

## A Comparison of Management of Low Anal Fistula by Fistulotomy and Fistulectomy

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### Abstract

**Objective:** The purpose of this study was to compare the operating time, length of hospital stay, time needed for wound healing, postoperative complications (urinary retention, bleeding, infection, incontinence), and recurrence rate between fistulotomy and fistulectomy, the two procedures used to treat low anal fistulae.

**Methodology:** From September 2021 to March 2022, patients who underwent surgery at a tertiary care facility were compared retrospectively. 40 patients were examined and equally split into Group 1, who underwent a fistulotomy, and Group 2, who underwent a fistulectomy.

**Results:** The outcomes for the two groups were contrasted. Since fistulotomy takes less time to perform, requires less post-operative hospital time, and heals wounds more quickly than fistulectomy, it is preferable for treating low anal fistulas. However, the frequency of problems and recurrences.

**Keywords:** Fistulotomy, Fistulectomy, Low anal fistula.

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### Introduction

A track made of granulation tissue that connects the anal canal, anorectum, or rectum profoundly to the perianal skin is known as a fistula-in-ano. It typically happens in an anorectal abscess that has already formed and spontaneously erupted [1].

Most anal fistulas develop as a result of an infection of the anal gland, which manifests as a perianal abscess that may spontaneously rupture or be improperly drained. Anal fistula may be related to a variety of medical conditions, including cancer, Crohn's disease, and TB [2].

A watery or purulent discharge and recurring pain attacks are the most typical symptoms. Pain gradually worsens till pus discharge provides momentary relief. Additionally, one or more external openings and induration of the surrounding skin may be present, in addition to skin irritation and irritated skin.

Often, it may heal on the surface, but underneath, pus may gather and create an abscess that recurs through the original or a new incision. Each side's ischioanal fossa frequently connect with one another behind

the anus, resulting in a horseshoe fistula [3-6].

The primary guideline for treating low anal fistula is to do so without impairing anal continence. Fistulotomy or fistulectomy are two options for treating low fistulas. The tract is lay open during a fistulotomy, treated, and then left to heal with secondary aim. In a fistulectomy, the entire fistulous tract is removed (either by diathermy or by knife), and it is then given secondary intention to heal.

The study was undertaken to compare both Fistulotomy and fistulectomy for low anal fistula.

### Methodology

The current investigation was conducted retrospectively with 40 patients at Department of Surgery, Pacific institute of medical sciences, Udaipur.

### Inclusion Standards

1. Both male and female patients between the ages of 20 and 50.
2. Patients have a straightforward low anal fistula.

### Exclusion Standards

1. One-time fistula
2. Complicated fistula
3. A high anastomosis
4. Patients who have had anorectal surgery in the past
5. Individuals who have fistula because of conditions like Crohn's disease
6. Patients receiving chemotherapy for cancer.
7. Patients receiving immunosuppressive treatment.
8. Age range of 20 to 50.
9. Women in pregnancy.

### Variables under study

1. Operative time
2. Hospital stay following surgery
3. Healing time for wounds

4. Difficulties bleeding during surgery  
Retention of urine after surgery, infection, and incontinence
5. Rate of recurrence

Under spinal anaesthetic and while in the lithotomy position, all cases were operated on. In order to clear the surgical field, a preoperative enema was administered, and the perineal and perianal regions were shaved.

With 10% povidone-iodine, the perineal and perianal region was thoroughly cleansed. To view the anal canal and rule out any additional anal pathology, proctoscopy was performed. A fistula probe was used to probe from the exterior opening in order to only find the external opening. In order to prevent the construction of any false passages, further probing up to the internal opening was avoided. In order to identify the internal entrance and make the fistula tract visible, methylene blue dye was administered through the exterior orifice.

**Fistulotomy:** The tract was completely lay open, and the mucosa and granulation tissue bordering the track were removed using curettage.

**Fistulectomy:** The fistula track and holes were identified. Following that, a 5 Fr nasogastric tube was inserted. The entire tract was then removed using a knife or diathermy. After achieving hemostasis, the removed track was sent for histopathological analysis.

Following surgery, the patients received local lignocaine jelly, oral analgesics (diclofenac sodium) and antibiotics (Augmentin and Metronidazole). A laxative liquid was also provided for them to drink before bed beginning the day after the procedure. Daily sitz baths were given to the patients beginning on the first post-operative day.

