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OPEN MIDLINE INTERNAL SPHINCTEROTOMY (WITH FISSURECTOMY) IN THE TREATMENT OF CHRONIC ANAL FISSURE

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Abstract

Anal fissure represents one of the most common diseases of the ano-rectum in which there is denuded epithelium of the anal canal overlying internal sphincter. In this study 110 patients underwent posterior midline sphincterotomy as the treatment for their chronic anal fissures. Mean operating time was 5 minutes and no patient stayed at hospital overnight. All patients were followed-up for 6 months. Symptoms were relieved right following surgery. Four patients developed wound infection. Other 4 patients experienced some difficulty in micturition but none had retention. Six patients experienced relative incontinence to flatus for a couple of weeks postoperatively but all of them regained their sphincter control after that. No patient complained of incontinence for feces. There were no serious scarring of the area like keyhole deformities or its variants and none of the patients developed recurrence. Almost all the patients were satisfied with the outcome. We recommend posterior midline internal sphincterotomy as the surgical treatment of choice for chronic anal fissure because it is simple to perform and results in quick relief of pain and rapid healing in almost all cases, with very few complication and negligible recurrence.

Introduction

Anal fissure is a linear tear in the skin of the distal anal canal below the dentate line (figure 1). It is a common condition affecting all age groups but particularly common in young adults.

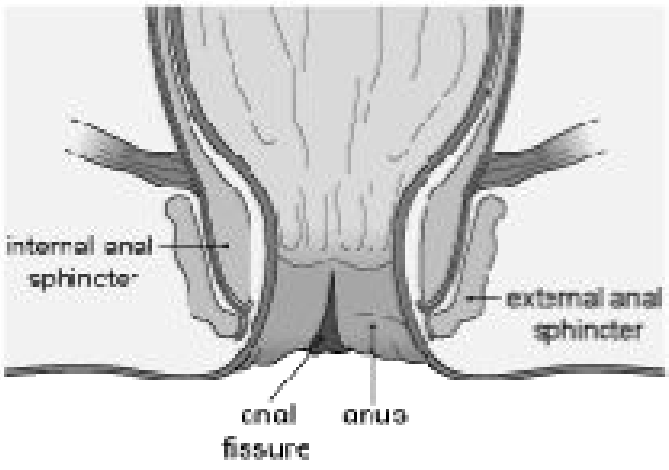

Figure 1.

The classical symptoms are that of severe anal pain during or after defecation and the passage of a streak of bright red blood per anus[1]. Any significant loss of fresh blood may be from another source such as hemorrhoids as these two conditions commonly co-exist[2]. Symptoms from fissures cause considerable discomfort and reduction in quality of life. Surgery is highly successful in the management of anal fissure. It is performed either by anal dilatation, lateral sphincterotomy [open or closed (figure 2)] or midline sphincterotomy with or with out fissurectomy. Eisenhammer was the first to advocate posterior midline sphincterotomy through the bed of the fissure[3]. Fissurectomy with posterior sphincterotomy was first performed by Eisenhammer in 1951, and then practiced by Morgan and Thomson[4] in 1956 and Lockhard Mummery[5] in 1957. Recovery time after surgical treatment is usually minimal and, generally, no hospitalization is required. The cure rate is in the 95-98% range. There is a risk of fecal incontinence (leakage of stool) with these procedures, but the incidence of this is quite low[6].

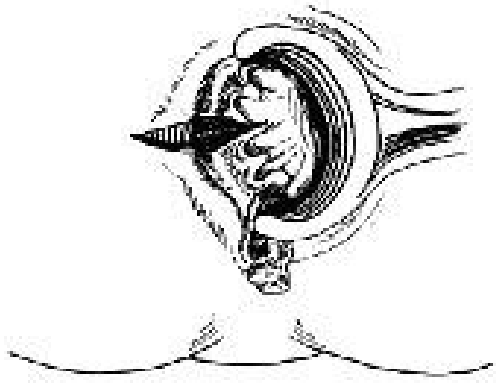

Figure 2: Open lateral internal sphincterotomy.

