

# Comparison of the Outcome of Fistulectomy Versus Fistulotomy in Treatment of Fistula in Ano

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## ABSTRACT

**Aim:** To compare the outcome of fistulectomy versus fistulotomy in treatment of fistula in ano.

**Study design:** Randomized Controlled Trial

**Setting and duration:** Department of General Surgery, CMH, Lahore from March 2019 to September 2019.

**Methodology:** Through the outpatient department of the general surgery unit at the Combined Military Hospital in Lahore, a total of 112 patients who met the selection criteria were invited to participate in the study. After that, each of the patients was assigned a number and placed into one of two groups. In the group A patients, a fistulectomy was performed. Fistulotomy was performed on members of group B. Each and every operation was performed under spinal anaesthetic. The number of minutes required for the operation was tallied beginning with the incision and continuing through the wound dressing. After surgery, patients were moved to the surgical ward to recover and get follow-up care for a period of twenty-four hours. After that, patients were monitored for a total of four weeks after their operations. It was determined how many days the wound would take to heal in total. SPSS was utilized in order to perform the data analysis.

**Results:** In the fistulectomy group, the mean surgical time was 33.00 minutes with a standard deviation of 4.31 minutes, whereas in the fistulotomy group, the mean operative time was 19.55 minutes with a standard deviation of 2.87 minutes. In the fistulectomy group, the average length of time needed for healing was 31.84 4.67 days, whereas in the fistulotomy group, the average length of time needed for healing was 20.63 4.95 days.

**Conclusion:** Fistulotomy is a therapeutic option that is both straightforward and successful for treating simple perianal fistulas.

**Keywords:** Fistulectomy, fistulotomy, fistula in ano, operative time, duration of healing

## INTRODUCTION

Fistula in ano is a typical complication that arises during surgical procedures. It is a channel lined by granulation tissue that links superficially to the skin around the anus and more deeply to the anal canal or rectum<sup>1</sup>. Infection in the anal crypts of Morgagni is the root cause of an anal fistula. This infection causes the creation of an abscess, which, once drained, results in a tract that leads to the surface of the skin. Anal fistula is a common condition, with a peak frequency between the ages of 30 and 50 years old. It occurs at a rate of approximately 2 cases per 10,000 people in the community each year<sup>2,3</sup>.

The permanent elimination of the suppurative process caused by a perianal fistula is the objective of surgical treatment for the condition, and this must be accomplished without jeopardizing continence. There are a few different surgical methods available for the treatment of perianal fistula, and the one that is most appropriate for the patient is determined by the anatomy of the fistula: Fistulotomy refers to the opening and deroofting of the fibrous component of the tract, whereas fistulectomy refers to the complete removal of the tract<sup>6</sup>.

Fistulotomy is known to produce better results than fistulectomy since it markedly decreased the duration of wound healing and the duration of surgery without increasing the frequency of recurrence, incontinence, or postoperative pain. This is due to the fact that it greatly decreased the duration of surgery<sup>4,5</sup>. When performed for fistula-in-ano, fistulectomy carries a greater risk of developing complications. During any of the surgical procedures, there was no anal incontinence while the patients were in secure hands. Therefore, a low fistula-in-ano fistulotomy is the superior surgical approach in the case of an uncomplicated fistula<sup>3,5</sup>.

One trial found that the operative time was significantly less with fistulotomy than fistulectomy (19.33±3.72 vs. 40.67±3.72min, p<0.001) and duration of healing was also significantly less with

fistulotomy than fistulectomy (4.07±0.96 vs. 6.47±1.19weeks, p<0.001)<sup>8</sup>. But another trial found that the operative time was 28.4±6.7minutes with fistulectomy and 29.2±8.4minutes with fistulotomy (p=0.123) and pain was also 4.2 with fistulectomy while 4.8 with fistulotomy (p=0.089) but duration of healing was significantly less with fistulotomy than fistulectomy (28.6±16.3days vs. 36.4±12.8days, p=0.002)<sup>7</sup>.

Due to the contradictory therapeutic data and difficulties associated with two treatments, we are unable to determine which procedure should be considered the standard of care. Because of this, we have chosen to carry out a study to support the literature supporting its efficacy in our particular setting.

