



STUDY ON CHRONIC ANAL FISSURE FOR PARTIAL LATERAL INTERNAL SPHINCTEROTOMY

Medical Science

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ABSTRACT

Anal fissure is a very common acute condition that is presented in majority of the world population. To evaluate the outcome of partial lateral internal sphincterotomy technique for chronic anal fissure. 100 Patients of chronic anal fissure attending general surgery OPD and admitted to General Surgery department of Vivekananda Institute of Medical Sciences, Kolkata, West Bengal, India, West Bengal for sphincterotomy technique. It was found that post-operative fissure healing rate was 99% at 6 weeks and the complete fissure healing rate was found at 10 weeks. Fissure healing rate was statistically significant. Our study showed that post-operative no bleeding was 76% at 72 hours, 94% at weeks, 98% at 6 weeks and 99% at 10 weeks. So bleeding was decreased during follow-up period which was statistically significant. Postoperative one patient was anal incontinence fecal soiling and flatus, three patients were surgical site infection and all patients were no recurrence during follow-up period

KEYWORDS

chronic anal fissure , fissure healing, sphincterotomy technique, bleeding

Anal fissures usually extend from the anal opening and are usually located posteriorly in the midline, probably because of the relatively unsupported nature and poor perfusion of the anal wall in that location. Fissure depth may be superficial or sometimes down to the underlying sphincter muscle. Although simple epithelial split acute anal fissure are because of their location involving the exquisitely sensitive anoderm, characterized by severe anal pain associated with defecation , Chronic fissures characterized by a hypertrophied anal papilla internally and a sentinel tag externally between which lies the slightly indurated anal ulcer overlying the fibers of the internal sphincter.

Anal fissure is a very common acute condition that is presented in majority of the world population. It is the most common cause of severe anal pain. The pain may be so severe that patients may avoid defecation for day's altogether, until they are severely constipated. This delay leads to hardening of the stools, which further tears the anoderm during defecation, setting a vicious cycle^{1,2}. Classic features of chronic anal fissure are failure to respond conservative therapy, a fibrous anal polyp, an external skin tag (sentinel pile), visible hemorrhoid, hardening at the edges of fissure, exposed fibers of the internal sphincter at the floor of the fissure, infected base of fissure, and a bridged fissure with underlying fistula^{1,2}. The treatment of chronic anal fissure is conservative and surgical³.

Lateral internal sphincterotomy is the surgical treatment of choice for a chronic anal fissure⁴. Optimal division of the lateral internal sphincter has not yet been devised since the length of the anal canal differs between patients. It is appropriate to describe it according to the position of the dentate line (i.e., division of the internal anal sphincter below the dentate line)⁵. Conservative management is initially recommended with ointments Diltiazem, glyceryl trinitrate, and analgesics. When conservative measures fail despite of recommended length of therapy, surgical option is offered to the patients. Lateral sphincterotomy is a surgical option recommended and accepted worldwide. This study was assess partial lateral sphincterotomy in terms of safety and final outcome for the surgical management of chronic anal fissure.

To evaluate the outcome of partial lateral internal sphincterotomy technique for chronic anal fissure.

MATERIAL AND METHODS:

100 Patients of chronic anal fissure attending general surgery OPD and admitted to General Surgery department of Vivekananda Institute of Medical Sciences, Kolkata, West Bengal, India, West Bengal for sphincterotomy technique.

Study population ; Adult patients with chronic anal fissure.

Pre-operative evaluation:

A detailed clinical history, examination and investigations were done. The examinations were include abdominal- inspection, palpation, percussion and auscultation, proctoscopy, digital rectal examination. Routine investigations of blood including LFT, Urine, ECG (tests for fitness for surgery), X-ray chest – PA view for evidence of pulmonary Koch's, .All the patients were undergo a pre-operative anesthetic checkup for fitness before surgery .Digital rectal examination was done Under anesthesia sentinel anal skin tag, asses ulcer ,sphincter tone and palpate intersphincteric groove.

STATISTICAL ANALYSIS:

For statistical analysis data were entered into a Microsoft excel spreadsheet and then analyzed by SPSS (version 25.0; SPSS Inc., Chicago, IL, USA) and GraphPad Prism version 5. Data had been summarized as mean and standard deviation for numerical variables and count and percentages for categorical variables. p-value ≤ 0.05 was considered for statistically significant.