Patients and Methods

This is a prospective study that was carried out from June 2004 to June 2006 inclusive. A total of 110 patients who were proved to have chronic anal fissures were included in the study. All patients were treated surgically with fissurectomy and posterior midline sphincterotomy. We operate with the patient in lithotomy position (figure 3). Following fissurectomy, the internal sphincter fibers are identified and made more evident stretching the muscle fibers outwards and laterally making the sphincter palpable as a thick wring. This is eased using a retractor like Park's or with the surgeon's and the assistant's fingers pulling away from each other at the lateral edges of the anal verge thus putting the internal sphincter under tension. The internal sphincter is then cut under direct vision in the floor of, and in line with, the excised fissure for half a centimeter cephalad (figure 4). There is usually little bleeding that needs nothing more than direct pressure for a few minutes but we occasionally had to put a ligature, or two, of fine absorbable suture to achieve hemostasis. The incision is left open and the wound is covered with light dressing. Routine forcible anal dilatation is not part of our procedure.

Figure 3: position at surgery.

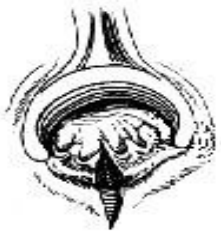

Figure 4: final result.

Patients were followed up clinically on daily basis for 10 days, clinically and proctoscopically weekly for a further month and then monthly for 6 months. Relief of pain, complications, notably incontinence, overall satisfaction and recurrence rate were recorded.

Results

The procedure took a mean of 5 minutes (range= 4-8). No patient required narcotic analgesia post-operatively, 10 (9%) needed non-narcotic parenteral analgesia, once each and no patient needed to stay at hospital overnight. All of the 110 patients who underwent the procedure reported dramatic relief of their symptoms right following surgery. Out of them, only 4 (3%) developed wound infection. Four patients (3%) experienced some difficulty of micturition in the first few hours following surgery only but no patient developed urine retention. Further 6 patients (5.4%) experienced a relative, albeit non-persistent, incontinence for flatus that lasted for a couple of weeks only. All of them recovered full sphincteric control afterwards. No patient complained form incontinence for feces, though. All wounds healed nicely and we observed no serious scarring, including keyhole deformities, 6 months postoperatively. None of our patients developed recurrence/persistence of the fissure.

Discussion

Surgery is highly successful in the management of anal fissure. Our results only go to support it. All the patients in our study had a more or less uneventful recovery with almost instantaneous relief of pain that completely disappeared within a few days. The fact that none of our patients needed to stay at hospital further improves the image of the procedure. Many factors are considered important in the etiology of chronic anal fissure but the raised sympathetic tonus is probably one of the central factors within the pathophysiological chain of the disease. This was proved especially for internal anal sphincter[7,8] making sphincterotomy an important determinant of outcome. The optimal proximal extent of sphincterotomy has received little scientific attention. Most authors describe sphincterotomies that extend to the dentate line, but this choice seems to have more to do with the convenience of this anatomic landmark than with the physiology of the anal canal[9]. With the risk of minor incontinence now more apparent, some authorities recommend that the proximal extent of sphincterotomy match that of the fissure itself, an approach that cuts less muscle[10]. Not only do we agree that cutting too much of the sphincter definitely contributes to a higher incidence of postoperative incontinence but we also believe that

making a limited cut in the sphincter, irrespective of the fissure size, would keep this serious complication to the minimum. That's why we incise no more than half a centimeter of the sphincter muscle which was one of the factors contributing to the extremely low incidence of incontinence that we faced compared to other researchers who reported incidences of up to 30% for gas incontinence and 26% for soiling underclothing[11-13]. Authors reporting similarly almost no incontinence rates adopted a similar strategy[14]. The other factor that plays a detrimental role in the outcome is anal dilatation. Several researchers who performed anal dilatation in addition to fissurectomy reported a much higher rate of incontinence, recurrence and even wound infection[15-17] and that is precisely why we do not follow such a practice; a policy that contributed to our very low incontinence, wound infection and no recurrence rates. The reputation of posterior midline sphincterotomy being associated with high incontinence and recurrence rates[18-20] could probably be the result of lack of appreciation of those two crucial factors. Furthermore, with posterior midline fissurectomy we are utilizing the same fissurectomy wound without the need to create an additional wound like we do in lateral sphincterotomy with all the potential complications that might come with it. On the other hand, neither closed nor lateral sphincterotomy are, by any means, free of such serious complications like incontinence and recurrence[17, 21].

