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Original research article

COMPARATIVE STUDY ON OUTCOME OF OPEN FISTULECTOMY VERSUS LIFT PROCEDURE FOR UNCOMPLICATED PERIANAL FISTULAS

HASSAN HK[1*], HUSSAIN S[2], SHABBIR A[2], AKHTAR N[1], RASHEED U[1], ULLAHA S[1]

[1]Nishtar Medical University/ Hospital Multan, Pakistan
[2]Quai e Azam Medical College/ BVH Bahawal Pur, Pakistan
**Correspondence author email address:* hafizsyedkazim@gmail.com

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Abstract: *Perianal fistulas, particularly trans sphincteric types, pose a significant challenge in terms of management, often requiring surgical intervention. Traditional open fistulotomy has been a common procedure, but newer techniques like the ligation of the intersphincteric fistula tract (LIFT) procedure are being explored for improved outcomes, particularly in terms of preserving continence. This study aims to compare the outcomes of open fistulotomy versus the LIFT procedure in patients with trans sphincteric perianal fistulas.* ***Objective:*** *To compare the clinical outcomes, healing times, recurrence rates, and continence status between patients undergoing open fistulotomy and those treated with the LIFT procedure for trans sphincteric perianal fistulas.* ***Methods:*** *A prospective comparative study was conducted in the General Surgery Department of Nishtar Medical Hospital, Multan, from May 2024 to August 2024. A total of 150 adult patients with trans sphincteric perianal fistulas were enrolled using consecutive sampling. The patients were randomly divided into two groups: Group A (n = 75) underwent the LIFT procedure, and Group B (n = 75) underwent fistulectomy. Postoperative follow-up was conducted weekly until wound healing and at three months after healing to assess pain scores, recurrence rates, healing time, and continence status. Statistical analysis was conducted using SPSS Version 25, with a significance level set at $p < 0.05$.* ***Results****: Among the participants, 6 patients (8%) in Group A and 8 patients (10.7%) in Group B experienced recurrent fistulas, showing no significant difference between the groups. Postoperative pain scores were similar between both groups. However, the healing time was significantly shorter in Group A (27.2 days) compared to Group B (48.1 days) ($p < 0.05$). Recurrence rates were higher in Group A (16%) compared to Group B (2.7%) ($p < 0.05$). Incontinence was observed in 10.7% of patients in Group B, while no incontinence was reported in Group A ($p < 0.05$).* ***Conclusion:*** *The LIFT procedure offers better outcomes in terms of continence preservation and shorter healing time compared to open fistulotomy in the management of trans sphincteric perianal fistulas. However, open fistulotomy showed lower recurrence rates. These findings suggest that the LIFT procedure may be preferable in patients for whom preserving continence is a priority, while open fistulotomy may be a better option in cases where recurrence prevention is the main concern.*

Keywords: Anal fistula, Rectal fistula, Recurrence.

Introduction

Perianal fistula, a frequent surgical condition, presents as an abnormal fistulous pathway between the anal canal and perianal skin through internal and external openings with perianal suppurations. (1) One-third of the fistulas occur as a result of existing or previous anorectal abscess formation. (2) Anal fistulas are classified according to fistula tract into the anal sphincter muscles namely intersphincteric, supra sphincteric, extrasphincteric, and trans sphincteric.

Surgical management is the primary course of treatment of anal fistulas. The surgical approach depends on the pathology of the fistula as transsphinctric and intersphinctric fistulas are mostly cured by conventional procedures like fistulectomy and fistulotomy. (3, 4) Other treatment options include the use of fibrin glue, advancement flaps, video-assisted anal fistula treatment, seton placement, and ligation of the intersphincteric fistula tract. (5)

A fistulotomy is performed by keeping the fistulous tract open by cutting along the length to facilitate timely healing. The fistulous tract is entirely excised in fistulectomy to ensure the elimination of secondary tracts, however, the larger wound size leads to a longer healing time. Both these procedures have been successful in preventing recurrence of the anal fistulas.

