ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 11 | November - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

COMPARATIVE STUDY OF A FISTULECTOMY AND A FISTULOTOMY IN THE MANAGEMENT OF LOW ANAL FISTULA

General Surgery

Dr Neha Rani* Surgery Resident, Department Of Surgery, Index Medical College Hospital & Research Centre, Indore. * Corresponding Author

Dr Amit Katlana Professor & Hod, Department Of Surgery, Index Medical College Hospital & Research Centre, Indore.

Dr Galav Tiwari Surgery Resident, Department Of Surgery, Index Medical College Hospital & Research Centre, Indore.

ABSTRACT

Background: An anal fistula is an abnormal connection between the anal canal and perianal tissue, often resulting from an infected anal crypt. In terms of surgical management, there remains ongoing debate about whether fistulectomy is preferable to fistulotomy for treating low-lying simple anal fistulas. This study aims to compare the efficacy of fistulotomy and fistulectomy in the management of low anal fistulas at a tertiary care center in Central India. **Methods:** This randomized controlled trial included 60 patients aged over 18 years with clinically diagnosed simple low anal fistulas. Patients were divided into two groups: Group I underwent fistulectomy, and Group II underwent fistulotomy. Demographic data, operative time, postoperative pain (measured using a Visual Analog Scale), complications, and follow-up assessments were recorded. **Results:** The mean age of participants was 38.54 ± 10.50 years, with no significant differences in demographic characteristics between groups. The fistulotomy group demonstrated significantly shorter operative time (15.15 ± 2.09 minutes vs. 26.12 ± 3.26 minutes, $p < 0.001$), reduced hospital stay (1.78 ± 0.62 days vs. 2.58 ± 0.54 days, $p < 0.001$), and faster wound healing (23.11 ± 2.85 days vs. 30.40 ± 4.14 days, $p < 0.001$). Pain levels were consistently lower in the fistulotomy group at all follow-ups ($p < 0.001$). Complications such as urinary retention and wound infection were not significantly different between groups. No cases of recurrence were observed. **Conclusion:** Fistulotomy is a superior treatment option for low anal fistulas compared to fistulectomy, offering shorter surgical duration, faster recovery, and fewer complications while maintaining similar recurrence rates.

KEYWORDS

Anal fistula, fistulotomy, fistulectomy, surgical outcomes, postoperative pain, complications.

INTRODUCTION

An anal fistula is an abnormal connection between the anal canal and surrounding perianal tissue, typically arising from an infected anal crypt and manifesting as a chronic inflammatory condition with a tubular structure opening into the anorectal canal and perineal or perianal skin. [1] These perianal fistulas cause significant discomfort and morbidity. [2]. Fistula-in-ano, one of the more common benign conditions of the rectum and anal canal, is primarily caused by cryptoglandular infections, accounting for 90% of cases. [3]

In traditional Indian medicine, this condition is referred to as "bhagandar" and is considered one of the aṣṭamahāgada (eight complex diseases). [4] Annually, around 1 in 10,000 individuals are affected, with a higher prevalence in men. Approximately 5% of proctology consultations are related to anal fistulas. These fistulas often develop from improperly healed anal abscesses, secondary to infections in anal glands. [5]

The symptomatic profile of anal fistulas includes perianal cellulitis, anorectal pain, pruritus ani, foul or bloody discharge of pus, and occasionally, difficulty in controlling bowel movements. These symptoms cause significant discomfort, stress, and distress, severely impacting the patient's quality of life. [6]

Acute infections often arise from ruptured or inadequately drained anorectal abscesses that spread to the perianal skin. Chronic low-grade infections contribute to persistent cases, suggesting a range of underlying causes. [3]

Diagnosis is typically straightforward with thorough clinical examination and available diagnostic tools. [7] However, achieving a cure can be challenging due to the high recurrence rates when the appropriate surgical approach is not chosen. [8] Treatment options range from fistulotomy and draining seton to advanced techniques such as anal fistula plugging (AFP), ligation of the intersphincteric fistula tract (LIFT), drainage, and flap procedures.[9]

Since there is no universally accepted treatment method, the choice of procedure depends on the surgeon's expertise and judgment. The key considerations include balancing sphincter division, postoperative healing, and preserving function. The primary goals of surgery are to eliminate the fistula, prevent recurrence, and maintain sphincter integrity. Traditionally, fistulotomy and fistulectomy have been the most common and effective treatments for fistula-in-ano. [10]

There remains controversy regarding whether fistulectomy or fistulotomy is the better option for treating low-lying simple anal fistulas. Early clinical trials did not favor fistulectomy due to its longer healing time. However, a lack of comprehensive studies comparing the two treatment methods has made it difficult to draw definitive conclusions, leaving meta-analyses inconclusive [11-12]. In advent of same, the present study aimed to compare fistulotomy and fistulectomy in the management of low anal fistulas at a tertiary care center in Central India.

