

Comparison of Fistulotomy and Fistulectomy in Low Anal Fissure in Maharashtra Population: A Retrospective Study

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Abstract

Background: Anal fistula has been known as a common surgical ailment for over two and a half millennia. Current management remains dependent on surgeon preference between options such as fistulotomy and fistulectomy. Hence, a functional and clinical outcome of fistulotomy versus fistulectomy was studied.

Method: Out of sixty, 30 patients Group-A was operated fistulotomy and Group-B 30 patients operated fistulectomy.

Results: The surgical parameters in both groups were highly significant ($P < 0.001$) post-surgical complications were higher fistulectomy, that is, urinary retention, bleeding, and infection. In the comparison of measurement of incontinence of gas was higher rate in fistulectomy but recurrence higher rate in fistulectomy but recurrence was 1 (3.3%) observed in fistulotomy.

Conclusion: Fistulotomy is a simple and effective method for the treatment of simple perianal fistula. It has shorter operating time with less post-operative pain and less time needed for wound healing compared with fistulectomy. Moreover, incidences of post-operative complications, incontinence, were also observed in fistulectomy.

Key words: Fistulectomy, Fistulotomy, Low and fissure, Maharashtra, Perianal fistula

INTRODUCTION

The anal fistula is a common abnormal communication usually lined by some degree of granulation tissue which runs outward from the anorectal lumen (internal opening) to external opening in the skin of the perineum or the buttock.^[1] The vast majority of anal fistula are secondary to infection of the anal gland, which is present as perianal abscess that may spontaneously burst or is inadequately drained.^[2] Other causes of perianal fistula include inflammatory bowel disease trauma, fungal or mycobacterial infection, and neoplasm. It may also occur after internal sphincterectomy.^[3]

The perianal fistula was classified according to location to and sphincter muscle into four main groups; inter-

sphincteric, trans-sphincteric, suprasphincteric, or extra-sphincteric. These groups can be further subdivided according to the presence and course of any extension or secondary track.^[4]

There are several surgical options for perianal fistula and the best choice is determined by the anatomy of the fistula; fistulotomy with opening and un-roofing of the fibrous portion of the tract, fistulectomy with excision of the tract. The aim of the study was to compare the pros and cons of fistulotomy and fistulectomy because of postsurgically major complication include recurrence and incontinence poor post-operative wound healing.

MATERIALS AND METHODS

Sixty patients visiting to surgery OPD Institute of Medical Science Miyani-415102 Maharashtra were studied.

Inclusion Criteria

Patients aged between 20 and 60 years having simple anal fistulae were included in the study.

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www.surgeryijss.com

Month of Submission : 06-2021

Month of Peer Review: 07-2021

Month of Acceptance : 08-2021

Month of Publishing : 10-2021

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Exclusion Criteria

Patients with other ano-rectal diseases such as tuberculosis and Crohn’s disease were excluded from the study. Patients with high anal fistula with neurological lesions, patients with the previous ano-rectal surgery malignancy of rectum were excluded from the surgery.

Method

Out of sixty, 30 patients were elected for fistulotomy (Group-A), 30 patients for fistulectomy (Group-B). The clinical examination including per-rectal and proctoscopy examination was carried out. Routine blood examination, chest-x-ray pus culture and sensitivity, fistulogram was done in every patient, CT scan/MRI fistulogram was done as per the requirement (only in few cases). All the patients were admitted in the hospital at least 1 day before surgery. The anal region was shaved in the morning prior to the operation and the rectum was evacuated with the aid of disposable enema.

Technique for Fistulectomy

Under spinal anesthesia the patient was positioned in lithotomic position, inspection and identification of the site of external opening were identified and protoscope was introduced for the detection of internal opening and the fistula tract hydrogen peroxide (H₂O₂) was injected in the external opening to identify the presence and site of internal opening. A probe was passed through the external opening to determine the direction of fistula tract (thick granulation tissue) to internal opening and classify the fistula according to park’s classification. Coring out the primary tract reduces the risk of missing secondary tracts which were seen as transacted granulation tissue, which may be followed by same technique. Once the track had been cored out from the external toward the internal opening, either with scissors or with cautery dissection, simple anatomical closure of the cored out tunnel with mucosal closure of defect with interrupted absorbable suture was performed. The wound outside the spinster was tightly packed.

Fistulotomy Technique

It was performed under spinal anesthesia, after positioning and probing of the fistula tract as in the fistulotomy technique. Probing not only provides the identification of the course of the fistula tract, also facilitates fistulotomy over the probe. Probing should be gentle, otherwise it results into the creation of false route which further complicates the operative procedure. By use of diathermy the perianal skin and anal epithelium was divided. The internal sphincter, if it was encountered, was identified and partially divided. If a high blind track was encountered, it should be loosely curetted and adequately drained through the fistulotomy incision. The fistula track can be safely opened, any bleeding from the edges should be secured by coutry and a gauze dressing was applied. The duration of time in both operations was recorded.

