

# Comparative Study of Fistulotomy and Fistulectomy in Low Anal Fistula in Rajasthan Population

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## Abstract

**Background:** As anal fissure is a chronic abnormal communication that connects anal canal or rectum to the skin around the anus, followed a rectal sepsis<sup>1</sup> through which infection spread to body as a whole. Hence, surgical correction is must. Hence, the efficiency of fistulotomy and fistulectomy methods was compared.

**Methods:** Two groups were selected as 28 patients; A group was conducted fistulotomy and B group, 28 patients, was conducted fistulectomy (total 56 patients).

**Results:** Operation time for fistulotomy mean value was 12.10 (SD±2.1) min and fistulectomy was 23.18 (SD±3.3) min and  $P < 0.01$ . Post-surgical stay at hospital for fistulotomy patients was 1.70 (SD±0.6) days and fistulectomy was 2.60 (SD±0.5) days,  $P < 0.01$ . Duration of healing of wound in fistulotomy was 25.18 (SD±2.8) and in fistulectomy 32.48 days,  $P < 0.01$ . Pain score at time of discharge in fistulotomy mean value 3.20 (SD±0.55) and fistulectomy 4.10 (SD±0.81),  $P < 0.01$ .

**Conclusion:** Fistulotomy had a slight edge over fistulectomy in low anal fistula since it has shorter operation time, less post-operative pain, early wound healing, less incontinence, and less recurrence. Hence, fistulotomy is recommended for low anal fistula surgery.

**Key words:** Fistulectomy, Fistulogram, Fistulotomy, Incontinence, Perianal fistula, Recurrence

## INTRODUCTION

Fistula is abnormal connections between hollow organs or between hollow organ and skin lined by epithelial tissue. In fistula in ano, it is an abnormal track that connects anal canal or rectum to the skin around the anus, followed an anorectal sepsis.<sup>[1]</sup> The vast majority of anal fistulas are secondary to infection of the anal gland which presents as perianal abscess that may spontaneously burst or inadequately drained.<sup>[2]</sup> Other cases of perianal fistula include inflammatory bowel disease, trauma, fungal or mycobacterium infection, and neoplasm.<sup>[3]</sup> It may also occur after internal sphincterotomy.<sup>[4]</sup>

Fistula can be classified according to its location in relation to anal sphincter muscle into four main groups,

intersphincteric, trans-sphincteric, suprasphincteric, and extrasphincteric. Again these four groups can be further subdivided according to the presence and course of any extension or secondary tracks.<sup>[5]</sup>

There are several surgical options for the treatment of perianal fistula and the best choice is determined by the anatomy of the fistula, fistulotomy is opening and unroofing of the fibrous portion of the tract, while fistulectomy is the excision of the tract or section may be used as drain placed through a fistula to maintain drainage and/or induce fibrosis. In fistulotomy, the tract must be laid open from its termination (external opening) to its source (internal opening), fistulectomy involves coring out of the fistula by either sharp dissection or diathermy cautery.<sup>[6]</sup> The major complication remains recurrence. Hence, the attempt was made to compare both methods to evaluate which method is more comfortable, early healing without recurrence.

## MATERIALS AND METHODS

Fifty-six patients who were regularly visiting to Pacific Institute of Medical Sciences (PIMS) Hospital, Umarda,

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Udaipur (Rajasthan), were studied for their fistulotomy and fistulectomy for comparative study.

## Methods

Twenty-eight patients were selected for fistulotomy and Group B 28 patients for fistulectomy. The clinical history, clinical examination including per rectal and proctoscopy examination were done. Routine blood examination, chest X-ray, before surgery, pus culture sensitivity, and fistulogram were done in every patient; computerized tomography scan and magnetic resonance imaging fistulogram were 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 before the operation and the rectum was evacuated with the aid of disposable enema.

- a. Technique of fistulectomy – Under spinal anesthesia, the patients was positioned in lithotomic position, inspection and identification of the site of external opening were performed and proctoscope was introduced for the detection of internal opening and the fistula tract. Hydrogen peroxide 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 the fistula tract (thick granulation tissue) to internal opening and classify the fistula according to Parks classification. Coring out the primary tract reduces the risk of missing secondary tracks, which were seen as transected granulation tissue, which may be followed by the same technique. Once the track had been cored out from the external opening, either with scissors or with cautery dissection, simple anatomical closure of the cored-out tunnel with mucosal closure of the defect with interrupted absorbable suture was performed. The wound outside the sphincters was tightly packed.
- b. Fistulotomy technique – It was performed under spinal anesthesia after positioning and probing of the fistula tract as in the fistulectomy. Probing not only provides the identification of the course of the fistula tracts but also facilitates fistulotomy over the probe, probing should be gentle; otherwise, it results in the creation of false route which further complicates the operative procedure. By the use of diathermy, the perianal skin and anal epithelium were divided. The internal sphincters if it was encountered were 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 tract can be safely opened, any bleeding from the edges should be secured by cautery and a gauze dressing was applied. The duration of time in both operations were recorded.