MATERIAL AND METHODS

After approval from institutional ethical committee, this randomised control study was conducted in the Department of Surgery, Index Medical College Hospital and Research Centre, Indore and 60 consecutive patients aged >18 years and clinically diagnosed as simple low anal fistula were included. A written informed consent was obtained from all patients after explaining the study protocol to them in their vernacular language.

Inclusion Criteria

- All patients aged >18 years with a low anal fistula; and
- Patients consenting for participation in the study

Exclusion Criteria

- Non-Consenting patients;
- Patients with Recurrent fistula, complex fistula, hemorrhoid, pilonidal sinus and high anal fistula;
- Patients with neurological lesions;
- Fistulae associated with chronic disease (e.g., tuberculosis, Crohn's disease, uncontrolled diabetes mellitus, immunodeficiency, or malignancy); and
- Patients with previous anorectal surgery were excluded.

Methodology

Patients were randomly divided into two groups with with an equal number of patients in each group depending upon the procedure performed i.e., Group I (N=30) comprised of patients who underwent fistulectomy and Group II (N=30) comprised of patients who underwent fistulotomy.

Demographic details including patient's age and sex were recorded, followed by a detailed general examination that included assessing blood pressure and vital signs. A comprehensive medical, surgical, and drug history was obtained. Routine blood investigations were

performed, along with assessments of renal function (serum creatinine, urea, sodium, potassium), liver function (serum bilirubin, alanine transaminase, aspartate transaminase, alkaline phosphatase), and blood sugar status (fasting, post-prandial, and hemoglobin A1c).

Patients with stable hemodynamics and normal blood investigations underwent the designated surgical interventions. Operative time and any intraoperative complications were recorded. Postoperatively, pain was assessed using a Visual Analog Scale (VAS) from 0 to 10, with the highest value during the recovery period taken as the representative measure. Surgical site infections were noted according to CDC criteria. Follow-up assessments were conducted at two weeks, one month, two months, and three months post-surgery, noting healing time, pain levels, swelling, flatus incontinence, and any signs of recurrence.

Statistical Analysis

Statistical analysis was conducted using Microsoft Excel (2013) and SPSS version 21.0 (SPSS Inc., Chicago, IL). The Kolmogorov-Smirnov test assessed the normality of quantitative variables. Descriptive statistics for categorical variables are expressed as proportions/percentages, while continuous variables are presented as mean and standard deviation. Continuous variables were compared using the student's t-test, and categorical variables were analyzed using Fisher's exact and chi-squared tests. A p-value of 0.05 or lower was considered statistically significant

RESULTS

The study participants had a mean age of 38.54±10.50 years, with 37.88±10.45 in the fistulotomy group and 42.42±10.66 in the fistulectomy group (P=0.121). Males comprised the majority 50 (83.3%) in both groups, while females accounted for 10 (16.7%) of patients, with no significant difference in gender distribution between the groups (P=0.205). The mean systolic and diastolic blood pressures, heart rate, and respiratory rate were comparable between the groups, as were the results of complete blood count, renal function, liver function, and blood glucose tests. (Table 1)

Table 1: Comparison Of Clinical And Hematological Parameters Between Study Groups