Post-operative care included antibiotic treatment analgesia (NSAID), observation of urine retention, post-operative bleeding. Intake of liquid food was resumed in the evening after the operation and for 2 days, and then normal diet was continued. Patient discharged after 1 day of surgery. The patient of both groups was evaluated weekly for 10 weeks and then once a month for 8 months at outpatient clinic.

Time of post-operative pain relief time of hospital stay, post-operative time needed for healing was compared in both groups.

The duration of study was from July-2013 to October-2015.

Statistical Analysis

Clinical manifestations and surgical outcomes were compared in both groups with *t*-test and percentage. The statistical data were calculated in SPSS software. The ratio of the males and females was 3:1.

OBSERVATION AND RESULTS

Table 1: Comparison of position of external opening and history of perianal abscess in both groups

- a. History of perianal abscess 17 (56.6%) in Group-A (Fistulotomy), and 20 (66.6%) in Group-B (Fistulectomy)
- b. Position of external opening 22 (73.3%) anterior, 8 (26.6%) posterior in Group-A, 21 (70%) posterior, and 9 (30%) anterior in Group-B.

Table 1: Comparison of position of external opening and history of perianal abscess in both groups. (Total No of patients: 60)

Details	Group A	%	Group B	%
History of perianal abscess				
No	13	43.3	10	33.3
Yes	17	56.6	20	66.6
Position of external opening				
Posterior	22	73.3	21	70
Anterior	08	26.6	09	30

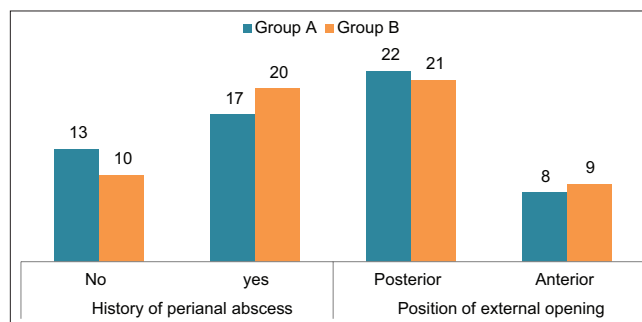


Table 2: Comparison of surgical parameters in both groups. (No. of patients 30+30=60)

Sl. No	Parameters	Group	Mean with SD	t-test	P-value
1	Operating time (in minutes)	Fistulotomy	12.11 (SD±2.1)	16.2	<0.001
		Fistutectomy	23.20 (SD±3.10)		
2	Post-surgical hospital stay (days)	Fistulotomy	1.82 (SD±0.52)	6.1	<0.001
		Fistutectomy	2.62 (SD±0.49)		
3	Duration for wound healing (days)	Fistulotomy	25.10 (SD±2.92)	8.08	<0.001
		Fistutectomy	32.30 (SD±3.92)		
4	Pain score at 6 hours	Fistulotomy	6.30 (SD±0.78)	4.02	<0.002
		Fistutectomy	7.28 (SD±1.08)		
5	Oain score at 24 hours	Fistulotomy	5.02 (SD±0.78)	-3.97	<0.002
		Fistutectomy	5.98 (SD±0.7)		
6	Pain score at discharge	Fistulotomy	3.28 (SD±0.62)	3.73	<0.002
		Fistutectomy	4.02 (SD±0.89)		