Post-operative care included antibiotic treatment and analgesia (nonsteroidal anti-inflammatory drugs [NSAID]). Observation of urine retention, post-operative bleeding, and intake of liquid food were resumed in the evening after the operation and for 2 days, and normal diet was continued; usually, the patients of both groups were discharged in a day or 2 days after surgery and asked for follow-up weekly for 8–10 weeks then once for 8–9 months at outpatient clinic. The post-operative pain, duration of stay in hospital, and time needed for healing postoperatively were compared in both A and B groups (A – Fistulotomy and B – Fistulectomy).

The duration of the study was about 2 years (October 2016–November 2018).

## Inclusion Criteria

The aged between 20 and 50 years with fistula in ano attending surgical outpatient department were included in the study.

## Exclusion Criteria

The patients having disease other than fistula in and like malignancy of rectum, irritable bowel disease, uncontrolled diabetes mellitus, patients having congestive cardiac failure, immunocompromised patients, the patients above 60 years of age were excluded from the study.

## Statistical Analysis

(a) History of perianal abscess, position of external openings, in both groups compared with percentage; (b) similarly, time of operation, duration of hospital stay, and duration of wound healing, pain scores at different hours, were classified and compared statistically with test value; and (c) moreover, post-surgical complications and measurements of continence recurrence in both groups were classified compared with percentage (software used for statistical analysis was 2007 SPSS). The ratio of male and female was 2:1.

## OBSERVATION AND RESULTS

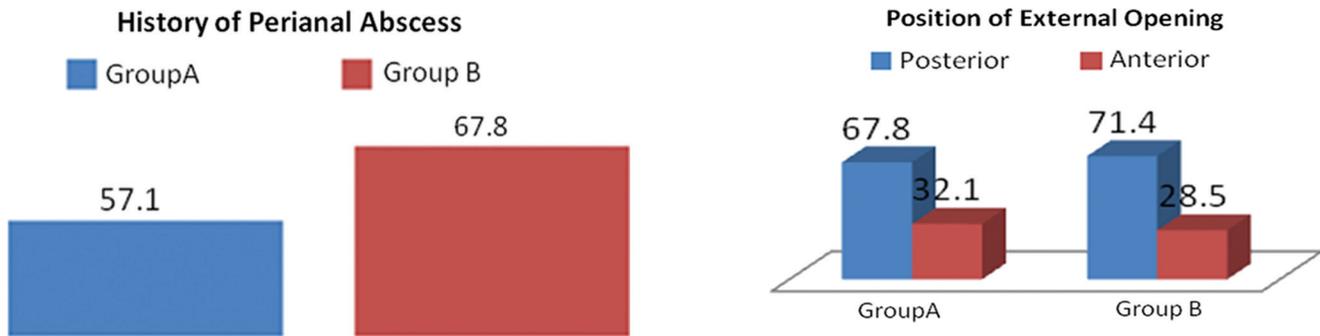
In Table 1, the study of position external opening and history of perianal abscess – In fistulotomy, 16 had perianal abscess and 19 (67.8%) in fistulectomy patients.

In fistulotomy patients, 19 (67.8%) had posterior external opening and 9 (32%) had anterior opening. In fistulectomy patients, 20 (71.4%) had posterior external opening and 8 (28.5%) had anterior external opening.

In Table 2, (1) comparison of various surgical parameters – In fistulotomy, mean value of operation timing was (minuets) 12.10 (SD±2.1) and 23.18

**Table 1: Study of the position of external opening and history of per anal abscess (total number of patients=56)**

Particulars	Fistulotomy (28 numbers)		Fistulectomy (28 numbers)	
	Group A (28 patients)	Percentage	Group B (28 patients)	Percentage
History of perianal abscess				
No	12	42.8	9	32.1
Yes	16	57.1	19	67.8
Position of external opening				
Posterior	19	67.8	20	71.4
Anterior	09	32.1	08	28.5



**Table 2: Comparison of various surgical parameters between fistulotomy and fistulectomy (total number of patients=56)**

