



COMPARATIVE STUDY OF FISTULOTOMY VS FISTULECTOMY IN THE MANAGEMENT OF FISTULA-IN-ANO

General Surgery

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ABSTRACT

Background: Fistula-in-ano is a common anorectal condition, with surgical intervention being the mainstay of treatment. Fistulotomy and fistulectomy are two widely practiced procedures, but there remains debate regarding their comparative effectiveness and safety in managing low anal fistulas. **Objectives:** To compare the clinical outcomes of fistulotomy versus fistulectomy in patients with low anal fistula in terms of operative time, wound healing, hospital stay, complications, and recurrence. **Methods:** This prospective comparative study was conducted at RKDF Medical College Hospital and Research Centre, Bhopal, from April 2023 to September 2024. A total of 72 patients with low anal fistula were randomly divided into two groups: Group I (fistulotomy) and Group II (fistulectomy), with 36 patients in each group. Clinical parameters including operative time, postoperative pain, bleeding, infection, healing time, hospital stay, recurrence, and incontinence were evaluated and statistically analyzed. **Results:** Fistulotomy was associated with significantly shorter operative time ($p=0.0000104$), reduced hospital stay ($p=0.000000311$), and faster wound healing ($p=0.000000146$). Postoperative bleeding occurred only in the fistulectomy group ($p=0.039$). No cases of infection or incontinence were reported in either group. The difference in pain and recurrence rates between the groups was not statistically significant. **Conclusion:** Fistulotomy offers better clinical outcomes in the treatment of low anal fistula compared to fistulectomy, with reduced morbidity and comparable recurrence and continence rates. It may be considered the procedure of choice in uncomplicated cases.

KEYWORDS

Fistula-in-ano, Fistulotomy, Fistulectomy, Low anal fistula, Surgical outcomes

INTRODUCTION

Fistula-in-ano is a common anorectal disorder resulting from chronic infection in the anal glands, leading to the formation of an abnormal tract between the anal canal and the perianal skin. It is often preceded by an anal abscess that fails to heal properly, resulting in persistent discharge and discomfort for the patient^[1]. The primary aim of treatment is to eliminate the tract, prevent recurrence, and preserve continence.

Two frequently used surgical options in the management of simple fistula-in-ano are fistulotomy and fistulectomy. Fistulotomy involves laying open the tract to heal by secondary intention, while fistulectomy entails complete excision of the tract with surrounding tissue^[2]. Each technique has its own benefits and potential drawbacks. Fistulotomy is generally considered simpler and is associated with quicker healing and less postoperative pain^[3], whereas fistulectomy may allow for a more complete removal of the diseased tract, possibly reducing the recurrence rate^[4].

The choice between these two techniques often depends on the surgeon's experience and the nature of the fistula. Studies have shown that fistulotomy tends to have a shorter operative time and better postoperative comfort, while fistulectomy may involve more tissue loss and longer healing but potentially more definitive results^{[5][6]}.

Preservation of continence is a critical concern, especially when the fistula tract is close to the sphincter muscles. Both procedures carry a small but significant risk of sphincter injury, which can result in varying degrees of fecal incontinence^[7]. Furthermore, recurrence remains a concern, and literature reports varying rates depending on the type of procedure and patient-specific factors^[8].

Some studies suggest that fistulotomy has a slightly lower rate of recurrence and fewer complications in simple low-lying fistulas, making it a preferred method in such cases^[9]. Conversely, fistulectomy may be beneficial in patients with more fibrotic or branching tracts where simple laying open may not be sufficient^[10].

Given the differing opinions and reported outcomes, this study aims to conduct a comparative analysis of fistulotomy and fistulectomy in terms of operative time, healing duration, postoperative pain, complications, and recurrence, thereby contributing to clearer clinical decision-making in the surgical management of fistula-in-ano.

MATERIALS AND METHODS

This prospective comparative study was conducted in the Department of General Surgery, RKDF Medical College Hospital and Research Centre, Bhopal, over a period of 18 months, from April 2023 to September 2024. A total of 72 patients diagnosed with low anal fistula were included after obtaining institutional ethical clearance and informed written consent.

Study Population and Design

Patients aged between 13 and 75 years with clinically and radiologically confirmed low or superficial anal fistula were included. Patients were randomly selected and divided into two groups:

- Group I (Fistulotomy) – 36 patients
- Group II (Fistulectomy) – 36 patients

Inclusion Criteria

- Patients aged >13 and <75 years
- Low anal fistula confirmed clinically and radiologically
- Willingness to provide informed consent

Exclusion Criteria

- High or complex fistulas (e.g., due to IBD, TB, HIV, radiation)
- Severe comorbidities or contraindication to anesthesia
- Pediatric patients (<12 years)

Data Collection

A structured proforma was used to document patient history, clinical findings, relevant investigations, and surgical outcomes. Preoperative evaluation included laboratory and imaging studies.

