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Outcome of Peri-Anal Fistula Repair with Lift Procedure

Omar Farooq Chaudrie[1], Col. Muhammad Younus Awan[2]

[1]Department of Surgery, CMH, Lahore, Pakistan
[2]HOD Surgery Department, CMH, Lahore, Pakistan

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Correspondence to: Omar Farooq Ch, Department of Surgery, CMH, Lahore, Pakistan.
Email: finalyatwork@gmail.com

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ABSTRACT

Objectives: To determine the outcome of peri-anal fistula repair with LIFT procedure. **Study type:** Descriptive, case series. **Study Duration:** July 2024 to December 2024. **Setting:** Department of Surgery, CMH, Lahore. **Materials & Methods:** Included were 136 patients, both male and female, aged 20 to 60, who had been diagnosed with transsphenic anal fistula. Patients with comorbid disorders such as immunocompromised individuals, those receiving cancer treatment, immunotherapy, and long-term steroids, fistulas in ano linked to inflammatory bowel disease, tuberculosis, and cancer, as well as fistulas resulting from particular diseases such Crohn's disease, were not included. Every patient had their intersphincteric fistula tract tied. Patients were monitored in the outpatient department for three, seven, and ten days until the wound site had healed. Patients were also checked for fistula recurrence during follow-up. **Results:** The study's age range was 20 to 60 years, with a mean age of 41.88 ± 7.97 years. The majority of the patients, or 81 (59.56%), were in the 41–60 age range. The male to female ratio was 1.4:1, with 79 (58.09%) of the 136 patients being men and 57 (41.91%) being women. The illness lasted 9.18 ± 3.45 weeks on average. A mean BMI of 28.47 ± 3.65 kg/m2 was recorded. The mean healing time in my study was 15.26 ± 4.26 weeks, and the recurrence rate was 5.88% (Table VI). **Conclusion:** According to the study's findings, peri-anal fistulas respond much better to ligation of the intersphincteric fistula tract (LIFT).

INTRODUCTION

A fistula-in-ano is an aberrantly produced epithelized tract that joins the perianal skin to the mucosa of the lower gastrointestinal tract. The condition primarily manifests in middle age (third and fourth decade), with a frequency of 5.6 and 12.3 cases per 100,000 women and men, respectively.[1] The tract joins the perianal skin with the mucosa of the anal canal in a perianal fistula. Anorectal abscesses that spontaneously burst are the most prevalent cause of perianal fistula formation; perianal surgery is another major cause. Acute infection of the anal crypt causes the chronic form of an anorectal abscess, known as a perianal fistula.[2] Twenty-five percent of people with Crohn's disease develop perianal fistulas. About half of these are complicated. In a considerable proportion of individuals with anal stenosis, complex perianal fistulas are often linked to the existence of a perianal abscess.[3] With a male-to-female ratio of 2:1, it primarily affects young men. Discharge is the most frequent initial symptom (65% of cases), however inflammation-related local discomfort is also frequent.[4]

According to Park's categorization, fistulas can be classified as extrasphincteric, suprasphincteric, transsphincteric, or intersphincteric. There are two types of anal fistulas: basic and complicated. The American Society of Colon and Rectal Surgeons (ASCRS) classifies modest transsphincteric and intersphincteric fistulas as simple types, which make up less than 30% of the sphincter complex. A complex anal fistula, on the other hand, is a transsphincteric fistula that contains over 30% of the sphincter complex.[2] External perineal opening, sporadic purulent discharge (often bloody), and pain (which intensifies till the pus discharges temporarily) are the most common complaints from patients.[3] Complex anal fistulas are still difficult to treat. Eliminating the anal fistula while reducing anal sphincter injury and avoiding anal incontinence is the optimum course of treatment. Numerous treatments are recommended for the treatment of anal fistulas, with varying healing rates and therapeutic outcomes. Surgery has been the basis of treatment.[4]

For the treatment of simple or low trans sphincteric perianal fistulas, fistulectomy is typically a sufficient surgical operation.[5] Closing an internal aperture with or without sphincteric defect correction is known as a fistulectomy. Technically, fistulectomy is more difficult. The tissues surrounding the fistula tracts may sustain additional injury, especially if the tract walls are not clearly delineated. The fistulectomy may be beneficial if the fistula

tract has not been investigated with probing alone.[6] A novel surgical procedure that preserves the sphincter is called ligation of the intersphincteric fistula tract (LIFT).[7] In order to achieve fistula healing without injuring the anal sphincters, it comprises secure ligation, cutting of the fistulous tract at the intersphincteric plane, and curettage of the infected granulation tissue lateral to the ligatures.[8] One of the most prevalent conditions affecting the anus is anal fistula. Typically, fistulotomy or fistulectomy are used to treat it.

The purpose of this study is to ascertain the results of the LIFT method for peri-anal fistula repair. An innovative method for treating anal fistulas is the ligation of the intersphincteric fistula tract. as no local research has been done on this. The findings of my research will be useful in choosing a more effective treatment for trans sphincteric anal fistula, reducing the risk of problems following surgery and promoting faster wound healing for patients.