RESULT AND ANALYSIS

We are found that 9(9.0%) patients had ≤ 30 years of age, 42(42.0%) patients had 31-40 years of age, 40(40.0%) patients had 41-50 years of age, 7(7.0%) patients had 51-60 years of age and 2(2.0%) patients had 61-70 years of age. Majority of patient middle age group. We are found mean age (mean $\pm$ s.d.) of patients was 41.7900 ± 8.3149 years. Range 21-64 years.

We are found 63(63.0%) patients are in female and 37(37.0%) patients are in male. Female; male ratio 1.70.

We are found 10(10.0%) patients had hemorrhoids association with chronic anal fissure. We have found 100(100.0%) patients was no fissure healing at rate 72 hours. 60(60.0%) patients was fissure healing at rate 2 weeks. 99(99.0%) patients was fissure healing at rate 6 weeks. 99(99.0%) patients was complete fissure healing at rate 10 weeks.

Change of Fissure healing rate was statistically significant during follow-up ($p < 0.0001$). fissure complete epithelization within 10th week follow up period. Our study found that 24(24.0%) patients was present bleeding 72 hours. 6(6.0%) patients was present bleeding at 2 weeks. 2(2.0%) patients was present bleeding at 6 weeks. 1(1.0%) patient was nil bleeding at 10 weeks. Change of bleeding was statistically significant during follow-up ($p < 0.0001$). Majority of patient nil bleeding within of 6th week post-operative follow up. Complete care of bleeding 10th week. We have found 1(1.0%) patient was anal in continence fecal soiling and flatus within two weeks no permanent anal in continences 10th week follow up.

We have found All patients were no recurrence. After follow up 10th week. Our study found that 3(3.0%) patients were surgical site infection.

DISCUSSION

Anal fissure is a common problem that cause substantial morbidity otherwise healthy .It is frequent cause of pain, and bleeding per rectum and considerable patient discomfort and disability.

A number of pharmacological sphincter relaxant have been introduced and claimed to show good result but surgical treatment needed. In our study 100 patient admitted with chronic anal fissure and operating during the study period. They are follow up 3 month. During this period, they were followed up to know whether they developed any complication a recurrence. Complication were recoded and tabulated.

The patient were subjected to a lateral internal sphincterotomy . Associated disease like hemorrhoids are also treated along with the surgery of anal fissure. 10 % cases had associated hemorrhoids.

We found that 9(9.0%) patients had ≤ 30 years of age, 42(42.0%) patients had 31-40 years of age, 40(40.0%) patients had 41-50 years of age, 7(7.0%) patients had 51-60 years of age and 2(2.0%) patients had 61-70 years of age. The mean age (mean $\pm$ s.d.) of patients was 41.7900 ± 8.3149 years. 63(63.0%) patients were female and 37(37.0%) patients were male.

Lindsey I et al⁴ (2004) found that 57 percent female; median age, 39 years. Our study showing 63 percent female median age 41 years.

Rosa G et al⁷ (2005) found that 197 men, 191 women with a median age of 43 years (range, 18–80). Our study found that 63female, 37 male, with a median age 41 years (21-65 years)

Liratzopoulos N et al⁸ (2006) found that 120 men, 126 women, mean age 48.3 years. Our study found that 63 women, 37 men, mean age 41 years.

Acar T et al⁹ (2019) found that 228 (54.7%) were female and the mean $\pm$ SD age was 36.1 ± 8.96 years (ranging from 17 to 73 years). Our study found that 63 (63 %) women and the mean age 41.7900 ± 8.3149 years.

Salih AM et al¹⁰ (2017) found that 43 males 22.6% and 147 females 77.4% with mean $\pm$ SD of age 31.79 ± 7.78 . our study found that 63female (63%) and 37 (37%) male with a mean age 41.7900 ± 8.3149 years **AH et al¹¹ (2015)** found that Out of 120 diagnosed cases of anal fissure, common age group was 31-40 years (49%) and most of the patients were females with male to female ratio of 1:1.7. Pain (100%) was the commonest symptom followed by constipation (82%). 79% had posterior fissure, while 20% patients had anterior fissure, while 1% patient had anterior as well as posterior fissure.

Tayyab M et al¹² (2010) found that Thirty males and 15 females (M:F ratio 2:1) with anal pain due to chronic anal fissure were included in the study. Mean age was 34 years. Pain, bleeding from wound site and wound sepsis were the common complications followed by transient urinary retention, incontinence and recurrence.

CHAUDHARY SH et al¹³ (2014) found that mean age was 34 ± 7.48 years. Pain, bleeding from wound site and wound sepsis were the common complications followed by transient urinary retention, incontinence and recurrence.

