Original Article

Recurrence of Anal Fissure

# Recurrence Rate of Anal Fissure after Lateral Sphincterotomy at Tertiary Care Center

**Habib ur Rehman Khan Toor, Gulshan Ali Memon and Qamar Raza Brohi**


## ABSTRACT

**Objective:**To determine the recurrence rate of Anal Fissure after Lateral Sphincterotomy
**Study Design:**Observational / descriptive study
**Place and Duration of Study:** This study was conducted at Peoples University of Medical and Health Sciences for Women, Nawabshah from September 2011 to 2014.
**Materials and Methods:**Cases with anal fissures, refractory to nonsurgical conservative treatment, were selected. Cases with other associated anorectal disorders like hemorrhoids, fistulae in ano, anorectal abscess and rectal prolapse were excluded from the study. Patients with co-morbid diseases like chronic liver disease, renal failure and cardiac failure were not considered for this study. Diagnosis was solely made on history and clinical examination. All selected cases were hospitalized and underwent lateral sphincterotomy under spinal anesthesia. After 24 hours patients were discharged from hospital after 24 hours with scheduled follow up visits and post operative complications were recorded up to two years.
**Results:** 140 cases were selected. Mean age was 35 years SD± 7 and range of 17- 62. Male to Female ratio was almost 1:1. As a presenting symptom, pain was present in all 140 cases while bleeding was present in 82 cases. Anterior fissure was present in 17(12.2%) cases while posterior fissure was present in 123(87.8%) cases. On follow up local infection was found in 3 (2.1%) cases. There was no any case of post operative fecal incontinence but 6(4.2%) cases had incontinence of flatus. After 2 years of surgery recurrent anal fissure was noted in only in 2(1.4%) cases.
**Conclusion:**The very low recurrence after lateral sphincterotomy for anal fissure strongly advocates the role of lateral sphincterotomy as the ultimate gold standard procedure, especially for the refractory cases.

**Key Words;** Anal fissure. Lateral sphincterotomy. Recurrence after lateral sphincterotomy.

**Citation of article:Toor HRK, Memon GA. BrohiQR.Recurrence Rate of Anal Fissure after Lateral Sphincterotomy at Tertiary Care Center.Med Forum 2017;28(5):156-159.**



## INTRODUCTION

Anal fissure is a painful anal condition characterized by a linear tear in lower anal canal and was first described by Lockhart-Mummery in 1934.[1] Anal fissure has a cumulative life time incidence of 0.11%.[2] Various hurdles delay specific diagnosis and treatment of anal diseases, including lack of education and embarrassment of both health personals and the patients, and can lead to a prolong needless suffering.[3,4] Although the anal fissure present with the specific symptoms of severe anal pain and bleedings streaks but still anal fissure is misdiagnosed or mistaken for other anorectal conditions of this type.[5] The exact etiology is yet to establish but the local trauma caused by hard stool can be an initiating factor.

Department of Surgery, Peoples University of Medical and Health Sciences Nawabshah.

Correspondence: Dr. Habib ur Rahman Khan Toor, Assistant Professor of Surgery, Peoples University of Medical and Health Sciences Nawabshah.
Contact No: 0301-3804411
Email: dr_habibtoor@yahoo.com

Received: March 21, 2017; Accepted: April 27, 2017

Post surgical scarring at anus is also considered a predisposing factor because scarring from the previous surgery may cause either stenosis or tethering of the anal canal.[6] Hyper tonicity of the smooth muscles of the internal anal sphincter contributes a major role in the development and progression of anal fissures as it leads to high resting anal sphincter pressure and local ischemia .[7-10] The clinical features of anal fissure are pain and bleeding. Most of the time bleeding is not profuse and characteristically producing a streak on a hard stool. The pain is very severe, commonly appears at the time of defecation and persists for few hours. Because of pain, patients are afraid and reluctant to pass stool leading to vicious cycles of worsening constipation, harder stools, and more anal pain. The diagnosis of anal fissure is based on clinical history and examination. To start with, the acute anal fissure is just a tear in the anal mucosa. When acute anal fissures persists for a long time it progressed to chronic fissure that characterized by a sentinel pile. Majority of the patients seek medical advice for their symptoms. Initially acute anal fissure are managed by conservative measures like increase fluid intake, high fiber diets, warm sitz bath. Medical therapy in the form glycerol

