

Fissurectomy with Posterior Midline Sphincterotomy for Management of Chronic Anal Fissure

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ABSTRACT

Objective: To determine the efficacy and safety of fissurectomy with posterior midline sphincterotomy in the management of chronic anal fissure in terms of symptomatic relief, complications and recurrence.

Study Design: Observational case-series.

Place and Duration of Study: Department of Surgery, Liaquat University Hospital, Jamshoro/Hyderabad, for a period of 3 years from January 2005 to December 2007.

Methodology: A total of 136 patients with chronic anal fissure were recruited for this study. All subjects underwent elective fissurectomy and posterior sphincterotomy. Surgery was performed either under spinal or general anaesthesia. Symptomatic relief and early postoperative complications were recorded. The patients were followed for 18 months. Follow-up included assessment for complications such as pain, incontinence, keyhole deformity, and recurrence.

Results: All patients presented with pain during and after defaecation. Forty (29.4%) patients presented with bleeding per rectum. One hundred and sixteen (85%) patients complained of perianal swelling while 8 (5.9%) patients complained of perianal itching. Retention of urine was the most common postoperative complication, seen in 10 (7.4%) cases. It occurred within the first 24 hours after operation and all cases required catheterization. Six (4.4%) patients complained of moderate to severe postoperative pain in the first 24 hours, requiring narcotic analgesics. Transient incontinence of flatus and faeces occurred in 5 (3.7%) and 3 (2.2%) cases respectively. One patient presented with a recurrent anal fissure after 8 months but responded to conservative treatment.

Conclusion: Given the low rate of complications and almost negligible rate of recurrence, fissurectomy with posterior midline sphincterotomy is still a treatment of choice for the management of chronic anal fissure.

Key words: *Fissurectomy. Posterior internal sphincterotomy. Chronic fissure in ano.*

INTRODUCTION

Anal fissure is one of the most common causes of anal pain.^{1,2} All treatment modalities, including surgery, aim to reduce the spasm of the internal anal sphincter.^{3,4} Surgery reduces the basal sphincter tone by partial incision of the internal anal sphincter. Lateral internal sphincterotomy is now recommended as the standard procedure for this disease.⁵ It has replaced posterior sphincterotomy with fissure excision, presumably because of longer period of wound healing and a higher incidence of disturbed continence secondary to "keyhole" deformity in the later.⁶⁻⁹ Fissure excision has been replaced by lateral sphincterotomy.⁵⁻⁸ Lateral internal sphincterotomy, however, leaves behind the chronic fissure, which is regarded as an unstable scar tissue. In addition, it involves a blind incision to the internal sphincter leading to a higher incidence of incontinence. Sphincterotomy with fissurectomy, on the contrary, involves excision of the fibrotic fissure to create

a fresh surgical wound which then allows a stable wound healing.^{10,11} It also allows a more controlled resection of the sphincter.

The aim of this study was to assess the efficacy of posterior midline sphincterotomy with fissurectomy in patients with chronic anal fissure in terms of symptomatic relief, complications and recurrence.

METHODOLOGY

This study was conducted at Liaquat University Hospital (LUH), Jamshoro/Hyderabad, from January 2005 to December 2007. A total of 136 patients with pain and/or bleeding due to chronic anal fissure, of more than 6 weeks duration, were included in this study. Patients with co-morbid diseases, multiple and secondary fissures and fissures with associated local pathologies such as haemorrhoids were excluded from the study.

All patients were planned for elective fissurectomy and posterior sphincterotomy. Surgery was performed either under spinal or general anaesthesia. All patients were placed in a lithotomy position. A bivalve type of anoscope was inserted into the anal canal and opened up slightly to stretch the internal sphincter. The scarred tissue together with the sentinel skin tag and the hypertrophied anal papillae was excised and routinely sent for histopathology. A narrow blade scalpel was then

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Received August 19, 2009; accepted December 2, 2009.

introduced and a small incision along the entire length of the anal fissure was made to divide the superficial fibres of the internal sphincter. The area was pressed for approximately 5 minutes, gauze lubricated with medicated petrolatum gel and lignocaine ointment was placed over the cut area and a perianal pad was applied. Bulk laxatives were prescribed postoperatively in all patients. Relief of symptoms and any early postoperative complication such as pain, urinary retention or bleeding, if any, was recorded. The severity of pain was scored and recorded based on the "coin" method.

The patients were followed for 18 months. The follow-up was weekly for one month, monthly for 5 months and then every 3 months for the remaining 12 months. Follow-up included assessment for late complications such as pain, incontinence, key-hole deformity, and recurrence. Mean±SD values was calculated for quantitative data (age, hospital stay) whereas frequencies with proportions were calculated for qualitative data (clinical presentations, complications).