We found that 100(100.0%) patients was no fissure healing at rate 72 hours. 60(60.0%) patients was fissure healing rate at 2 weeks. 99(99.0%) patients was fissure healing at rate 6 weeks. 99(99.0%) patients was complete fissure healing at rate 10 weeks. Change of Fissure healing rate was statistically significant during follow-up ($p < 0.0001$).

Liratzopoulos N et al⁸ (2006) found that At 3 months postoperatively, 97.5% of fissures had healed; 224 fissures were healed by 6 weeks, 10

by 7 weeks and 2 by 3 months. Our study found that 99(99%) fissure healed at 6th week and complete cure 10th week.

Gandomkar H et al¹⁴ (2015) found that no statistical difference was observed in the healing.

24(24.0%) patients was bleeding at 2 weeks. 6(6.0%) patients was bleeding at 4 weeks. 2(2.0%) patients was bleeding at 6 weeks. 1(1.0%) patient had nil bleeding at 10 weeks. Change of bleeding was statistically significant during follow-up ($p < 0.0001$).. Our study found that 99(99%) fissure healed at 6th week and complete cure 10th week.

Sanniyasi S et al¹⁵ (2016) found that post-operative complications such as pain, bleeding, infection, incontinence, and recurrence were compared between the two groups. Pain, bleeding, and incontinence to flatus were significantly lesser in the closed group ($P < 0.05$), while there was no difference in the incidence of infection and recurrence between the two groups. Our study found that post-operative pain, bleeding incontinence and recurrence were statically significantly decrease.

Nessar G et al¹⁶ (2017) found that bleeding in three patient around anus two patient incontinence to flatus in one patient were the other complication .our study found that one patient flatus incontinence no bleeding.

We found that 1(1.0%) patient was incontinence anal fecal soiling and flatus and all patients were no recurrence. It was also showed that 3(3.0%) patients were surgical site infection. Our study showed that 10(10.0%) patients had hemorrhoids association with chronic anal fissure.

Manoharan R et al¹⁷ (2017) found that there was no statistically significant difference in the healing rate, pain, infection and incontinence rates. Our study found that pain , bleeding , incontinence rate nil and surgical site infection 3(3%)

CONCLUSION

It was found that post-operative fissure healing rate was 99% at 6 weeks and the complete fissure healing rate was found at 10 weeks. Fissure healing rate was statistically significant.

Our study showed that post-operative no bleeding was 76% at 72 hours, 94% at weeks, 98% at 6 weeks and 99% at 10 weeks. So bleeding was deceased during follow-up period which was statistically significant.

Postoperative one patient was anal incontinence fecal soiling and flatus, three patients were surgical site infection and all patients were no recurrence during follow-up period

Table: Distribution of age, sex, Hemorrhoids, Anal incontinence, Recurrence and Surgical site infection

		Frequency	Percent
Age in Years	≤ 30	9	9.0%
	31-40	42	42.0%
	41-50	40	40.0%
	51-60	7	7.0%
	61-70	2	2.0%
	Total	100	100.0%
Sex	Female	63	63.0%
	Male	37	37.0%
	Total	100	100.0%
Hemorrhoids	No	90	90.0%
	Yes	10	10.0%
	Total	100	100.0%
Anal incontinence	No	99	99.0%
	Yes	1	1.0%
	Total	100	100.0%
Recurrence	No	100	100.0%
	Total	100	100.0%
Surgical site infection	No	97	97.0%
	Yes	3	3.0%
	Total	100	100.0%

Table 2: Distribution of Fissure Healing Rate and Bleeding during Follow-up

			Frequency	Percent
Fissure Healing	Fissure Healing 72 hours	No	100	100.0%
		Total	100	100.0%
	Fissure Healing 2 Weeks	No	40	40.0%
		Yes	60	60.0%
		Total	100	100.0%
	Fissure Healing 6 Weeks	No	1	1.0%
		Yes	99	99.0%
		Total	100	100.0%
	Fissure Healing 10 Weeks	No	1	1.0%
		Yes	99	99.0%
		Total	100	100.0%
Bleeding	Bleeding 72 hours	No	76	76.0%
		Yes	24	24.0%
		Total	100	100.0%
	Bleeding 2 Weeks	No	94	94.0%
		Yes	6	6.0%
		Total	100	100.0%
	Bleeding 6 Weeks	No	98	98.0%
		Yes	2	2.0%
		Total	100	100.0%
	Bleeding 10 Weeks	No	99	99.0%
		Yes	1	1.0%
		Total	100	100.0%

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