trinitrae and nifedipine is aimed to relax the smooth muscles of internal sphincter resulting in relief of symptoms and promote healing. Botulinum toxin is also effective in relaxing internal sphincters in both acute and chronic anal fissures. After conservative therapy, acute anal fissure commonly heals with 4–8 weeks and in case of failure of conservative therapy, fissure becomes chronic, surgery is usually required.[11-13] Once healed, however, about 50% of anal fissures recur regardless of the method of nonsurgical treatment.[14] Lateral sphincterotomy is considered the gold standard surgical treatment for refractory and chronic anal fissure. Lateral sphincterotomy is performed to cut the internal sphincter at one point of the lateral sides either 3 or 9 'o' clock position. The objective of the lateral sphincterotomy is to cut the hypertonic internal sphincter, thereby releasing tension and allowing the fissure to heal.[15] After any treatment modality, recurrence of the primary disorder leave a significant impact on the effectiveness of that treatment modality. Although recurrence of anal fissure is claimed to be very low after lateral sphincterotomy but still cases of recurrence are being reported. This study is aimed to determine the recurrence rate of anal fissure after lateral sphincterotomy in our set up.

## MATERIALS AND METHODS

This is a descriptive study conducted from September 2011 to September 2014 comprising 140 patients who underwent lateral sphincterotomy at surgical unit 1 of Peoples University of medical and health sciences Nawabshah. Patients were selected from surgical out patient department (OPD). Diagnosis was established on clinical history and perineal examination. Only those cases of acute and chronic fissure were selected that already taken conservative management but could not get cure. Recurrent cases after lateral sphincterotomy were not included. Cases with other associated anorectal disorders like hemorrhoids, fistulae in ano , anorectal abscess and rectal prolapse were excluded from the study. Patients with co-morbid diseases like un controlled diabetes, chronic liver disease, renal failure and cardiac failure were not considered for this study. No age and gender discrimination was applied. Demographic data was recorded. All patients were investigated for basic routine investigation like complete blood count, blood glucose, urea/creatinie, HBsAg & anti HCV, LFT. Patients above 40 years of age also had chest radiograph and cardiac assessment. Pre-operatively all patients underwent anesthetist assessment. A comprehensive counseling made with the patients and an informed consent was taken. All patients were given kleen enema a night before surgery. All patients underwent spinal anesthesia with saddle block. Procedure was performed in lithotomy position. Park's anal dilator was used for exposure and a small transverse incision was made at one of the lateral anal margin either on 9 or 3 'o' clock position. Internal anal sphincter was looped out with the help of artery forceps. Sphincterotomy was done by making transverse cut with diathermy. Hemostasis was secured and wound was left open, a lubricated ribbon gauze pack was kept at operated site in anal canal for hemostasis for 24 hours. All operated cases were managed in general ward. Postoperatively patients were kept nill per oral for twelve hours and intravenous fluids were given for 24 hours along with intravenous metacolon and ranitidine. Par entral analgesics nalbuhine and NSAID were used for 24 . Post operative wound pain was recorded on visual analogue pain score. Any post operative complains like retention of urine post op bleeding and abdominal pain was observed and managed. After 24 hours anal pack was removed. Patients were discharged from hospital and were advised to take sitz baths twice a day, lactulose 30 ml 1 to 2 times a day, trinolane cream for local application and analgesics on demand for two weeks. After 1 weak all patients were allowed to continue their routine activities. Follow ups were scheduled at 1week, 3weeks, 3months, 6months, 1year and 2 year to detect and manage any early post operative complication like bleeding, infection and late complications like incontinence, anal stenosis and specially recurrence of anal fissure were noted. Statistical package for social sciences (SPSS-24) was used for data analysis.

## RESULTS

140 cases were selected for this three years study conducted in surgical unit 1 PUMHS hospital Nawabshah from September 2011 to September 2014. Among those 140 cased 72 were male and 78 were female with almost equal male to female ratio. Mean age of the patients was 35 years, SD± 7 and range of 17- 62. As a presenting symptom, pain was present in all 140 cases while bleeding was present in 82 cases. Anterior fissure was present in 17(12.2%) cases while posterior fissure was present in 123(87.8%) cases. Among 17 cases of anterior fissure 16(94%) were female and only 1(6%) was male. Sentinel pile was present in 95(67%) cases. Mean operating time was 15 minutes, SD± 3 and a range of 9- 30. Post operative bleeding was found in 4(2.8%) cases. In first 24 hours after surgery 65 patients(46%) experienced post operative wound pain on scale 4, 35(25%) experienced pain on scale 5, 25(17.8%) experienced no pain i-e 0 scale, 10(7%) cases had pain on scale 2 and 5(3.6%) cases had post operative pain on scale 8-9(severe pain). On follow up local infection was found in 2 (1.4%) cases. There was no any case of post operative fecal incontinence but 6(4.2%) cases had incontinence of flatus. After 2 years of surgery recurrent anal fissure was noted in only 2(1.4%) cases.