METHODOLOGY

This descriptive case series study was conducted in the surgical department of the CMH, Lahore, from July to December 2025 with ethical review committee approval. A 95% confidence level, a 4% margin of error, and the estimated proportion of recurrence—6%—are used to calculate the sample of 136 cases.[9] All patients between the ages of 20 and 60 who had been diagnosed with a trans sphicteric anal fistula were included in the study. The fistula involved both sphincters because it crossed to the opposite side of the external sphincter before exiting in the perianal area, as determined by clinical diagnosis and digital rectal examination. A fistula that crosses both sphincters or the external anal sphincter in the lower third of the anal canal is classified as low trans-sphincteric, while fistulas that cross both sphincters or the external sphincter in the two thirds of the anal canal are classified as high trans-sphincter. Patients with comorbid disorders such as immunocompromised individuals, those receiving cancer treatment, immunotherapy, and long-term steroids, fistulas in ano linked to inflammatory bowel disease, tuberculosis, and cancer, as well as fistulas resulting from particular diseases such Crohn's disease, were not included.

A senior surgeon performed the procedure in the lithotomy position while under spinal anesthesia. The patients were clothed and ready. Under anesthesia, a rectal examination will be performed to identify the fistulous tract path and the internal and exterior apertures. Following the identification of the external opening, the internal opening was located by tracing it through an anoscope inside the anal canal using a 14 g cannula that had been used to inject 2 ml of hydrogen peroxide. Following a gentle probing of the fistulous tract, the final procedure was carried out in accordance with patient allocation. Using bipolar diathermy when necessary, a sharp and blunt dissection was performed to create a curvilinear incision in the groove between the internal and external anal sphincters throughout the tract course. Between the two sphincters, the wound became deeper until it reached the supported fistulous tract. At this stage, the entire tract was dissected. The fistulous track was ligated at two sites using Vicryl 3/0 sutures: the medial point as close to the internal sphincter as feasible, and the lateral point as close to the external sphincter as feasible. Between the two ligatures, the tract was cut. The wound was closed in two layers when hemostasis was attained. The skin surrounding the external aperture was removed, and the lateral portion of the tract was curetted.

Procedural time was recorded during the procedure. Following the surgery, patients spent 48 hours in post-surgical wards before being released. For five days, patients were instructed to take sitz baths while taking the oral antibiotics metronidazole and ciprofloxacin. Every week, Seton was tightened or altered while under sedation or anesthesia until the track healed and Seton fell off on its own. Patients were monitored in the outpatient department for three, seven, and ten days until the wound site had healed. Patients were also checked for fistula recurrence during follow-up, and if it did occur, it was labeled (fistula recur within 1 month of surgery). Standard protocol was followed in the management of patients who experienced recurrence or partial wound healing. Performa was used to record all of these data.

SPSS version 28 was used to enter and evaluate all of the data that had been gathered. The mean and standard deviation of the quantitative variables—such as age, BMI, symptom duration, operating time, and healing duration—were computed. Gender, h/o constipation, h/o smoking, and recurrence are examples of qualitative variables that were computed as frequency and percentage.

RESULTS

The study's age range was 20 to 60 years, with a mean age of 41.88 ± 7.97 years. According to Table 1, the majority of the patients, or 81 (59.56%), were between the ages of 41 and 60.

The male to female ratio of these 136 patients was 1.4:1, with 79 (58.09%) being male and 57 (41.91%) being female (Figure 1). The illness lasted 9.18 ± 3.45 weeks on average (Table 2). According to Table 3, the mean BMI was 28.47 ± 3.65 kg/m2. Tables 4 and 5 display the distribution of patients by h/o smoking and constipation, respectively. In our investigation, the mean healing time was 15.26 ± 4.26 weeks (Table 7) and the recurrence rate was 5.88% (Table 6).

Table 1

Distribution of Patients According to Age (n=136)

Age (in years)	No. of Patients	%age
20-40	55	40.44
41-60	81	59.56
Total	136	100.0

Figure 1

Distribution of Patients According to Gender (n=136)

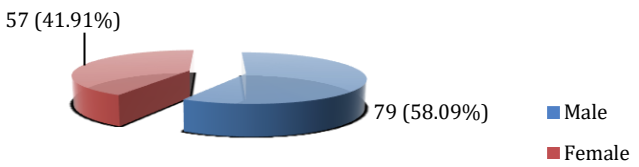

Table 2
Distribution of Patients According to Duration of Fistula (n=136)

Duration (weeks)	No. of Patients	%age
≤12	109	80.15
>12	27	19.85

Table 3
Distribution of Patients According to BMI (n=136)

BMI (kg/m²)	No. of Patients	%age
≤30	92	67.65
>30	44	32.35

Table 4
Distribution of Patients According to h/o Constipation (n=136)

H/o constipation	No. of Patients	%age
Yes	40	29.41
No	96	70.59

Table 5
Distribution of Patients According to H/o Smoking (n=136)