Parameters		Fistulectomy (n=30)	Fistulotomy (n=30)	P value
		Mean ± SD	Mean ± SD	
Hemodynamic parameters	Heart rate (bpm)	77.88 ± 8.34	76.88 ± 6.78	0.412
	SBP (mmHg)	121.14 ± 9.42	122.34 ± 7.44	0.111
	Respiratory rate (/min)	20.44 ± 1.44	20.66 ± 1.78	0.321
Haematological profile	Hemoglobin (g/dl)	12.76 ± 0.76	12.68 ± 0.84	0.956
	White blood cells (/cumm)	7654.00 ± 1090.44	7730.00 ± 1211.01	0.824
	Platelet count (lakhs/cumm)	2.20 ± 0.42	2.10 ± 0.52	0.762
Renal function tests	Serum urea (mg/dl)	26.78 + 4.48	25.66 ± 5.54	0.115
	Serum sodium (mEq/L)	134.34 ± 3.22	135.88 ± 3.04	0.446
	Serum potassium (mEq/l)	3.68 ± 0.20	3.80 ± 0.21	0.510
Liver Function Tests	Serum bilirubin (mg/dl)	0.92 ± 0.20	0.94 ± 0.11	0.256
	SGOT (U/l)	28.12 ± 7.10	29.10 ± 6.02	0.452
	SGPT (U/l)	29.70 ± 5.54	28.80 ± 6.24	0.451
	Alkaline phosphatase (IU/l)	75.72 ± 2.68	75.28 ± 2.90	0.442

There was history of perianal abscess in 21(70%) patients of fistulectomy group and 18 (60%) patients of fistulotomy group. In all 39 (65%) patients out of 60 patients had previous history of perianal abscess. There was no significant difference between both groups (p=0.416). In 42 patients (70%), the external opening of the fistula was located posteriorly, with 22 (73.3%) in fistulectomy group and 20 (66.7%) in fistulotomy group. In 18 patients (30%), the external opening was located anteriorly, with 8 (26.7%) in fistulectomy group and 10 (33.3%) in fistulotomy group. The difference in the position of the external opening between the two groups was not statistically significant (p=0.753). (Table 2)

Tabe 2. Comparison Of History Of Perianal Abscess And Position Of External Opening Between Study Groups

		Fistulectomy (n=30)	Fistulotomy (n=30)	Total	P value
H/O Perianal abscess	No	9 (30%)	12 (40%)	21 (35%)	0.416
	Yes	21 (70%)	18 (60%)	39 (65%)	
Position of external opening	Posterior	22 (73.3%)	20 (66.7%)	42 (70%)	0.753
	Anterior	8 (26.7%)	10 (33.3%)	18 (30%)	
Total		30 (100%)	30 (100%)	60 (100%)	

The operating time was significantly shorter in the fistulotomy group (15.15 ± 2.09 minutes) compared to the fistulectomy group (26.12 ± 3.26 minutes), with a p-value of <0.001. Post-surgery hospital stays were also shorter in the fistulotomy group (1.78 ± 0.62 days) than in the fistulectomy group (2.58 ± 0.54 days), with a statistically significant difference ($p < 0.001$). Wound healing time was faster in the fistulotomy group (23.11 ± 2.85 days) versus the fistulectomy group (30.40 ± 4.14 days), again showing a significant difference. On the VAS scale, pain scores at 6 hours, 24 hours, and discharge were consistently lower in the fistulotomy group (6.22 ± 0.78, 5.11 ± 0.84, 3.28 ± 0.62) compared to the fistulectomy group (7.13 ± 1.10, 5.78 ± 1.04, 4.10 ± 0.81). These differences were statistically significant, with p-values of 0.001 at all-time points. (Table 3)

Table 3: Comparison of mean value of operating time, post-surgery hospital stays, wound healing and pain scores at 6, 24 and discharge between the two surgery procedures

Variables	Group	N	Mean + SD	P value
Operating time (minutes)	Fistulectomy	30	26.12 ± 3.26	<0.001
	Fistulotomy	30	15.15 ± 2.09	
Post-surgery hospital stays (days)	Fistulectomy	30	2.58 ± 0.54	<0.001
	Fistulotomy	30	1.78 ± 0.62	
Wound healing time (days)	Fistulectomy	30	30.40 ± 4.14	<0.001
	Fistulotomy	30	23.11 ± 2.85	
Pain score at 6 hours	Fistulectomy	30	7.13 ± 1.10	<0.001
	Fistulotomy	30	6.22 ± 0.78	
Pain score at 24 hours	Fistulectomy	30	5.78 ± 1.04	<0.001
	Fistulotomy	30	5.11 ± 0.84	
Pain score at discharge	Fistulectomy	30	4.10 ± 0.81	<0.001
	Fistulotomy	30	3.28 ± 0.62	

The most common complications observed in both groups were urinary retention, bleeding, and infection. In Group I (fistulectomy) a higher no. of patients i.e., 6 (20%) experienced urinary retention as compared to 4 (13.3%) patients in group II (fistulotomy), with no statistically significant difference ($p = 0.534$). There were no cases of bleeding in fistulotomy group, while 3 patients (10%) in fistulectomy group experienced bleeding, but this was also not statistically significant ($p = 0.492$). None of the patient in fistulotomy group had a wound infection, compared to 2(6.7%) patients in fistulectomy group, with a non-significant difference ($p = 0.611$). (Table 4)