## DISCUSSION

This study of 140 cases of anal fissure shows an equal gender ratio that is compare able to Garcea HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/?term=Garcea%20G%5BAuthor%5D&cauthor=true&cauthor_uid=12814407" G et al[16] but still it is variable from study to study world wide. Mean age was 35 years that support the fact that it is a diseases of young and middle age peoples.[17] Anal fissure was present in the posterior midline in 87.8% and in the anterior mid line in 12.2% that is compareable to various studies and support the hypothesis that posterior commissure is relatively low perfused site.[10,18] Anal fissure is a common disorder with increased tone of smooth muscles of internal anal sphincter. Most of the treatments are aimed to decrease the tone of the internal sphincter. Treatment modalities are broadly divided into non-surgical and surgical. Non surgical treatments are the change of life style especially to prevent constipation, use of laxatives and more significantly measures to decrease the hyper tonicity of the internal anal sphincter. Glycerol trinitrate, nifedipine act by relaxing the smooth muscles, thereby relieves the spam of in the internal sphincter, improving the symptoms and quality of life. Although the healing rate is near to 60% but the recurrence rate is approximately 50%.[14] Botulinum toxin is another non surgical effective measure with healing rate of 60-80%.[19] The effect of Botulinum toxin may wear off in 3 months and recurrence rate can rise to 42%.[19,20] Considering the fact that the overall effect of these non surgical measure is not permanent with high recurrence rate, the sphincterotomy is noted as the gold standard for the treatment of anal fissure. The lateral sphincterotomy has a healing rate of 95%.[21] Although the complications of lateral sphincterotomy are not too high but this procedure is not yet free from recurrence and complications. Two important complications of lateral sphincterotomy are incontinence and recurrence. In the present study, there was no any case of post sphincterotomy fecal incontinence even after 2 year follow up but there were 6(4.2%) cases that developed flatus incontinence. This is compare able to Elsebae MM (4.35%) and less than Garge P(9%)[22,23]. Among 140 cases of this study who underwent lateral sphincterotomy, only in 2 case (1.4%) had recurrent anal fissure after 2 years follow up that is similar to most of the national and international studies demonstrating recurrent rate of 0-6%.[24-26]

## CONCLUSION

The very low recurrence after lateral sphincterotomy for anal fissure strongly advocates the role of lateral sphincterotomy as the ultimate gold standard procedure, especially for the refractory cases.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

## REFERENCES


1. Lockhart-Mummery JP. Diseases of the rectum and colon and their surgical treatmen. 2nd ed. Bailliere Tindall and Co: Lomdon; 1934.
2. Shawki S, Costedio M. Anal fissure and stenosis. Gastroenterol Clin North Am 2013;42(4):729–758.
3. Goldstein ET. Outcomes of anorectal disease in a health maintenance organization setting. The need for colorectal surgeons. Dis Colon Rectum 1996;39(11):1193–98.
4. Sneider EB, Maykel JA. Diagnosis and management of symptomatic hemorrhoids. Surg Clin North Am 2010;90(1):17–32.
5. Grucela A, Salinas JJ, Khaitov S, et al. Prospective analysis of clinical accuracy in the diagnosis of benign anal pathology: comparison across specialties and years of experience. Dis Colon Rectum 2010;53(1):47-52.
6. Nzimbala MS, Bruyninx L, Pans A, et al. Chronic anal fissure: common aetiopathogenesis, with special attention to sexual abuse. Acta Chir Belg 2009;109(6):720-6.
7. Farid M, El Nakeeb A, Youssef M, et al. Idiopathic hypertensive anal canal: a place of internal sphincterotomy.J Gastrointest Surg 2009;13(9):1607-13.
8. Keck JO, Staniunas RJ, Coller JA, Barrett RC, Oster ME. Computer-generated profiles of the anal canal in patients with anal fissure. Dis Colon Rectum 1995;38:72-9.
9. Schouten WR, Briel JW, Auwerda JJ. Relationship between anal pressure and anodermal blood flow. The vascular pathogenesis of anal fissures. Dis Colon Rectum1994;37:664-9.
10. Klosterhalfen B,Vogel P, Rixen H, Mittermayer C.Topography of the inferior rectal artery: a possible cause of chronic, primary anal fissure. Dis Colon Rectum 1989;32:43-52.
11. Zaghiyan KN, Fleshner P. Anal fissure. Clin Colon Rectal Surg 2011;24:22-30.
12. Madalinski MH. Identifying the best therapy for chronic anal fissure. World J Gastrointest Pharmacol Ther 2011;2:9-16.
13. Wald A, Bharucha AE, Cosman BC, Whitehead WE. ACG clinical guideline: management of benign anorectal disorders. Am J Gastroenterol 2014;109:1141-57.
14. Nelson RL, Thomas K, Morgan J, Jones A. Non surgical therapy for anal fissure. Cochrane Database Syst Rev 2012;(2): CD003431.
15. Rather SA, Dar TI, Malik AA, Rather AA, Khan A, Parray FQ, et al. Subcutaneous internal lateral sphincterotomy (SILS) versus nitroglycerine ointment in anal fissure: a prospective study. Int J Surg 2010;8(3):248-51.
16. Garcea HYPERLINK