Particulars	Group	Number	Mean value	"t" value	P-value
Operating timings (in min)	Fistulotomy	28	12.10 (SD±2.1)	14.88	P<0.01
	Fistulectomy	28	23.18 (SD±3.3)		
Stay at hospital post-surgically	Fistulotomy	28	1.70 (SD±0.6)	6.23	P<0.01
	Fistulectomy	28	2.62 (SD±0.5)		
Duration for healing wound (days)	Fistulotomy	28	25.18 (SD±2.8)	7.65	P<0.01
	Fistulectomy	28	32.48 (SD±4.2)		
Pain score at 6 h	Fistulotomy	28	6.22 (SD±0.70)	3.69	P<0.01
	Fistulectomy	28	7.13 (SD±1.1)		
Pain score at 24 h	Fistulotomy	28	5.10 (SD±0.86)	3.50	P<0.01
	Fistulectomy	28	6.00 (SD±0.5)		
Pain score at discharge	Fistulotomy	28	3.20 (SD±0.55)	4.86	P<0.01
	Fistulectomy	28	4.10 (SD±0.81)		

(SD±3.3) in fistulectomy and "t"-test was 14.88 and P value was highly significant (P < 0.01). (2) Stay at hospital post-surgically in fistulation patients was 1.70 (SD±0.6) 2.62 (SD±0.5), "t"-test value was 6.33 and P value was highly significant (P < 0.01). (3) Duration of healing wounds in fistulotomy patients mean value was (in days) 25.18 (SD±2.8) and mean value in fistulectomy was 32.48 (SD±4.2), "t"-test value was 7.65 and P value was highly significant (P < 0.01). (4) Pain score study at 6 h in fistulotomy patients mean value was 6.22 (SD±0.70) and 7.13 (SD±1.1) in fistulectomy patients, "t"-test value was 3.69 and P value was highly significant (P < 0.01). (5) Pain score at 24 h – Mean value in fistulotomy patients was 5.10 (SD±0.86) and 6.00 (SD±1.05) in fistulectomy patients, "t"-test value was 3.50 and P value was highly significant (P < 0.01). (6) Pain score at discharge – Mean value of fistulotomy patients was 3.20 (SD±0.55) and

4.10 (SD±0.81) in fistulectomy patients, "t"-test value was 4.86 and P value was highly significant (P < 0.01).

In Table 3, the study of post-operative complication – (1) In continence, 2 (7.14%) had gas and (2) recurrence was 1 (3.57%) in fistulotomy patients.

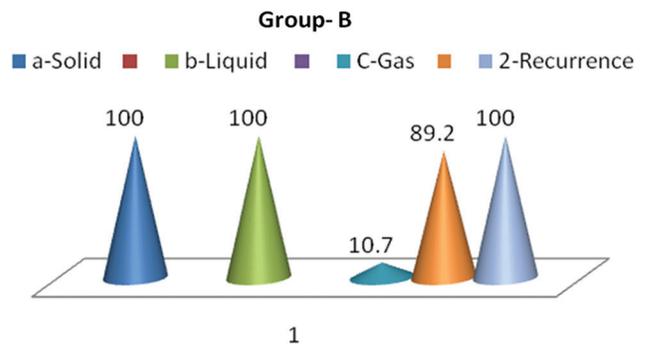
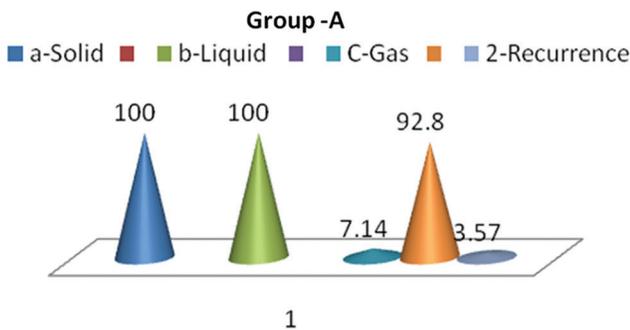
### DISCUSSION

In the present comparative study of fistulotomy and fistulectomy in low anal fistula,

- (a) History of perianal abscess was 16 (57%) in fistulotomy and 19 (67.8%) in fistulectomy patients
- (b) Position of external opening – 19 (67.8%) posterior and 19 (32%) anterior in fistulotomy patients; 20 (71.4%) posterior and 8 (28.5%) in anterior in

**Table 3: Study of post-operative complication**

Particulars in continence	Group A fistulotomy (28)	Percentage	Group B fistulectomy (28)	Percentage
Solid				
Yes	28	100	28	100
No	0		0	
Liquid				
Yes	28	100	28	100
No				
Gas				
Yes	2	7.14	03	10.7
No	26	92.8	25	89.2
Recurrence				
Yes	1	3.57	00	
No	27	96.4	28	100



fistulectomy patients [Table 1]. In the comparison of various parameters between fistulotomy and fistulectomy patients.

