.66%) patients were symptom free after lateral internal anal sphincterotomy and only 2 (3.34%) were still complaining of mild pain.

Conclusion: Lateral internal anal sphincterotomy has excellent results in the patients with chronic anal fissure who do not respond to conservative treatment.

Key words: Anal fissure, Sphincterotomy, Lateral internal anal sphincterotomy.

INTRODUCTION

Anal fissure is a common problem that causes substantial morbidity in people who are otherwise healthy. Anal fissure is an elongated ulcer in the long axis of lower anal canal.[1] The most frequent site for anal fissure is the midline posteriorly followed by midline anteriorly.[2] The disease is more common in women while it is uncommon in children and elderly. It causes severe pain during defecation and rectal bleeding that stains the tissue or streaks the stools.[3] The pathogenesis of chronic anal fissure remains incompletely understood but most are associated with a high resting anal pressure and reduced perfusion at the fissure site due to persistent hypertonia and spasm of internal anal sphincter.[4,5,6] Chronic anal fissure has traditionally been treated by surgery,[7] an effective and standard procedure that results in healing in 90-95% of the cases. A number of pharmacological sphincter relaxants have been introduced and claimed to show good results but lateral internal anal sphincterotomy is the most reliable and simple method of relieving patients problem.[8] The relief of internal anal sphincter spasm is the key for providing fissure healing, that is why all the methods of treatment of chronic anal fissure are directed at reducing the spasm of the internal anal sphincter.[9,10] Lateral internal anal sphincterotomy (LIAS) is the gold standard treatment for chronic anal fissure[11] which can be safely practiced in properly selected patients.[12]

The objective of the present study was to evaluate the effectiveness and long-term results of sphincter healing following lateral internal anal sphincterotomy in the management of chronic anal fissure.

PATIENTS AND METHODS

This was a descriptive study conducted in the Department of Surgery, Mufti Mahmood Memorial Teaching Hospital D.I.Khan, Pakistan, over a period of one year, from June 2007 to May 2008. A total of 60 patients with anal fissure were included who did not respond to conservative management. Patients with anal fissure secondary to some underlying disease like crohn's disease or anal canal tumors were excluded. After evaluation with detailed history, physical examination and relevant investigations, written informed consent was taken for the procedure.

All of these patients had limited bowel preparation with one enema. Lateral internal anal sphincterotomy was performed under general anesthesia except in two patients having contraindication to general anesthesia, where local anesthesia was used instead. Either closed or open technique was used for the procedure. Closed and open techniques for the procedure were adopted in 56 and 4 patients respectively. Fifty patients were discharged on first post-operative day while 8 patients stayed for more than one day with a mean hospital stay of 1.5 days.

All the patients were given laxatives, analgesics and pyodine sitz baths postoperatively. Follow-up visits were arranged at 1, 3, 6 and 12 months.

RESULTS

Among 60 studied patients, 50 (83%) were males and 10 (17%) females.

Age ranged from 20-55 years with the mean age of 38.56±8.87 years. The maximum incidence of anal fissure was noted between 31-50 years. (Table-1)

Table-1: Age range of patients.

Age (years)	Frequency	Percent
20	1	1.7
21-30	9	15
31-40	29	48.3
41-50	18	30
>50	3	5
Total	**60**	**100**

Pain, especially during defecation, was the principal symptom present in all the patients, more than 4 weeks in most. Constipation was present in 45 (75%) and bleeding per rectum in 15 (25%) patients. The most consistent clinical sign noted in all the 60 patients was spasm of the internal sphincter. With careful examination we were able to see the lower margin of the fissure in all the patients. (Table-2)

Table-2: Presenting symptoms and signs.