"https://www.ncbi.nlm.nih.gov/pubmed/?term=Garcea%20G%5BAuthor%5D&cauthor=true&cauthor_uid=12814407" G[1], Sutton C, Mansoori S, Lloyd T, Thomas M Results following conservative lateral sphincterotomy for the treatment of chronic anal fissures. Colorectal Dis 2003 Jul;5(4):311-4.

17. Khan RM, Itrat M, Ansari AH, Ahmer SM, Zulkifle.Prevalence of Fissure-in-Ano among the Patients of Anorectal Complaints Visiting Nium Hospital. J CommHealth Edu 2015;5(2):344.
18. Schouten WR, Briel JW, Auwerda JJ, De Graaf EJ.Ischaemic nature of anal fissure. Br J Surg 1996;83(1):63-5.
19. Maria G, Brisinda G, Bentivoglio A R, Cassetta E, Gui D, Albanese A. Influence of botulinum toxin site of injections on healing rate in patients with chronic anal fissure. Am J Surg 2000;179(1):46–50.
20. Brisinda G, Maria G, Sganga G, Bentivoglio A R, Albanese A, Castagneto M. Effectiveness of higher doses of botulinum toxin to induce healing in patients with chronic anal fissures. Surg2002;131(2):179–184.
21. Schlichtemeier S, Engel A. Anal fissure. Aus Prescrib 2016;39(1):14-17.Elsebae HYPERLINK "https://www.ncbi.nlm.nih.ov/pubmed/?term=Elsebae%20MM%5BAuthor%5D&cauthor=true&cauthor_uid=17665247" MM. A study of fecal incontinence in patients with chronic anal fissure: prospective, randomized, controlled trial of the extent of internal anal sphincter division during lateral sphincterotomy. World J Surg HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/17665247". 2007 Oct;31(10):2052-7.
22. Garg HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/?term=Garg%20P%5BAuthor%5D&cauthor=true&cauthor_uid=23320551" P[1], Garg M,Menon GR. Long-term continence disturbance after lateral internalsphincterotomy for chronic anal fissure: a systematic review and meta-analysis.
23. Colorectal Dis HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/23320551". 2013 Mar;15(3):s104-17.
24. Syed SA[1], Waris S, Ahmed E, Saeed N, Ali B. Lateral internal anal sphincterotomy for anal fissure: with or without associated anorectal procedures. J HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/12921678" Coll HYPERLINK https://www.ncbi.nlm.nih.gov/pubmed/12921678" Physicians HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/12921678"Surg HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/12921678" Pak HYPERLINK "https://www.ncbi.nlm.nih.gov/pubmed/12921678". 2003 Aug;19(8):439-9.
25. Latif A, Abbasi A, Butt MQ. Morbidity associated with treatment of chronic anal fissure. Pak J Med Sci 2013;29(5):1230-1235.
26. Salim AM. Chronic anal fissures: Open lateral internal sphincterotomy result; a case series study. Ann Med Surg 2017;15:56-58.