Incontinence was evaluated for solids, liquids, and gases. There was no incontinence to solid stool in either group. While none of the patients in Group I (fistulotomy) experienced incontinence to liquids, 1 patient (3.3%) in Group II (fistulectomy) did, though the difference was not statistically significant ($p = 1.000$). Incontinence to gases was reported in 2 patients (6.7%) in Group I and 4 patients (13.3%) in Group II, but this difference was also not significant ($p = 0.641$). All cases of minor incontinence resolved within two months. (Table 5)

Table 4. Comparison of post-operative complication between study groups

Complication		Fistulectomy (n=30)	Fistulotomy (n=30)	Total	P value
Urinary retention	No	24 (80%)	26 (86.7%)	50 (83.3%)	0.534
	Yes	6 (20%)	4 (23.3%)	10 (16.7%)	
Bleeding	No	27 (90%)	30 (100%)	57 (95%)	0.492
	Yes	3 (10%)	0 (0%)	3 (5%)	
Infection	No	0 (0%)	28 (92.3%)	28 (46.7%)	0.611
	Yes	30 (100%)	2 (6.7%)	32 (53.3%)	

During follow-up, pain levels measured on the Visual Analog Scale (VAS) were significantly higher in the fistulectomy group at all intervals except at two months. None of the patients in the fistulotomy group reported pain after two or three months of follow-up. (Table 6)

Table 5. Comparison of Incontinence Outcomes Between Fistulotomy and Fistulectomy Groups

Incontinence		Fistulectomy (n=30)	Fistulotomy (n=30)	Total	P value
Solid	No	30 (100%)	30 (100%)	60(100%)	-
	Yes	0 (0%)	0 (0%)	0 (0%)	
Liquid	No	29 (96.7%)	30 (100%)	59 (98.3%)	1.000
	Yes	1 (3.3%)	0 (0%)	1 (1.7%)	
Gas	No	26 (86.7%)	28 (93.3%)	54 (90%)	0.641
	Yes	4 (13.3%)	2 (6.7%)	6 (10%)	

Swelling was more common in the fistulectomy group at all follow-up points: two weeks (20% vs. 6.7%), one month (6.7% vs. 3.3%), two months (10% vs. 0.0%), and three months (3.3% vs. 0.0%). The difference in swelling was statistically significant at the two-week and one-month follow-ups, with no swelling reported in the fistulotomy group beyond two months. Although the fistulectomy group exhibited a slightly higher incidence of flatus incontinence, this difference was not statistically significant at any follow-up point (P>0.05). No cases of recurrence were recorded in either group (refer to Table 7).

Table 6. Comparison of follow-up pain between the two groups

Follow up		Fistulectomy (n=30)	Fistulotomy (n=30)	P value
Pain (VAS)	Week 2	2.11 ± 1.01	1.56 ± 1.08	0.020* Sig
	1 month	1.56 ± 1.38	1.02 ±1.10	0.021* Sig
	2 months	0.26 ± 0.86	0.00 ± 0.00	0.061
	3 months	0.21 ± 0.44	0.00 ± 0.00	0.002* Sig

Table 7. Comparison of swelling and flatus incontinence between the two groups during follow-up

Follow up		Fistulectomy (n=30)	Fistulotomy (n=30)	P value
Swelling	Week 2	6 (20%)	2 (6.7%)	0.019* Sig
	1 month	2 (6.7%)	1 (3.3%)	0.041* Sig
	2 months	3 (10%)	0 (0%)	0.071
	3 months	1 (3.3%)	0 (0%)	0.310
Flatus incontinence	Week 2	0 (0%)	0 (0%)	--
	1 month	3 (6.7%)	1 (2.2%)	0.316
	2 months	3 (6.7%)	0 (0%)	0.065
	3 months	1 (2.2%)	0 (0%)	0.311

DISCUSSION

Low-lying anal fistulas are characterized by perianal abscesses, pain, and discharge of pus and blood, leading to significant discomfort and reduced quality of life for patients, particularly those of working age [6].