In cases of complicated fistulas; supra sphincteric and extra sphincteric, complex surgeries like seton application, rectal diversion, and two-stage removal procedures are performed. Ligation of the intersphincteric fistulous tract procedure (LIFT) is performed by using the intersphincteric route for fistula removal to secure the closure of the internal opening and preserve the sphincters. The success rate of LIFT is more than 70% with a complication rate of 14%. (6) Additionally, a history of fistula surgery, horseshoe fistulas, and perianal Crohn's disease has been associated with failure of the LIFT procedure.

This study was conducted to compare the outcomes of open fistulotomy vs LIFT procedure for trans sphincteric perianal fistulas.

Methodology

A comparative prospective study was conducted in the General Surgery Department of Nishtar Medical Hospital, Multan from May 2024 to August 2024. A total of 150 adult patients diagnosed with trans sphincteric perianal fistulas were included in the study by consecutive sampling. The

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sample size was calculated by Daniel's formula keeping a 95% confidence interval, 50% population proportion, and 7% precision. Patients with anorectal malignancy or a history of radiotherapy, perianal Crohn's disease, anal incontinence, perianal abscesses, and those on cytotoxic or immunosuppressive therapy were excluded. All patients provided their informed consent to become a part of the study. The ethical committee of the hospital approved the study.

The presence of anal fistulas was confirmed by clinical examination or MRI. Patients were divided consecutively into two groups; Group A included 75 patients undergoing LIFT procedure and Group B included 75 patients undergoing fistulectomy. All patients were clinically assessed and data was recorded including full demographic and medical history, anal sphincter integrity by digital rectal exam, and internal and external openings of the fistula were identified. All patients were administered 1g 3rd gen cephalosporin at induction of anaesthesia and for 24 hours after surgery. All patients underwent fleet enema for 12 hours and 2 hours postoperatively.

All surgeries were performed under spinal anaesthesia in a lithotomy position. Internal and external openings and paths of the fistula were identified by rectal exam. A 14 g cannula probe was inserted in the external orifice to inject 2 ml H2O2 to identify internal openings by anoscope. For the LIFT procedure, a curvilinear incision was made between the external and internal openings by bipolar diathermy. The incision was deepened till the fistulous tract and it was dissected. The tract was ligated medially and laterally by 3-0 Vicryl sutures. The wound was closed after the achievement of hemostasis by curettage of the lateral section and trimming of the external skin. For open fistulectomy, an elliptical incision was made from the internal to the external orifice, and the fistulous course was removed by cutting the connected part of the openings. After the achievement of hemostasis, the wound was closed with a non-adherent dressing. Non-steroidal analgesics were administered when required and patients were discharged on oral intake tolerance.

Patients were followed up in the outpatient department every week till the wound was healed and 3 months after complete healing. The pain score was recorded by a visual analogue scale. Vaizey score questionnaire was used to measure the status of wound healing and continence. Recurrence of fistulas was also recorded, if any.

All data was analyzed by SPSS version 24. T-test and Z-test were used to analyze operative and post-operative data with follow-up. Quantitative data was presented as frequency and percentage and qualitative data was presented as mean ± SD. A p-value less than or equal to 0.05 was taken as significant.

Results

A total of 150 patients were included in the study with 75 patients in group A undergoing LIFT procedure and 75 patients in group B undergoing open fistulectomy. 6 patients (8%) in group A and 8 patients (10.7%) had recurrent fistulas. Patients did not differ significantly concerning age, gender, BMI, duration of disease, and M-O distance. The demographics and baseline data of patients are shown in Table I.

Table II illustrates operative and follow-up data in both procedures. Duration of surgery was statistically shorter in group B (29.6 ± 6.34 minutes) than in group A (33.12 ± 7.75 minutes). Pain scores did not differ significantly between both groups postoperatively and at follow-up. A significant difference between healing times was recorded (27.2 vs 48.1 days). 16% in group A and 2.7% of patients in group B had recurrence, the difference was significant. However, the incidence of incontinent patients was significantly higher in group B (10.7% vs 0%). All eight cases of incontinence were female with a history of vaginal birth. The complaint was resolved in 4-5 months.