## MATERIAL AND METHOD

This study was conducted on 112 patients in Department of Surgery CMH, Lahore in 6 months' duration from March 2019 to September 2019. It was a cross sectional study by design and patient selection was Non-probability, consecutive sampling. Sample size of 112 cases; 56 cases in each group is calculated with 95% confidence level, 80% power of test and taking magnitude of mean duration of healing i.e. 36.4±12.8days<sup>7</sup> with fistulectomy and 28.6±16.3days<sup>2</sup> with fistulotomy for treatment of fistula in ano. Patients of age range 20-70 years of either gender presenting with fistula in Ano were included. Patients with recurrent fistula, comorbidities like anal fissure, hemorrhoids, chronic colitis and colon malignancy were excluded.

Following receipt of approval from the hospital's ethical committee, 112 patients who met the requirements for participation in the study were enrolled in it through the outpatient clinic of the Department of Surgery at the CMH in Lahore. Consent after receiving information was obtained. We also took note of demographic information such as age, gender, and the length of time the symptoms had been present. The patients were then selected at random and divided into two groups of equal size using the lottery method. In the group A patients, a fistulectomy was performed. Fistulotomy was performed on members of group B. Under spinal anesthesia, a single senior surgeon with at least four

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years of experience in residency performed all of group A's surgeries. This surgeon was assisted by a researcher throughout the process. The length of the procedure was measured from the moment the incision was made until the wound was dressed. After surgery, patients were moved to the surgical ward to recover and get follow-up care for a period of twenty-four hours. After that, patients were monitored for a postoperative period of four weeks. It was determined how many days the wound would take to heal in total. On a proforma, each and every one of these details was documented.

SPSS Version 20.0 was utilized in order to perform the data analysis. For each quantitative variable, the mean and standard deviation were provided. In the case of qualitative characteristics, frequency and percentage were provided. A t-test based on independent samples was used to make the comparison between the two groups in terms of mean operative time and duration of healing. A p-value of less than 0.05 was considered to be significant. After making adjustments for a number of different effect modifiers, the data were put through an independent sample t-test after being stratified.

**RESULTS**

In fistulectomy group, the mean age of patients was 44.13±13.29years. In fistulotomy group, the mean age of patients was 48.20±13.35 years (Table 1). In fistulectomy group, there were 38 (67.9%) males and 18(32.1%) females. In fistulotomy group, there were 41(73.2%) males and 15(26.8%) females (Table 2). In fistulectomy group, the mean BMI of patients was 21.72±3.10kg/m<sup>2</sup>. In fistulotomy group, the mean BMI of patients was 32.36±3.10kg/m<sup>2</sup> (Table 3). In fistulectomy group, the mean duration of symptoms was 3.27±1.43years. In fistulotomy group, the mean duration of symptoms was 3.18±1.50years (Table 4). In fistulectomy group, the mean operative time was 33.00±4.31min. In fistulotomy group, the mean operative time was 19.55±2.87min. The difference was significant (p<0.05) (Table 5). In fistulectomy group, the mean duration of healing was 31.84±4.67days. In fistulotomy group, the mean duration of healing was 20.63±4.95 days. The difference was significant (p<0.05) (Table 6).

Table 1: Descriptive statistics of age of patients

Age in years	Group	
	Fistulectomy	Fistulotomy
N	56	56
Mean	44.13	48.20
SD	13.29	13.35
Minimum	20	22
Maximum	67	70

Table 2: Distribution of gender of patients

Gender	Group		Total
	Fistulectomy	Fistulotomy	
Male	38(67.9%)	41(73.2%)	79(70.5%)
Female	18(32.1%)	15(26.8%)	33(29.5%)
Total	56(100%)	56(100%)	112(100%)

Table 3: Descriptive statistics of BMI of patients

BMI (kg/m <sup>2</sup> )	Group	
	Fistulectomy	Fistulotomy
N	56	56
Mean	21.72	32.36
SD	3.10	3.10
Minimum	16.50	27.13
Maximum	26.94	37.58

Table 4: Descriptive statistics of duration of symptoms

Duration (years)	Group	
	Fistulectomy	Fistulotomy
N	56	56
Mean	3.27	3.18
SD	1.43	1.50
Minimum	1	1
Maximum	5	5

Table 5: Comparison of operative time in both groups

Operative time (min)	Group	
	Fistulectomy	Fistulotomy
N	56	56
Mean	33.00	19.55
SD	4.31	2.87
Minimum	25	15
Maximum	40	25