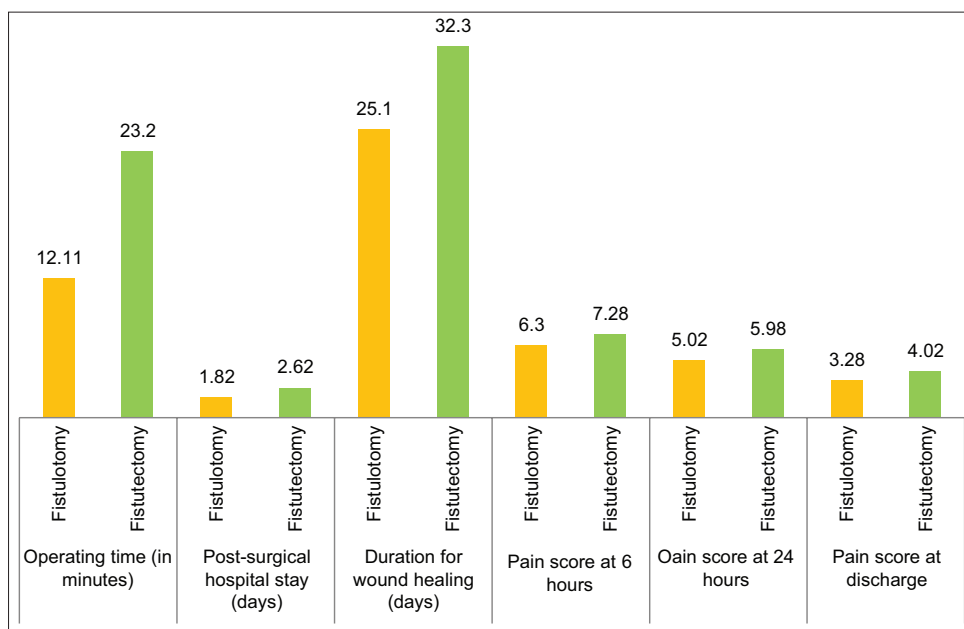


Table 2: Comparison of surgical parameters in both groups

1. Operating time 12.11 (SD ± 2.1) in Group-A, 23.20 (SD ± 3.10) in Group-B, *t*-test 16.2 and *P* < 0.001
2. Post-surgical hospital stay – 1.82 (SD ± 0.52) in Group-A. 2.62 (SD ± 0.49) in Group-B, *t*-test 6.1 and *P* < 0.001
3. Duration of wound healing (days) 25.10 (SD ± 2.92) in Groups-A, 23.30 (SD ± 3.92) Group-B, *t*-test 0.08 and *P* < 0.001
4. Pain score at 6 h 6.30 (SD ± 0.78) in Group-A, 7.28 (SD ± 1.08) in Group-B, *t*-test 4.05 and *P* < 0.001
5. Pain score at 24 h 5.02 (SD ± 0.78) in Group-A, 5.98 (SD ± 1.08) in Group-B, *t*-test 3.73 and *P* < 0.00

Table 3: Comparison of post-operative complications in both groups

- Urinary retention – 2 (6.6%) in Group-A, 4 (13.3%) in Group-B
- Bleeding – only 1 (3.3%) in Group-B
- Infection – 2 (6.6%) in Group-A, 3 (10%) in Group-B.

Table 4: Comparison of measurements of incontinence Gas – 1 (3.3%) in Group-A, 3 (10%) in Group-B

Table 5: Recurrence – only 1 (3.3%) in fistulotomy.

DISCUSSION

In the present comparative study of fistulotomy and fistulectomy in low anal fissure – perianal abscess was 17 (56.6%) in Group-A and 20 (66.6%) in Group-B position of external opening – 22 (73.3%) posterior, 8 (26.6%) anterior in Group-A, 21 (70%) posterior, and 9 (30%) anterior in Group-B, [Table 1]. The surgical parameters were – operating time (minutes) 12.11 (SD ± 2.1) in Group-A, 23.20 (SD ± 3.18) in Group-B, *t*-test was 16.2 and *P* < 0.001. Post-surgical hospital stay 1.82 (SD ± 0.52) in Group-A, 2.62 (SD ± 0.49) in Group-B, *t*-test 6.1 and *P* < 0.001, duration of wound healing (days) 25.10 (SD ± 2.92) in Group-A, 32.30 (SD ± 3.92) in Group-B, *t*-test 8.08 and *P* < 0.001, pain scores at 6 h 6.30 (SD

± 0.78) in Group-A, 7.28 (SD ± 1.08) in Group-B, *t*-test 4.02 and *P* < 0.02, pains score at 24 h 5.32 (SD±0.78) in Group-A, 5.98 (SD±1.07) in Group-B, *t*-test –3.97 and *P* < 0.02, pain score at discharge 3.28 (SD ± 0.62) in Group-A, and 4.02 (SD ± 0.87) in Group-B, *t*-test 3.73 and *P* < 0.02 [Table 2]. Urinary retention 2 (6.6%) in Group-A, 4 (13.3%) in Group-B, bleeding 1 (3.3%) observed in Group-B. Infection 2 (6.6%) in Group-A, 3 (10%) in Group-B [Table 3], in the measurement of incontinence 1 (3.3%) in Group-A, 3 (10%) in Group-B [Table 4], and recurrence was 1 (3.3%) observed in Group-A [Table 5]. These findings are more or less in agreement with previous studies.^[5-7]

The ultimate purpose of surgical treatment for an anal fistula is eradication of sepsis, while maintaining continence. To achieve these goals, it is essential to identify the internal opening, as well as the relationship between the fistula tract and the sphincters, before or at the time of surgery. When the internal opening is not identified or is misdiagnosed, recurrence and un-necessary sphincter injury may be the result. A simple way of differentiating a simple fistula from a complex is palpation of the tract. If the tract is palpable from the external opening to the anal verge, it is safe to regard the fistula as simple type.