Despite their common occurrence, perianal fistulas have not received adequate attention due to the absence of standardized treatment protocols. Surgical intervention is the preferred long-term solution, as it provides complete resolution with minimal recurrence risk. Various surgical techniques are available, with the ideal intervention focusing on minimizing recurrence, preventing incontinence, and enhancing the patient's quality of life. Recent advancements in pain management, antibiotics, and surgical expertise have made fistulectomy a more favored option for managing low-lying anal fistulas [1].

In the present study, patients' ages ranged from 20 to 60 years, with a mean age of 38.54 ± 10.50 years. The majority of participants were male (86.7%). While anal fistulas can occur in all age groups, including infants, the highest incidence is observed in young males during their productive years. Both study groups were comparable in demographics, clinical characteristics, and laboratory parameters, minimizing potential confounding effects. These findings are consistent with those of Shahbaz et al. [1], who reported a mean age of 39.66 ± 10.80 years and a similar predominance of male patients at 86.7%.

The majority of our patients (70%) had a previous history of perianal abscess, highlighting that anorectal abscesses often initiate the acute inflammatory process that results in the development of an underlying anal fistula. These findings align with the study by Ganeshan R et al.[3] , which reported a 61.7% prevalence of perianal abscess history in their patient population.

We found that the mean operative time was significantly longer with fistulectomy (26.12 ± 3.26 minutes) compared to fistulotomy (15.15 ± 2.09 minutes). This time difference is primarily attributed to the nature of the two procedures; while fistulotomy involves merely opening the fistula tract, fistulectomy necessitates complete excision of the fistulous tract, which takes more time. Additionally, the meticulous dissection required in fistulectomy and the need for achieving complete hemostasis typically extend the operating time. Supporting our findings, contemporary literature reports operating times ranging from 12.13 to 28.6 minutes for fistulotomy and from 22.23 to 34.2 minutes for fistulectomy. [3, 14, 15]

In the current study, the hospital stay was shorter in the fistulotomy group by nearly a day, likely due to reduced postoperative pain (as indicated by the pain scores) and smaller wound size. The average postoperative hospital stay was 1.78 ± 0.62 days for the fistulotomy group compared to 2.58 ± 0.54 days for the fistulectomy group, showing a statistically significant difference ($p < 0.001$). These findings are consistent with those of Ganeshan R et al.[3], who also reported a shorter hospital stay in the fistulotomy group compared to the fistulectomy group (1.80 ± 0.66 days vs. 2.60 ± 0.563 days).

In this study, mean postoperative pain scores on the VAS scale were significantly higher in the fistulectomy group compared to the fistulotomy group at 6 hours, 24 hours, and at discharge (7.13 ± 1.10, 5.78 ± 1.04, 4.10 ± 0.81 vs. 6.22 ± 0.78, 5.11 ± 0.84, 3.28 ± 0.62). Vyas et al. (12) found that patients experienced pain for an average of 2.16 days following fistulotomy and 5.95 days after fistulectomy. Other studies reported mean pain scores of 4.8 for fistulotomy and 6.2 for fistulectomy (Saber et al. [10]), as well as scores of 5.0 and 5.9, respectively (Ganesan et al. [6]), both noting significant differences. However, Barase and Shinde [11] reported similar pain scores of 3.5 and 3.8, and Katiyar et al. [13] found scores of 4.57 and 4.34, with no significant difference. Overall, the majority of studies, including the current one, indicate higher pain scores associated with fistulectomy compared to fistulotomy, likely due to the more aggressive nature of the fistulectomy procedure.

In this study, the mean wound healing time for fistulotomy was significantly shorter (23.11 ± 2.85 days) compared to fistulectomy (30.40 ± 4.14 days). This trend is supported by findings from Shahbaz et al. [1] and Sheikh et al. [18], with Sheikh et al. [14] reporting longer healing times for fistulectomy (4.57 weeks) compared to fistulotomy (4.04 weeks), although the difference was not statistically significant. Conversely, Vyas et al. [17] observed a significant difference in healing times, with fistulotomy patients healing faster (4.08 weeks) than those undergoing fistulectomy (6.94 weeks). Saber et al. [19] and Ganesan et al. [3] also reported shorter mean healing times for fistulotomy, with Saber et al. [19] noting 4.28 weeks versus 5.98 weeks for fistulectomy and Ganesan et al. [3] reporting 3.46 weeks compared to 4.5 weeks, respectively. Therefore, our findings on healing times align with both contemporary and prior literature.