Independent Samples t-Test = 19.425 P-value = 0.000 (Significant)

Table 6: Comparison of duration of healing in both groups

Duration of healing (days)	Group	
	Fistulectomy	Fistulotomy
N	56	56
Mean	31.84	20.63
SD	4.67	4.95
Minimum	25	15
Maximum	40	30

Independent Samples t-Test = 12.338 P-value = 0.000 (Significant)

**DISCUSSION**

The condition known as fistula in ano is notable for the numerous exacerbations, recurrences, and chronic nature of which it is afflicted. An anorectal abscess is a severe inflammatory process that frequently appears as the first symptom of an underlying anal fistula. It is also the chronic condition that develops when an abscess does not drain properly and causes an accumulation of pus<sup>9</sup>.

About 90 percent of cases can be traced back to infection in the anal glands. Fifty percent of patients will have complete remission of the infection after incision and drainage of the abscess cavity, whereas the other fifty percent will develop an anal fistula<sup>10</sup>.

Patients who present with a visible fistula typically had a history of either a self-draining abscess or one that required surgical drainage. Various surgical procedures are discussed in published works..<sup>11</sup>When a fistula is present, the patient almost always has a history of an abscess that either healed on its own or required surgical drainage to be treated. The works that have been published cover a wide range of surgical techniques and procedures<sup>5</sup>.

In our study, the mean operative time was 33.00±4.31min in fistulectomy group and 19.55±2.87min in fistulotomy group (p<0.05). The mean duration of healing was 31.84±4.67days in fistulectomy group and 20.63±4.95 days in fistulotomy group (p<0.05).

Elsabei et al., conducted a trial to compare fistulectomy and fistulotomy and found that the operative time was significantly less with fistulotomy than fistulectomy (19.33±3.72 vs. 40.67±3.72min, p<0.001) and duration of healing was also significantly less with fistulotomy than fistulectomy (4.07±0.96 vs. 6.47±1.19weeks, p<0.001)<sup>8</sup>.

Chalya et al., conducted another trial and found that the operative time was 28.4±6.7minutes with fistulectomy and 29.2±8.4minutes with fistulotomy (p=0.123) and pain was also 4.2 with fistulectomy while 4.8 with fistulotomy (p=0.089) but duration of healing was significantly less with fistulotomy than fistulectomy (28.6±16.3days vs. 36.4±12.8days, p=0.002)<sup>7</sup>.

Patients with fistulas almost invariably had a prior history of an abscess that either resolved on its own or was treated by surgical drainage. All kinds of surgical methods and procedures are represented in the published literature. In 2012, Kumar Jain et al. conducted another randomized controlled research and found that fistulotomy led to much faster wound healing than fistulectomy did (4.851.39 weeks vs. 6.751.83weeks). However, during the 12-week follow-up, there was no statistically significant difference in wound size, post-operative pain score, incontinence, or changes in lifestyle<sup>11</sup>.

Kalim et al found that fistulotomy was more effective than fistulectomy for the management of low fistula in ano, despite the

fact that the mean period of healing was significantly longer with fistulotomy than with fistulectomy (52.89 vs. 41.53 days,  $p=0.0002$ )<sup>12</sup>.

The total number of patients that participated in Kronborg's study was 47. In contrast to the fistulectomy group, where the average recovery period was 41 days (range: 26-116 days), the fistulotomy group recovered in just 34 days (range: 7-85 days)<sup>13</sup>.

This is consistent with Kamal's study of 76 patients, in which the fistulotomy group had a shorter mean healing time of 26.38 days (range: 21-36 days) than the fistulectomy group did, at 38.64 days (range: 32-46 days). Patients who had undergone a fistulotomy were included in Kamal's study<sup>14</sup>.

Nazeer et al observed that the mean healing period for fistulotomy was 28 days and for fistulectomy it was 40 days in a research including 150 patients. This suggests that patients who underwent fistulotomy recovered more quickly than those who underwent fistulectomy<sup>15</sup>.

Due to the contradictory therapeutic data and difficulties associated with two treatments, we were unable to determine which procedure should be considered the standard of care. Because of this, we have chosen to carry out a study to support the literature supporting its efficacy in our particular setting.

## CONCLUSION

In cases with perianal fistula that are not overly difficult, fistulotomy is recommended over fistulectomy because it requires less time in the operating room and promotes quicker wound healing.

**Conflict of interest:** Nothing to declare

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