Parameters Assessed

- **Operative Time:** From dye injection to start of postoperative dressing
- **Pain Severity:** Measured using Visual Analogue Scale (VAS) on postoperative days 1, 3, and 7
- **Healing Time**
- **Postoperative Complications**
- **Recurrence**

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using SPSS trial version. Quantitative variables were expressed as mean $\pm$ SD and analyzed using Student's t-test. Categorical data were assessed using the Chi-square test. A p-value < 0.05 was considered statistically significant.

RESULTS:**Table – 1 Demographic Distribution of Study Population**

Variable	Category	Fistulotomy n (%)	Fistulectomy n (%)	Total n (%)
Gender	Male	21 (58.34%)	19 (52.78%)	40 (55.5%)
	Female	15 (41.66%)	17 (47.22%)	32 (44.4%)
Age (years)	< 20	01 (2.7%)	01 (2.7%)	02 (2.7%)
	20–30	04 (11.1%)	08 (22.2%)	12 (16.7%)
	31–40	12 (33.4%)	10 (27.8%)	22 (30.6%)
	41–50	10 (27.8%)	12 (33.4%)	22 (30.6%)
	51–60	06 (16.7%)	02 (5.6%)	08 (11.1%)
	> 60	03 (8.3%)	03 (8.3%)	06 (8.3%)
Total		36 (100%)	36 (100%)	72 (100%)

Table-2 Comparative Clinical Outcomes of Fistulotomy vs Fistulectomy (N=72)

Parameter	Category	Fistulotomy n (%)	Fistulectomy n (%)	P-value
Operating Time (minutes)	10–20	07 (19.4%)	00 (0.0%)	0.0000104
	21–30	28 (77.8%)	19 (52.8%)	
	31–40	01 (2.8%)	17 (47.2%)	
Postoperative Hospital Stay	1 day	25 (69.4%)	03 (8.4%)	0.0000003
	2 days	11 (30.6%)	17 (47.2%)	
	3 days	00 (0.0%)	16 (44.4%)	
Wound Healing Time (days)	20–30	36 (100%)	17 (47.2%)	0.0000001
	31–40	00 (0.0%)	19 (52.8%)	
Postoperative Bleeding	Yes	00 (0.0%)	04 (11.1%)	0.039
Postoperative Infection	Yes	00 (0.0%)	00 (0.0%)	—
Postoperative Pain	Yes	11 (30.5%)	05 (13.8%)	0.155
Recurrence	Yes	03 (8.3%)	05 (13.8%)	0.71
Postoperative Incontinence	Yes	00 (0.0%)	00 (0.0%)	—

A total of 72 patients diagnosed with low anal fistula were included in the study and were equally divided into two groups: Fistulotomy (n = 36) and Fistulectomy (n = 36). The demographic characteristics of the study population are summarized in Table 1. The majority of patients were male in both groups, with a slight female predominance in the fistulectomy group. Most participants were in the 31–50 years age group, accounting for over 60% of the total population.

The clinical outcomes of both procedures are summarized in Table 2. The mean operative time was significantly lower in the fistulotomy group ($p = 0.0000104$), with 97.2% of patients completing surgery within 30 minutes, compared to only 52.8% in the fistulectomy group.

Postoperative hospital stay was significantly shorter in the fistulotomy group, with 69.4% of patients discharged within a day, versus only 8.4% in the fistulectomy group ($p = 0.000000311$). Similarly, wound healing was faster in the fistulotomy group; all patients healed within 20–30 days, whereas 52.8% of fistulectomy patients required 31–40 days ($p = 0.000000146$).

Postoperative bleeding was noted only in the fistulectomy group (11.1%, $p = 0.039$), while infection and incontinence were absent in both groups. Postoperative pain was more frequently reported in the fistulotomy group (30.5%) than the fistulectomy group (13.8%), though the difference was not statistically significant ($p = 0.155$). The recurrence rate was slightly higher in the fistulectomy group (13.8%) compared to the fistulotomy group (8.3%), but this difference was also not statistically significant ($p = 0.71$).

DISCUSSION

The present study compared fistulotomy and fistulectomy in patients with low anal fistula and demonstrated that fistulotomy was associated with shorter operative time, reduced hospital stay, and faster wound healing compared to fistulectomy. These findings are consistent with prior literature suggesting that fistulotomy, by laying open the tract rather than excising it, results in less tissue trauma and quicker recovery^[6].

While postoperative pain was slightly more frequent in the fistulotomy group, this difference was not statistically significant. Importantly, no patients in either group developed incontinence, reflecting careful preservation of sphincter integrity. Similar findings were reported by

Ganesan et al., who noted favorable outcomes with fistulotomy in low fistulas, with minimal complications^[11].

Though fistulectomy may offer marginally lower recurrence rates, our study found no statistically significant difference in this outcome. Thus, fistulotomy appears to be a clinically effective and less morbid option for the management of uncomplicated low anal fistulas.

CONCLUSION

In this study, fistulotomy was found to be superior to fistulectomy in the management of low anal fistulas, offering advantages such as shorter operative time, reduced hospital stay, faster wound healing, and fewer complications, without increasing the risk of incontinence or recurrence. Given its simplicity and favorable outcomes, fistulotomy should be considered the preferred surgical approach for uncomplicated low anal fistulas.

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