Hospital stays, recuperation times, and operating times were noted. When the pain was under control and there was no sign of an immediate postoperative problem, the patient

was released from the hospital with instructions for regular dressing.

Patients were monitored for postoperative infection, postoperative discomfort, and faecal incontinence in the surgery OPD on a biweekly basis until the incision healed completely. For six months, there was a monthly check for signs of recurrence.

To reach the conclusion, the results were collated and the proper statistical tests were run.

### Statistical Techniques

The descriptive statistics employed were the mean and standard deviation. The chi-square test and the paired t test were employed for inferential statistics.

Statistical significance was defined as a P-value of 0.05 or lower.

### Results

Group 1 was fistulotomy = 20 cases

Group 2 Fistulectomy = 20 cases

Out of 40, 28 were males and 12 were female patients.

There was history of perianal abscess in 12 (60%) patients of Group 1 and 8 (40 %) patients of group 2. In all 25 (%) out of 40 patients had previous history of perianal abscess. 23(57 %) patients had external position of opening in posterior side and rest 17 (43%) with anterior. There was no significant difference between both groups (p=0.426).

**Table 1: Position of external opening and history of perianal abscess.**

S.N.		Group 1 (Fistulotomy) (N=20)				Group 2 (Fistulectomy) (N=20)			
		YES		NO		YES		NO	
		No.	%	No.	%	No.	%	No.	%
1	H/O perianal abscess	12	60	8	40	13	65	7	35
		Posterior		Anterior		Posterior		Anterior	
		No.	%	No.	%	No.	%	No.	%
2	Position of external opening	11	55	9	45	12	60	8	40

History of perineal abscess was in 60 % in Group 1 and 65 % in Group 2. (table 1)

Fistulotomy group is Group 1 where position of external opening was posterior in 55 percent patients and 45 % in anterior position. Posterior position of external opening was in 60% patients and anterior in 40 % patients in group 2

**Table 2: Different variables in both Group 1 and Group 2**

S. N.	Variables	Group 1 (Fistulotomy) (N=20)	Group 2 (Fistulectomy) (N=20)	p-value
		Mean $\pm$ SD	Mean $\pm$ SD	
1	Operating time	13.12 $\pm$ 1.23	24.3 $\pm$ 3.1	<0.0001
2	Post surgery hospital stay (Days)	3.5 $\pm$ 1.4	5 $\pm$ 2.0	0.0091
3	Wound healing time (days)	24 $\pm$ 3.4	35 $\pm$ 3.8	<0.0001

Group 1 operating time was 13.12 minutes and in Group 2 was 24.3 minutes. The results showed that operative time for Fistulectomy group was longer than the Fistulotomy group. (Table 2)

The difference between 2 groups was statistically significant (p value <0.0001). The post-surgery hospital stays in Group1 was 3.5  $\pm$  1.4 days and in Group 2 was 5.0  $\pm$  2.0 days. The difference was statistically significant (p value < 0.0091). The wound healing time in Group 1 was 24  $\pm$  3.4 days

which was considerably less when compared to patients in Group 2 where it was  $35 \pm 3.8$  days. The difference between two groups was highly statistically significant was  $<0.0001$ . (Table 2)

**Table 3: Showing intra operating complications in group 1 and group 2**

S.N.	Intra operative complications		Group 1 (Fistulotomy) (N=20)		Group 2 (Fistulectomy) (N=20)	
			Number	Percent (%)	Number	Percent (%)
1	Bleeding	YES	2	10	3	15
		NO	18	90	17	85
2	Urinary retention	YES	2	10	3	15
		NO	18	90	17	85
3	Infection	YES	1	05	3	15
		No	19	95	17	85
4	Incontinence	YES	0	0	1	5
		NO	20	100	19	95

In both groups, urinary retention, bleeding, and infection were the most frequent side effects. Urinary retention affected 2 (10%) of the patients in Group 1 and 3 (15 %) of the patients in Group 2. This distinction lacked statistical significance (p value 0.706) In Group 1, there was no bleeding, while in Group 2, 3 (15 %) patients experienced bleeding. With a p value of 0.492, this difference was not statistically significant. Only one patient (5 %) out of the 20 patients in Group 1 experienced a wound infection, compared to three (15%) patients in Group 2.