In the present study, no postoperative infections were observed in the fistulotomy group, while a 6.7% infection rate was noted in the fistulectomy group, though this difference was not statistically significant. Infection rates reported in various studies ranged from 2.2% to 10.5% for fistulotomy and 3.8% to 40.5% for fistulectomy. Anecdotal studies done by Shahbaz et al. [1], Ratto C et al. [16], Vyas AK [17] and Sheikh IA et al. [18] consistently demonstrated higher postoperative infection rates with fistulectomy, though statistical significance was only observed in the study by Vyas AK et al.[17], where fistulectomy had a notably higher infection rate (40.5% vs. 10.5%). Sheikh IA et al. [18] reported infection rates of 2.2% for fistulotomy and 3.8% for fistulectomy, while Ganesan R et al. [3] found them to be 3.3% and 10%, respectively. A plausible explanation for the high infection rates reported by Vyas et al. [17] could be the long-term cumulative assessment of infections, rather than focusing exclusively on postoperative infections during the healing period, as observed in the current study and likely in other studies. Such elevated infection rates, especially in the long term, may indicate issues with postoperative care. In contrast, other studies by Gafar A et al. [13] and Saber A et al. [14] did not report such excessive infection rates.

The higher incidence of urinary retention and wound infection observed in the fistulectomy group can be attributed to the increased pain and larger wound size associated with the procedure. In fistulotomy, the tract is divided over a probe, resulting in a smaller wound, which promotes faster healing. This is evident in the present study, where healing was notably quicker for fistulotomy. Kronberg et

al. [20] also reported that fistulotomy wounds in low anal fistulas healed at least one week faster than those treated with fistulectomy, reinforcing the advantages of fistulotomy in terms of recovery time.

The present study found no major postoperative incontinence among patients, aligning with previous research. Shouler et al. [21] reported a low incidence of soiling (10 out of 115) and one case of temporary flatus incontinence following fistulotomy. Cavanaugh et al. [22] identified trans-sphincteric tracts and external sphincter involvement as key factors for incontinence risk. Kronberg et al. [20] observed a lower incidence of incontinence in the fistulotomy group (3.8%) compared to the fistulectomy group (14.28%). Similarly, Khubchandani et al. [23] supported fistulotomy's lower risk of postoperative incontinence.

In the present study, follow-up lasted three months with assessments at two weeks, one month, two months, and three months post-surgery. Pain and swelling were more common in the fistulectomy group, while both complaints resolved entirely in the fistulotomy group by one month, showing significant differences between the groups. Flatus incontinence was reported by 2 patients (6.7%) in the fistulectomy group, with one still affected at the final follow-up. In contrast, only one patient in the fistulotomy group experienced flatus incontinence, but this occurred only at the one-month follow-up, and the difference was not statistically significant.

The present study found no recurrences during the three-month follow-up. In contrast, Saber et al. reported a 2% recurrence rate for fistulotomy and 0% for fistulectomy. Other studies showed higher rates: Sheikh et al. [18] reported 10.7% for fistulotomy and 15.5% for fistulectomy, while Vyas et al. [17] noted 5.3% and 18.9%, respectively. Ganesan et al. [3] reported 3.3% for fistulotomy and 0% for fistulectomy. Most of these studies had longer follow-up durations (6 months or more) compared to the 3 months in our study. Although fistulectomy is considered more aggressive, resulting in potentially lower recurrence rates, most studies did not find significant differences between the two surgical approaches.

Overall, the study concluded that fistulotomy is a superior treatment option compared to fistulectomy for low anal fistulas. It demonstrated advantages such as shorter surgical duration, faster recovery, and fewer complications. Despite fistulectomy being a more aggressive procedure, it does not offer additional benefits, as it involves longer operative and healing times, a higher risk of postoperative complications, and similar recurrence rates.

However, the study had limitations, including a relatively small sample size from a single center and a short follow-up period, which may have missed potential recurrences. Future research with larger sample sizes and extended follow-up durations is recommended to assess the long-term efficacy of both procedures.

CONCLUSION

Overall, the study concluded that both fistulotomy and fistulectomy are straightforward procedures that yield excellent healing rates while only affecting a small portion of the external anal sphincter. However, fistulotomy has a slight advantage in treating low anal fistulas, as it features shorter operating times, reduced postoperative pain, fewer complications, quicker wound healing, and lower rates of incontinence, all while maintaining a comparable recurrence rate.