Clinical Features		Frequency	Percentage
Symptoms	Pain	60	100
	Constipation	45	75
	Bleeding per Rectum	15	25
Signs	Sphincter Spasm	60	100
	Visible Fissure Margins	60	100

Post-operatively, early complications included minor bleeding in 23 (38.3%), mild soiling in 8 (13.3%) and incontinence of flatus in 2 (3.3%) patients. (Table-3)

Table-3: Early post-operative complications of Lateral Internal Anal Sphincterotomy. (n= 60)

Complication	Number of patients	Percentage
Minor bleeding	23	38.3
Mild soiling	08	13.3
Flatus incontinence	02	3.3

At the end of the study i.e. 12 months, 58 (96.66%) patients remained free of symptoms and were fully satisfied with the results of surgery, while only 2 (3.34%) patients had mild pain.

DISCUSSION

There were 60 patients in our study. The age range of these patients was 20-55 years with the mean age of 38.56 ± 8.87 years. Fifty eight percent of patients were in 31-40 years age group followed by patients in the age range of 41-50 years. Shafiqullah et al[13] reported 32% in 20-30 years and 46% in 31-40 years age groups. Mean age reported in different studies range from 30-45 years[14] but Cho DY noticed that confounding effects of age, gender, body weight, and height were not significant.[15]

Among the sixty patients in our study, 58 (96.66%) patients had posterior midline fissure while 2 (3.34%) were found to have anterior midline fissure. The possible reason for increased posterior fissure was due to the reason that in our study most of the patients were males and in males the posterior fissure is more common as compared to females.

All patients in the present study presented with pain during and after defecation. Forty-five patients (75%) had constipation and 15 (25%) had pain associated with bleeding per rectum. Shafiqullah et al[13] reported 88% with pain and 66% with bleeding with or with out pain.

Post-operative impairment of continence is not uncommon. Lewis et al[16] found some degree of incontinence in 17% of their patients; in two thirds of these patients, this complication was only temporary. Khubchandani and Reed[17] reported postoperative soiling in 22% and grade-I incontinence in 35 % of patients after sphincterotomy.

Hsu and Mac Keigan[18] reported no post-operative soiling or incontinence following lateral sphincterotomy. In the present study, 13% had mild soiling which resolved with in 2 to 3 months.

The alternative surgical procedure of sphincter dilatation is associated with uncontrolled tearing of internal sphincter muscle and portion of external anal sphincter may also be damaged resulting in higher incidence of post operative sphincteric problems.[19]

The most consistent findings found in 100% of these cases were anal spasm with visible lower margin of the fissure on careful examination. In all the patients lateral internal sphincterotomy was performed and were followed up to one year. 97% of patients were cured of their symptoms in while only in 3% the fissure failed to heal, although the symptoms had decreased in severity and the patients were not willing for further operations. Hananel et al[20] reported 98.6% success rate with a recurrence rate of 1.4% while Littlejohn et al[21] reported 99.7% healing rate with incontinence rate of 1.4% and recurrence rate of 1.4%. Nyam et al[22] showed a success rate of 96% but with higher recurrence rate of 8% and incontinence in 15%.

Tariq Siddique et al[23] showed 98% healing rate and complication rate was only 8% which resolved with conservative treatment. While Syed SA and colleagues, in their study on 112 cases noted minor complications in 17.8% of patients, including urinary retention, temporary loss of flatus control in 2.6% each and soiling of clothes in 1.7% of patients.[12]

All these results are close to our results in term of success rate and rate of complications.

CONCLUSION

Lateral internal anal sphincterotomy has excellent results in patients with chronic anal fissure who do not respond to conservative treatment.