Table I: Patients' Demographics and Baseline Data

	Group A (n=75)	Group B (n=75)	P value
Average age	29.30 ± 8.1	30.3 ± 9.2	0.29
Gender			
Male	45 (60%)	49 (65.4%)	0.56
Female	30 (40%)	26 (45.6%)	
BMI	29.1 ± 4.2	29.8 ± 5	0.32
Duration of symptoms	14.3 ± 6.5 months	13.2 ± 6.2 months	0.50
M-O distance	4.4 ± 1	4.3 ± 0.99	0.33
Recurrent fistulas	6 (8%)	8 (10.7%)	0.44
Non-recurrent fistulas	69 (92%)	92 (89.3%)	

Table II: Operative and Follow-up Data

	Group A	Group B	P
Duration of surgery	33.12 ± 7.75	29.6 ± 6.34	0.015
Pain score			
1 Day Postoperative	6.48 ± 1	6.63 ± 0.9	0.3
At follow-up	54.6 ± 7.14	57.6 ± 8.7	0.1
Complications			
Wound infection	8 (10.7%)	4 (5.4%)	0.9
Wound dehiscence	12 (16%)	-	0.05
Recurrence	12 (16%)	2 (2.7%)	0.052
Urine retention	4 (5.4%)	2 (2.7%)	0.63

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Incontinence	-	8 (10.7%)	0.06
Healing time	27.2 ± 6.71	48.1 ± 7.3	0.001

Discussion

Perianal fistulas are mostly managed by surgery unless related to a specific condition such as Crohn's disease.(7) Fistulectomy and LIFT procedures are the most commonly used techniques. The LIFT procedure shows better outcomes than other techniques regarding continued as the internal sphincter is preserved but conflicting results have been reported regarding recurrence and healing. (8, 9) This study was conducted to compare the outcomes of open fistulectomy and LIFT procedures. The LIFT procedure was better with regards to continence and fistulectomy showed low recurrence rates.

We did not include complicated perianal fistulas in our study as fistulectomy could not be performed in such cases. 12 patients (16%) in group A and 2 patients (2.7%) patients in group B had recurrence. These results comply with previous literature. (9, 10) A review study on the LIFT procedure showed an average recurrence rate of 12.4% after 1-year follow-up and 10% of fistulas were unhealed. (11) In other studies, a recurrence rate of 21-34% had been reported except in Sahai et al where 60% of patients experienced recurrence. (12-14)

Duration of surgery was statistically shorter in group B (29.6 ± 6.34 minutes) than in group A (33.12 ± 7.75 minutes). A significant difference between healing times was recorded (27.2 vs 48.1 days) which may be because sutures were used in group A. Vaizey score measured the continence status in our study. None of the patients in Group A had incontinence while 10.7% of patients in Group B were incontinent. In previous studies, an incontinent rate of 3%-10% has been reported in patients undergoing the LIFT procedure more commonly in patients who had multiple tract fistulas or injured internal sphincter. (15, 16) Increased incontinence in group B may have occurred due to weakened sphincter as all cases were women with obstetric history.

12 patients (16%) in group A had wound dehiscence which is similar to previous studies where an incidence of 15-25% was reported. (17, 18) However, this is significantly higher than some studies where no wound dehiscence was reported. (19)

Our study has some limitations. The sample size was limited. Additionally, we did not perform manometry of anal sphincter preoperatively and postoperatively.

Conclusion

Outcomes of fistulectomy and LIFT procedure for perianal fistulas were comparable. LIFT procedure showed better continence and healing results and fistulectomy led to low recurrence rates.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate.
Approved by the department concerned. (IRBEC-NMC-232/24)

Consent for publication
Approved

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Conflict of interest

The authors declared an absence of conflict of interest.

Authors Contribution

HAFIZ KAZIM HASSAN (MBBS, Surgical Resident)
Final Approval of version
SHAHID HUSSAIN (MBBS, FCPS Surgery, Associate Professor)
Revisiting Critically
ASYIA SHABBIR (MBBS, FCPS Surgery, Associate Professor)
Data Analysis
NAVEED AKHTAR (MBBS, FCPS Surgery, FCPS Urology, CHPE, HOD Surgery)
Drafting
UZMA RASHEED (MBBS, FCPS Gynae, Senior Demonstrator) & SHAFIQ ULLAHA (MBBS, FCPS Surgery, Associate professor)
Concept & Design of Study

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