Declarations
Funding: No funding sources
Conflict Of Interest: None declared
Ethical Approval: The study was approved by the institutional ethics committee

REFERENCES

1. Shahbaz M, Musa O, Ansari NA. Comparative Analysis of Fistulotomy and Fistulectomy in Managing Low Anal Fistulas. Iran J Colorectal Res. 2023;11(1):33-38.
2. Sainio P. Fistula-in-ano in a defined population: incidence and epidemiological aspects. Ann Chir Gynaecol. 1984;73(4):219-24.
3. Ganesan R, Karunakaran K, Anandan H. A comparative study between fistulotomy and fistulectomy in management of low anal fistulae. Int Surg J 2017;4:3665-9.
4. Shindhe PS. Management of rare, low anal anterior fistula exception to Goodsall's rule with Kṣārasūtra. Ancient science of life. 2014;33(3):182-5.
5. Adams D, Kovalcik PJ. Fistula in ano. Surgery, gynecology & obstetrics. 1981;153(5):731-2.
6. Nelson RL, Abcarian H. Epidemiology, Incidence and Prevalence of Fistula in Ano. In: Abcarian H, editor. Anal Fistula: Principles and Management. New York, NY: Springer New York; 2014. p. 1-3.
7. Sharma D. Advances in the management of fistula in ano. World Journal of Pharmaceutical Research. 2017;1218-24.
8. Janugade BH, Hoshedar Tata N, Mohammad Ashar S, Janugade HD, Kamboj P. A clinico-pathological study of fistula-in-ano. Journal Evolution Medical Dental Sciences. 2016;5(86):6395-8.
9. Bubbers EJ, Cologne KG. Management of Complex Anal Fistulas. Clinics in colon and rectal surgery. 2016;29(1):43-9
10. Parks AG. The pathogenesis and treatment of fistula in ano. Brit Med J. 1961;1:463-9
11. Xu Y, Liang S, Tang W. Metaanalysis of randomized clinical trials comparing fistulectomy versus fistulotomy for low anal fistula. SpringerPlus. 2016;5(1):1722.
12. Ratto C, Litta F, Donisi L, Parello A. Fistulotomy or fistulectomy and primary sphincteroplasty for anal fistula (FIPS): a systematic review. Techniques in coloproctology. 2015;19(7):391-400.
13. Gafar A. Fistulotomy versus fistulectomy as a treatment for low anal fistula in infants: A comparative study. Annals of Pediatric Surgery. 2013;9:103-7.
14. Saber A. Patients Satisfaction and Outcome of Fistulotomy versus Fistulectomy for Low Anal Fistula. Journal of Surgery. 2016;4(2-1):15-9
15. Barase A, Shinde A. A comparative study of fistulotomy and fistulectomy in management of simple fistula in ano. International Surgery Journal. 2018;5:3704
16. Ratto C, Litta F, Donisi L, Parello A. Fistulotomy or fistulectomy and primary sphincteroplasty for anal fistula (FIPS): a systematic review. Techniques in coloproctology. 2015;19(7):391-400.
17. Vyas AK, Abhinav Rathi, Prateek Porwal, Rahul Jain, Praneeth Etta. Comparison and Evaluation of the Outcome of Fistulotomy Vs Fistulectomy Technique in Treatment of Low Fistula in Ano. Journal of Medical Science And clinical Research. 2016;4(12).
18. Sheikh IA SI, Hanif MS, Rashid MM, Karim M, Ateeq S. Fistulotomy vs fistulectomy in the treatment of simple low anal fistula of male patients. . Pak Armed Forces Med J 2015;65(6):798-802
19. Saber A. Patients Satisfaction and Outcome of Fistulotomy versus Fistulectomy for Low Anal Fistula. Journal of Surgery. 2016;4(2-1):15-9
20. Kronborg O. To lay open or excise a fistula-in-ano: a randomized trial. Br J Surg. 1985;72(12):970.
21. Shouler PJ, Grimley RP, Keighley MR, AlexanderWilliams J. Fistula-in-ano is usually simple to manage surgically. Int J Colorectal Dis. 1986;1(2):113-5.
22. Cavanaugh M, Hyman N, Osler T. Fecal incontinence severity index after fistulotomy: a predictor of quality of life. Dis Colon Rectum. 2002;45(3):349-53.
23. Khubchandani M. Comparison of results of treatment of fistula-in-ano. J R Soc Med. 1984;77(5):369-71.