REFERENCES

1. Williams NS. The anus and anal canal. In: Russel RCG, Williams NS, Bulstrode CJK. Bailay and Love's Short Practice of Surgery. 24th ed. London: Arnold, 2004. pp: 1252-4.
2. Shand WS. The Rectum and Anal Canal. In: Keen G. Operative Surgery and Management. London: Wrigerts; 1981. pp: 197-8.
3. Lund JN. Nitric oxide deficiency in the internal anal sphincter of patients with chronic anal fissure. Int J Colorectal Dis 2006; 21: 673-5.
4. Jenkins JT, Urie A, Molloy RG. Anterior anal fissures are associated with occult sphincter injury and abnormal sphincter function. Colorectal Dis. 2008; 10: 280-5.
5. Utzig MJ, Kroesen AJ, Buhr HJ. Concepts in pathogenesis and treatment of chronic anal fissure - a review of the literature. Am J Gastroenterol 2003; 98: 968-74.
6. Farouk R, Duthie GS, Macgreor AB, Bartolo DC. Sustained internal anal sphincter hypertonia in patients with chronic anal fissure. Dis Colon Rectum 1994; 37: 424-9.
7. Saad AM, Omar A. Surgical treatment of chronic fissure-in-ano: a prospective randomized study. East A fr Med J 1992; 69: 613-5.
8. Farooq A, Niaz. Comparative study of lateral internal splincterotomy verses topical Glyceryl tirnitrate for treatment of fissure in Ano. Ann King Edward Med Coll.2003; 9: 278-81.
9. Suknai S, Patrlj L, Steresini M, Skopljanac Macina A, Erdelez L. Surgical or biologic sphincterotomy in the treatment of chronic anal fissure. Acta Med Croatica 2008; 62: 73-80. [Croatian]
10. Collins EE, Lund JN. A review of chronic anal fissure management. Tech Coloproctol 2007; 11: 209-23.
11. Giral A, Memisoglu K, Gültekin Y, Imeryüz N, Kalayci C, Ulusoy NB, Tözün N. Botulinum toxin injection versus lateral internal sphincterotomy in the treatment of chronic anal fissure: a non-randomized controlled trial. BMC Gastroenterol. 2004 22; 4: 7.
12. Syed SA, Waris S, Ahmed E, Saeed N, Ali B. Lateral internal anal sphincterotomy for anal fissure: with or without associated anorectal procedures. J Coll Physicians Surg Pak 2003; 13: 436-9.
13. Ullah S, Nadeem M. Closed Verses open lateral internal sphincterotomy in chronic anal fissure: a comparative study of post operative complications and results. Pakistan J Med Res 2004; 43: 1-4
14. Renzi A, Izzo D, Di Sarno G, Talento P, Torelli F, Izzo G, Di Martino N. Clinical, manometric, and ultrasonographic results of pneumatic balloon dilatation vs. lateral internal sphincterotomy for chronic anal fissure: a prospective, randomized, controlled trial. Dis Colon Rectum 2008; 51: 121-7.
15. Cho DY. Controlled lateral sphincterotomy for chronic anal fissure. Dis Colon Rectum 2005; 48:1037-41.
16. Lewis TH, Corman ML, Prager ED, Robertson WG. Long-term results of open and closed sphincterotomy for anal fissure. Dis Colon Rectum 1988; 31: 368-71.
17. Khubchandani IT, Reed JF. Sequelae of internal sphincterotomy for chronic fissure in ano. Br J Surg 1989; 76: 431-4.

18. Hsu T-C, Mac Keigan JM. Surgical treatment of chronic anal fissure: A retrospective study of 1753 cases. Dis Colon Rectum 1984; 27: 475-8.

19. Landsend E, Johnson E, Johannessen HO, Carlsen E. Surgical treatment of anal fissure. Tidsskr Nor Laegeforen 2003; 123: 3366-7. [Norwegian]

20. Hananel N, Gordon PH. Re examination of clinical manifestations and response to therapy of fissure in ano. Disc Colon rectum 1997; 40: 229-33.

21. Littlejohn DR, Newstead GL. Tailored lateral sphincterotomy for anal fissure. Dis Colon Rectum 1997; 40: 1439-42.

22. Nyam DC, Pemberton JH. Long-term results of lateral internal sphincterotomy for chronic anal fissure with particular reference to incidence of fecal incontinence. Dis Colon Rectum 1999; 42: 1306-10.

23. Siddique T, Khan SA, Rehman M, Islam HR, Ahmad W. Lateral internal sphincterotomy for chronic anal fissure under local anesthesia as a day case surgery. Ann KE Med Coll 2003; 9: 52.

Address for correspondence:

Dr. Amir Amanullah
Consultant Surgeon
Mufti Mehmood Memorial Teaching Hospital
Dera Ismail Khan, Pakistan
E-Mail: amiramanullahkhan@yahoo.com