RESULTS

One hundred and thirty six patients with chronic anal fissure were included in this study. There were 98 males and 38 females with a male to female ratio of 2.6:1. The mean age was 38±11.5 years ranging from 20 to 65 years. Eighty eight patients were operated under spinal anaesthesia while 48 patients underwent surgery in general anaesthesia because of patient's choice or failure of spinal anaesthesia. The mean postoperative hospital stay was 2±0.6 days.

All patients included in this study complained of pain during and after defaecation. The duration of the pain varied from a few minutes to 1-2 hours after defaecation. Forty (29.4%) patients presented with bleeding per rectum. The bleeding was usually small in quantity, streaks in stool, and occurred at the time of defaecation. One hundred and sixteen (85%) patients complained of perianal swelling which was found to be sentinel oedematous "pile" on subsequent examination. Perianal itching was a rare presentation in this series with only 8 (5.9%) patients complaining of this symptom.

Retention of urine was the most common postoperative complication seen in this series, occurring in 10 (7.4%) cases within the first 24 hours after operation and all required catheterization. The other complications are depicted in Table I. The postoperative pain was moderate to severe requiring narcotic analgesics in the first 24 hours. The incontinence was transient, lasting for 6-8 weeks and responded to conservative treatment including perineal exercises. Only one patient presented with a recurrent anal fissure occurring after 8 months and responded to conservative measures. None of the patients presented with "key-hole" deformity.

Table I: Postoperative complications (n=136).

Complication	Frequency	Percentage
Urinary retention	10	7.4
Pain	06	4.4
Flatus incontinence	05	3.7
Faecal incontinence	03	2.2
Recurrence	01	0.74

DISCUSSION

Anal fissure has an equal incidence across the gender.^{12,13} Males outnumbered females in this study with a ratio of 2.6:1, an observation also reported by other local studies indicating hesitancy on the part of female population in Pakistan to consult doctors for anorectal symptoms.^{8,14} Pain, during or after defaecation, a pathognomonic feature of anal fissure, was present in 100% cases in this series. The age ranged from 20 to 65 years with a mean of 38 years. This corresponds well with other studies that report a mean age ranging from 30 to 45 years.¹⁵ The presenting complaints, however, are variable and different studies cite dissimilar incidence of clinical features, with the incidence of bleeding per anum in more than half of the patients and perianal swelling in as many as 90% of cases.¹⁶

Division of internal sphincter (sphincterotomy) to relieve the sphincter spasm is currently considered the treatment of choice for chronic, recurrent and non-healing anal fissures.¹⁷ Posterior internal sphincterotomy, done by dividing the sphincter through the fissure wound, is reported to be associated with the development of a posterior midline keyhole defect that may lead to difficulty in continence or persistent seepage.^{12,18} This study has shown that fissurectomy and posterior internal sphincterotomy is a safe treatment of chronic anal fissures. A small number of patients in this series developed incontinence for flatus and a still smaller number for faeces. These, however, were transient, lasting for 6-8 weeks and responded to conservative treatment including perineal exercises. Although Mousavi *et al.* report no incidence of incontinence in their series.¹¹ Other studies report a variable occurrence of this complication in patients undergoing lateral internal sphincterotomy. Garcia *et al.* report an incidence of incontinence varying from 16.1 to 26.7% in patients undergoing lateral sphincterotomy.¹⁹ Another study reported mild soiling in 13% of patients after lateral sphincterotomy.²⁰ This high occurrence of incontinence in lateral sphincterotomy comes as no surprise. The incidence of incontinence is directly related to the length of sphincterotomy; the surgical estimates of the length of sphincterotomy in lateral sphincterotomy are not always accurate,¹¹ which at times, leads to excessive cutting of the sphincter. Posterior sphincterotomy, in contrast, involves division of sphincter through the fissure wound, which is a more controlled and standard technique. In addition, fissurectomy removes an unstable scar tissue that enhances the healing rate.

One patient in this series developed recurrent anal fissure within 8 months of undergoing surgery. This settled on conservative treatment. With a recurrence rate of just over 0.7%, posterior sphincterotomy is competitive to lateral sphincterotomy and significantly lower than manual anal dilatation.²¹⁻²³ Some series report incidence of impaired continence as high as 35%.²⁴⁻²⁶

CONCLUSION

Given the lower rate of complications and almost negligible rate of recurrence, fissurectomy with posterior midline sphincterotomy could still be considered as an alternative treatment for the management of chronic anal fissure. In addition, unlike lateral sphincterotomy, the incision of the internal sphincter is more controlled and through the same scar instead of creating a new one.