The degree of incontinence was evaluated in relation to solids, liquids, and gases. In neither group was there any incontinence to liquid, gas, or solid stools. None of the patients in Group 1 experienced liquid incontinence, whereas one of the patients in Group 2 did.

**Table 4: Shows rate of recurrence.**

S.N.	Recurrence	Group 1 (Fistulotomy) (N=20)		Group 2 (Fistulectomy)(N=20)	
		Number	Percentage	Number	Percentage
1	Yes	1	4	0	0
2	No	19	96	20	100

For eight months, all of the patients were monitored. Group 1 had a 4% recurrence rate (n=1) while Group 2 had no recurrences at all. (Table 4)

### Discussion

A major issue in the surgical area is anal fistula, and there are numerous treatments available to address the issue. The two methods of fistulectomy and fistulotomy, which are frequently employed to treat low-lying, straightforward anal fistulas, have been the subject of this study.

The surgical procedure with the lowest recurrence rates, the least amount of

incontinence, and, ultimately, the best quality of life is the one that should be used to treat any anorectal fistulae. According to the current study, where 76% of the patients were men, fistula-in-ano appears to be a disease that primarily affects men. Additionally, the primary complaint was typically discharge from an external opening accompanied by skin itching in the vicinity.

When the results of the two groups were compared, the fistulotomy group's mean operating time was much lower. The time required for surgery is typically increased by the requirement for thorough dissection during fistulectomy and resolute attention to

obtaining full hemostasis. In the fistulotomy group, hospital stays are also shorter, most likely as a result of decreased post-operative discomfort and smaller wounds.

The resultant wound from a fistulotomy is tiny since the tract is just divided across a probe rather than totally removed, and this investigation supports that notion. In a research by Kronberg *et al.* colleagues, fistulotomy wounds healed more quickly than fistulectomy wounds by at least one week in low anal fistulas [4,7,8].

Due to the surgery involved, the fistulectomy group experienced more intraoperative bleeding complications; nevertheless, bleeding in both groups could be easily controlled with cauterization and pressure packing. There was no discernible difference in the occurrence of post-operative complications between the two groups. The complications from spinal anaesthesia led to urinary retention. Nothing negative came out of this complication. Following surgery, infection was modest in both groups, had little slough, and was easily managed by daily dressing and antibiotic use.

Trans-sphincteric pathways and the degree of external sphincter involvement were reported by Cavanaugh and colleagues to be risk factors for postoperative incontinence following fistulotomy in a research including 110 individuals.

In the study by Kronberg *et al.*, the incidence of incontinence was 3.8% (1/26) in the fistulotomy group and 14.28% (3/21) in the fistulectomy group. Khubchandani *et al.* reported comparable findings in favour of fistulotomy [(9,4,11)].

In Only one patient in the fistulectomy group experienced incontinence to gas without any negative significant effects. According to the Birmingham results evaluated by Shouler *et al.*, just ten of the 96 patients who underwent fistulotomies reported soiling, and only one patient reported having transitory flatus

incontinence. The incidence of incontinence in the fistulotomy group in the study by Kronberg *et al.* was 3.8 % whereas in fistulectomy group it was 14.28% [8,4].

Since the rate of recurrence was monitored for 6 months after the first diagnosis, little can be said about how the two techniques differ in terms of the criteria. In contrast, there was only one case of recurrence in the fistulotomy group and none in the fistulectomy group in the current study.

In 96 out of 115 patients who underwent fistulotomy for low anal fistulas, Shouler *et al.* found 7 recurrences (8%). 9 Khubchandani *et al.* reported a recurrence rate of 5.8% (4/68 cases) in the fistulectomy group, Vasilevsky and Gordon *et al.* reported a recurrence rate of 6.3% (10/160), and Kronberg *et al.* reported a recurrence rate of 9% [5,10,11].

## Conclusion

Both procedures are simple to carry out, have high healing success rates, and will only divide a small piece of the external anal sphincter.

Fistulotomy, however, has a modest advantage over fistulectomy in the treatment of low anal fistulas due to its speedier wound healing, less incontinence, shorter operating time, and equivalent recurrence rate.

**Ethical approval:** The study was approved by the institutional ethics committee

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