(1) The mean value of operating time in fistulotomy was 12.10 (SD±2.1) min and 23.18 (SD±3.3) in fistulectomy and “t”-test was 14.88 and P value was highly significant (P < 0.01). (2) Stay at hospital post-surgically in fistulotomy patients was 1.70 (SD±0.6) and 2.62 (SD±0.5) in fistulectomy patients, “t”-test value was 6.33 and P value was highly significant (P < 0.01). (3) Duration of healing wounds in fistulotomy patients mean value was (in days) 25.18 (SD±2.8) and mean value in fistulectomy was 32.48 (SD±4.2), “t”-test value was 7.65 and P value was highly significant (P < 0.01). (4) Pain score study at 6 h in fistulotomy patients mean value was 6.22 (SD±0.70) and 7.13 (SD±1.1) in fistulectomy patients, “t”-test value was 3.69 and P value was highly significant (P < 0.01). (5) Pain score 24 h – Mean value in fistulotomy patients was 5.10 (SD±0.86) and 6.00 (SD±1.05) in fistulectomy patients, “t”-test value was 3.50 and P value was highly significant (P < 0.01). (6) Pain score at discharge – Mean value of fistulotomy patients was 3.20 (SD±0.55) and 4.10 (SD±0.81) in fistulectomy patients, “t”-test value was 4.86 and P value was highly significant (P < 0.01) [Table 2]. In the study of pre-operative complication, (a) in continence was gas 2 (7.14%) in fistulotomy and 3 (10.7%) in fistulectomy patients and (b) recurrence was 1 (3.57%)

in fistulotomy patients [Table 3]. These findings were more or less in agreement with the previous studies.<sup>[7-9]</sup>

It was reported that pre-operative radiological imaging reports were improper as given by inexperienced radiologist which has made to make out individual factors and lead to delay in healing rates<sup>[10]</sup> and recurrence and in countenance.<sup>[11]</sup>

Both groups were treated with proper antibiotics as per culture and sensitive report of pus and NSAID drugs were given to combat the pain and regular dressing, and hygiene of patients was also carried out irregular dressing, and unhygienic patients lead to delay in healing of wound and increase the stay at hospital,<sup>[12]</sup> which may cause financial burden and nosocomial infection too.

### SUMMARY AND CONCLUSION

The present comparative study, it was realized that fistulotomy is a simple easy and effective method for treating low anal fistulas, as it has shorter operating timeless post-operative pain and early healing of wound with least recurrence and incontinence as compared to fistulectomy. This study further demands pathophysiological mycological nutritional genetic and molecular level study because exact pathogenesis of perianal abscess is still unclear.

This research paper was approved by Ethical committee of Pacific Institute of Medical Science (PIMS) Umarda Tahsil Girva-313015 Udaipur (Rajasthan).

## REFERENCES

1. Henrichsen S, Christiansen J. Incidence of fistula-in-ano complicating anorectal sepsis: A prospective study. *Br J Surg* 1986;73:371-2.
2. Farquharson M, Moran B. *Forquharsons text book of operative general surgery*. 9th ed., Vol. 23. Basingstoke UK: Edward Arnold; 2005. p. 445-8.
3. Fazio VW, James MC. *Current Therapy in Colon and Rectal Surgery*. 2nd ed. USA: Elsevier, Mosby; 2005. p. 27-34.
4. El-sebal OI, El-Sisy AA, Amar MS. Comparative study between internal sphincterotomy and sentinel pile anal fissure. *Manual Med J* 2014;27:419-22.
5. Lummis PJ, Philips RK. Specialist surgical practice. Colorectal surgery. In: *Anal Fistula: Evaluation and Management*. 5th ed., Vol. 14th. London UK: Hospital and academic institute, Elsevier; 2014. p. 215-7.
6. Sheikh IA, Shekh I, Hanifi MS. Fistulotomy vs fistulectomy in the treatment of simple low anal fistula of male patients. *Pak Armed Forces Med J* 2015;65:798-802.
7. Kirk RM. *General Surgical Operations*. 4th ed. Edinburgh: Churchill Livingstone; 2000. p. 361-3.
8. Degue CK, Desouza SM. Fecal incontinence as consequence of ano rectal surgeries and the physiotherapeutic approach. *J Colo Proctol* 2011;31:248-56.
9. Kronborg O. To lay open or excise a fistula-in-ano: A randomized trial. *Br J Surg* 1985;72:970.
10. Buchanan GN, Bartram CI, Phillips RK, Gould SW, Halligan S, Rockall TA, *et al*. Efficacy of fibrin sealant in the management of complex anal fistula: A prospective trial. *Dis Colon Rectum* 2003;46:1167-74.
11. Common ML. Anal fistula. In: *Colon and Rectal Surgery*. 5th ed., Vol. 11. Philadelphia, PA: Lippincott W and Wilkins; 2005. p. 295-329.
12. Kamal ZB. Fistulotomy versus fistulectomy as a primary treatment of low fistula in ano. *Iraqi Postgrad Med* 2012;11:510-5.

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