REFERENCES

- Lund JN. Nitric oxide deficiency in the internal anal sphincter of patients with chronic anal fissure. *Int J Colorectal Dis* 2006; **21**: 673-5. Epub 2005 Jul 29.
- Sailer M, Bussen D, Debus ES, Fuchs KH, Thiede A. Quality of life in patients with benign anorectal disorders. *Br J Surg* 1998; **85**:1716-9. Comment in: *Br J Surg* 1999; **86**:843.
- Suknai S, Patrlj L, Steresini M, Skopljanac MA, Erdelez L. [Surgical or biological sphincterotomy in the treatment of chronic anal fissure]. *Acta Med Croatica* 2008; **62**:73-80. Croatian.
- Collins EE, Lund JN. A review of chronic anal fissure management. *Tech Coloproctol* 2007; **11**:209-23.
- Nahas SC, Sobrado CW Jr., Araujo SE, Aisaaka AA, Habar GA, Pinotti HW. [Chronic anal fissure: results of the treatment of 220 patients]. *Rev Hosp Clin Fac Med Sao Paulo* 1997; **52**:246-9. Portuguese.
- Neufeld DM, Paran H, Bendahan J, Freund U. Outpatient surgical treatment of anal fissure. *Eur J Surg* 1995; **161**:435-8.
- Nelson R. Operative procedures for fissure in ano (cochrane review). *Cochrane Database Systemic Rev* 2001; (3):CD002199.
- Shafiqullah, Nadeem M. Closed versus open lateral sphincterotomy in chronic anal fissure: a comparative study of postoperative complications and results. *Pak J Med Res* 2004; **43**:34-8.
- 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.
- Lambe GF, Driver CP, Morton S, Turnock RR. Fissurectomy as a treatment for anal fissures in children. *Ann R Coll Surg Engl* 2000; **82**:254-7.
- Mousavi SR, Sharifi M, Mehdikhah Z. A comparison between the results of fissurectomy and lateral internal sphincterotomy in the surgical management of chronic anal fissure. *J Gastrointest Surg* 2009; **13**:1279-82. Epub 2009 May 5.
- Melange M, Colin JF, Van Wynersch T, Vanheuverzwyn R. Anal fissure: correlation between symptoms and manometry before and after surgery. *Int J Colorectal Dis* 1992; **7**:108-11.
- Oh C, Divino CM, Steinhagen RN. Anal fissure. 20 years experience. *Dis Colon Rectum* 1995; **38**:378-82.
- Ahmed S, Ahmed S, Pervaiz N, Naseem R. Closed lateral internal anal sphincterotomy for anal fissure with Von-Greaves (catarat knife). *Pak J Surg* 2008; **24**:220-3.
- Renzi A, Izzo D, Di Sarno G, Talento P, Torelli F, Izzo G, et al. 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. Epub 2007 Dec 15.
- Al-Raymoonny AE. Surgical treatment of anal fissures under local anesthesia. *Saudi Med J* 2001; **22**:114-6.
- Lund JN, Scholefield JH. Etiology and treatment of anal fissure. *Br J Surg* 1996; **83**:1335-44.
- Gupta PJ. Treatment of fissure in ano-revisited. *Afr Health Sci* 2004; **4**:58-62.
- Garcia-Aguilar J, Belmonte C, Wong WD, Lowry AC, Madoff RD. Open verses closed sphincterotomy for chronic anal fissure: long-term results. *Dis Colon Rectum* 1996; **39**:440-3.
- Amanullah A. Lateral internal anal sphincterotomy for management of chronic anal fissure. *Gomal J Med Sci* 2008; **6**:1-4.
- Romano G, Rotondano G, Santangelo M, Esercizio L. A critical appraisal of pathogenesis and morbidity of surgical treatment of chronic anal fissure. *J Am Coll Surg* 1994; **178**:600-4.
- Arabi Y, Alexander J, Williams J, Keighley MRB. Anal pressure in haemorrhoids and anal fissure. *Am J Surg* 1977; **134**:608-10.
- Khalid M, Lodhi FB, Farooq T, Hussain R. Chronic fissure-in-ano: lateral internal sphincterotomy vs. manual dilatation of anus. *Professional* 2004; **11**:1-5.
- MacDonald A, Smith A, McNeill Ad, Finlay IG. Manual dilatation of the anus. *Br J Surg* 1992; **79**:1381-2.
- Khubchandani IT, Reed JF. Sequelae of internal sphincterotomy for chronic fissure in ano. *Br J Surg* 1989; **76**:431-4.
- Snooks S, Henry MM, Swash M. Faecal incontinence after anal dilatation. *Br J Surg* 1984; **71**:617-8.

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