Despite of being a common problem, perianal fistula has been ignored because of the treatment protocols fistula in ano seems to be affecting males predominantly as evidenced

Table 3: Comparison of post-operative complications in both groups. (30+30=60)

Complications	Fistulotomy Number	%	Fistulectomy Number	%	Total (60)	
					No	%
Urinary retention						
No	28	93.3	26	86.6	54	90
Yes	02	6.6	04	13.3	06	10
Bleeding						
No	30	-	29	96.6	59	98.3
Yes	00	-	01	3.3	01	1.6
Infection						
No	28	93.3	27	90	55	91.6
Yes	02	6.6	03	10	05	8.3

Table 4: Comparison of measurement of incontinence in both groups. (30+30=60)

Incontinence	Fistulotomy number	%	Fistulectomy number	%	Total (60)	
					No	%
Solid						
No	30	-	30	100	60	100
Yes	00	-	00	-	-	-
Liquid						
No	30	-	30	100	60	100
Yes	00	-	00	00	-	-
Gas						
No	29	96.6	27	90	56	98.3
Yes	01	3.3	03	10	04	6.6

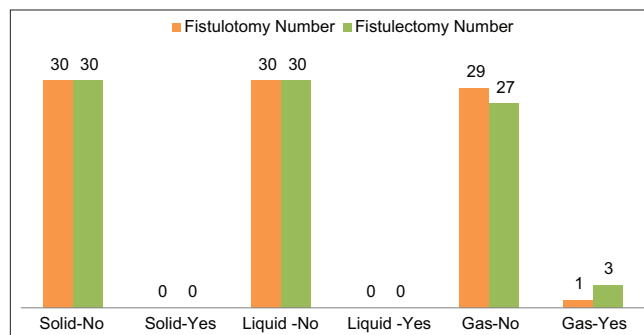
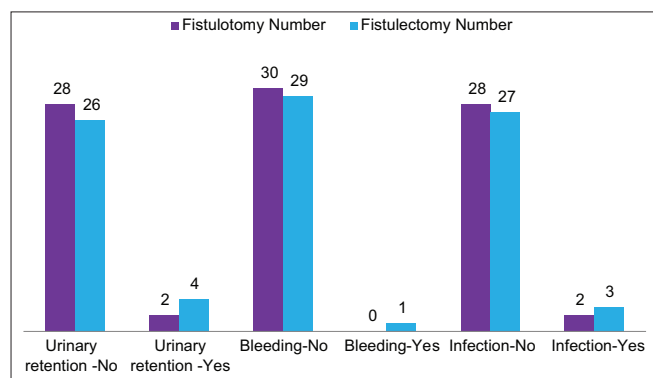
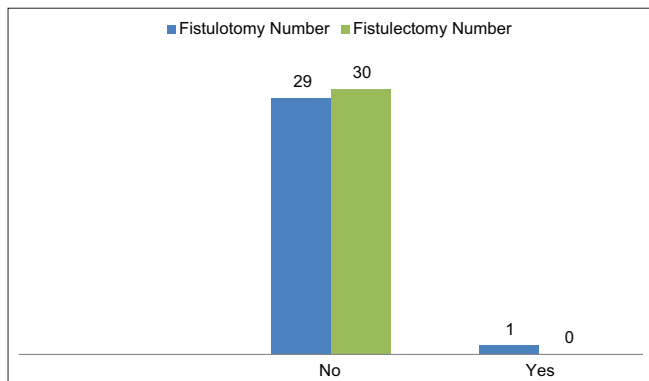


Table 5: Comparison of recurrence both groups. (30+30=60)

Recurrence	Fistulotomy number	%	Fistulectomy number	%	Total (60)	
					No	%
No	29	96.6	30	100	59	-
Yes	01	3.3	00	-	01	-



by the present study population, Perianal discharge being the most common presenting symptom.^[8] Although fistulotomy is preferable than fistulotomy because healing times are significantly shorter but fistulectomy is slightly more demanding, especially when tract has ill-defined walls, because more damage is caused to the tissues surrounding the fistula tracts during fistulotomy.^[9] The variations in the healing time might be due to older age group, co-morbid, and cigarettes smoking habits.^[10,11]

SUMMARY AND CONCLUSION

In the present study, it is concluded that fistulotomy could be used as a primary treatments of low anal fistula as being safe and simple to perform with good patient’s satisfaction as regards post-operative pain and outcome. Fistulotomy is performed due to shorter operative time, less time for wound healing and short duration of hospital stay as compared to fistulectomy this study demands further pathophysiological, nutritional, genetic, and pharmacological study because exact pathogenesis of formation of pathogenesis of formation of abscess in anal region is still unclear.

This research paper was approved by Ethical committee of Institute of Medical Sciences and research Miyani – Maharashtra – 415102.

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How to cite this article: Sayyed JG. Comparison of Fistulotomy and Fistulotomy in Low Anal Fissure in Maharashtra Population: A Retrospective Study. IJSS Journal of Surgery 2021;7(5):10-14.

Source of Support: Nil, **Conflict of Interest:** None declared.