Conclusion

We recommend open midline internal sphincterotomy as the surgical treatment of choice for chronic anal fissure because it is simple to perform and results in quick relief of pain and rapid healing in almost all cases, with very low incidence of complications.

References

1. Abcarian H. (1980): Surgical correction of chronic anal fissure: results of lateral sphincterotomy versus fissurectomy, midline sphincterotomy. Dis. Colon Rectum, 23:31-36.
2. Ball C. (1908): The rectum its diseases and developmental defects London.,Hodder and Stoughton.
3. Carman M.L. (1984): Colon and rectal surgery. J. B. Lippicott company. Philladelphia.
4. Schwartz S.I. , Littehi R.C.I., Shires G.T., Spencer F.C. and Starer E.H. (1994): Principle of surgery. Chapter 9; 381-390.
5. Micheal R.B., Keighley and Norman, S. Williams (1993): Surgery of the anus, rectum and colon. Vol.1, Fissure in ano.
6. www.emedicine.com. Article by Brian P Gillett, MD, Assistant Professor, Department of Emergency Medicine, Kings County Hospital Center, State University of New York Downstate Medical Center. June 13, 2004.
7. Goligher J. C. Surgery of the anus, rectum and colon.5th edition, 1984, London. p: 246.
8. Brugman T, Bruyninx L, Jacquet NJ. Fissure in ano, to divide or not to divide?. Acta Chir Beig.1999 Oct; 99(5): 215-20.
9. Gracia-Aquilar J, et, al. Incontinence after lateral internal sphincterotomy: anatomic and functional evaluation. Dis Colon Rectum.1999 May; 42: 687-8.
10. Landsend E, et. al.Surgical treatment of anal fissure. Tidsskr Nor Laegeforn. 2003 Dec 4; 123: 3366-7.
11. Gracia-Aquilar J, et. al. Open vs. closed sphincterotomy for chronic anal fissure: long term result. Dis Colon Rectum.1996 Apr; 39:440-3.
12. Bode WE, et. al. Fissurectomywith superfacial midline sphincterotomy. A viable alternative for the surgical correction of chronic fissure/ulcer-in-ano. Dis Colon Rectum. 1984 Feb; 27: 93-5.
13. Mazier WP. Keyhole deformity. Fact and fiction. Dis Colon Rectum. 1985 Jan; 28 :8-10.
14. Nahas SC, et. al. Chronic anal fissure:result of the surgical treatment of 220 patients. Rev Hosp Clin Fac Med Sao Paulo. 1997 Sep-Oct; 52: 246-9.
15. Queidat D. A comparative study in anal fissure treatment. J Med Liban. 1999 May-June; 47: 164-8.
16. Nelson R. Operative procedures for fissure in ano. Cochrane Database Syst Rev. 2005 Apr 18:cd002199.
17. Saad AM, Omer A. Syrgical treatment of chronic fissure-in-ano: a prospective randomized study. East Afr Med J 1992 Nov; 69: 613-5.
18. Abcarian H. Surgical correction of chronic anal fissure: result of lateral internal sphincterotomy vs. fissurectomy-midline sphincterotomy. Dis Clon Rectum 1980 Jan-Feb; 23: 31-6.
19. Hsu TC, Mackeigan JM. Surgical treatment of chronic anal fissure. A retrospective study of 1753 cases. Dis Colon Rectum. 1984 J ul; 27: 475-8. 20.
20. Tocchi et. al. Total lteral sphincterotomy for anal fissure. Int J Colorectal Dis. 2004 May; 19: 245-9.
21. Oh C, et, al. Anal fissure. 20-year experience. Dia Colon Rectum. 1995 April; 38: 3758-82.