H/o smoking	No. of Patients	%age
Yes	29	21.32
No	107	78.68

Table 6
Recurrence After Ligation of Inter Sphincteric Fistula Tract (n=136)

Recurrence	No. of Patients	%age
Yes	08	5.88
No	128	94.12

Table 7
Mean Duration of Healing After Ligation of Inter Sphincteric Fistula Tract (n=136)

	Mean	SD
Duration of healing (weeks)	15.26	4.26

DISCUSSION

The final 4 cm of the alimentary tract is called the anal canal. As a continuation of the rectum, it starts above. In healthy individuals, a robust fibromuscular ring that can be felt rectally indicates its true level. The canal ends at the anal edge.[10] Granulation tissue lines the perianal fistula, a track that links superficially on the skin surrounding the anus and deeper in the rectum or anal canal.[11] The placement of an anal fistula in relation to the anal sphincter muscles determines its classification. Parks' classification divides anal fistulae into four categories: extra-sphincteric, supra-sphincteric, trans-sphincteric, and inter-sphincteric.[12] Perianal fistulas are still managed surgically, despite the development of more advanced minimally invasive treatment techniques. The majority of surgeons still consider conventional fistulotomy, or the lay open of the fistula tract, to be the gold standard for treating perianal fistulas.[13] A novel sphincter-preserving method for treating anal fistulas is Ligation of the Intersphincteric Fistula Tract (LIFT). The goal of this method is to locate the fistula tract in the intersphincteric plane. To stop feces from entering the fistula tract, the tract is separated and ligated once it has been isolated.[14]

The purpose of this study is to ascertain the results of treating transsphincteric anal fistulas with ligation of the intersphincteric fistula tract (LIFT). In my research, the mean healing time was 15.26 ± 4.26 weeks, and the recurrence rate was 5.88% (Table VI). In a 2018 study, Arunraj et al. found that the mean pain scores for LIFT at third POW were considerably lower than those for fistulectomy (0.43 versus 1.33).[15] In a 2020 study comparing LIFT to fistulectomy, Dong et al. found that LIFT patients experienced significantly decreased pain scores ($p=0.013$, $p<0.001$, and $p=0.037$ on POD 1, 3, and 5, respectively).[16]

In his pilot investigation, Rojanasakul et al. found a 94.4% success rate.[17] In contrast to Bleier et al. (2010), who reported a primary effective healing rate of 57%, Parthasarathi et al. (2016) and Malakorn et al. (2017) reported success rates of 94.1% and 87.65% of patients, respectively.[18-20]

In a 2013 study on the long-term effects of LIFT, Liu et al. found that 61% of patients experienced primary healing.[21] Additionally, he found that the odds ratio of healing decreases by 0.55 for every 1 cm rise in fistula length, and that fistulae with a length of 3 cm (48%). With a median follow-up of 18 weeks, Abacarian et al. (2012) likewise found a recovery rate of 74%.[22] Every patient in a study[23] had their intersphincteric fistula tract tied for fistula-in-ano. 26 patients (68%) were observed for more than 12 months, with a median follow-up of 26 months (range: 3–44 months). In patients monitored for more than a year, the primary healing rate was 62% (16 of 26) and 61% (23 of 38) overall. Twenty percent of the failures are late failures (>6 months), with one failure occurring 12 months after the procedure, and 80 percent (12/15) are early failures (persistent symptoms or failure at ≤6 months). Reduced healing was linked to longer fistula tracts (OR 0.55, 95% CI 0.34-0.88, p = 0.01). Both intraoperative complications and incontinence were not documented.[23]

The LIFT procedure's success rates ranged from 26% to 95% in other studies with a long-term follow-up of more than eight months.[24-26] With a median follow-up of 19 months, Wallin et al. (2012) reported a primary success rate of 40% for 93 patients who had the LIFT surgery between 2007 and 2011. The success rate rose to 57% when patients who had a second LIFT or an intersphincteric fistulotomy were included.[26] According to Tan et al.[25], 93 patients had a 78% freedom of failure one year after the LIFT treatment; the majority of these failures were inter-sphincteric, and only one patient had a second LIFT procedure, while another had an advancement flap procedure. In 2007, Rojanasakul et al. introduced the LIFT procedure, and in 2009, a more sophisticated method was revealed.[27] The method preserved the anal sphincter by ensuring the closure of the internal hole and removing the fistula tract through the intersphincteric plane at the same time. Since then, the surgery has gained widespread acceptance and is currently a common treatment option for complicated fistulae worldwide. The adoption rate of LIFT is rising as a result of stated success rates ranging from 40 to 90%.[28,29] However, in a long-term follow-up, the LIFT technique did not substantially outperform the

mucosal advancement flap in a comparative randomized experiment conducted by Madbouly et al. in 2014.[30] The literature shows a wide range of follow-up durations, from 19 weeks to 26 months.[28,29] Since many recurrences occur seven to eight months after treatment, several studies have demonstrated the significance of a long-term follow-up following LIFT.[24-26]

CONCLUSION

According to the study's findings, ligation of the intersphincteric fistula tract (LIFT) anal fistulas produces far superior results. Therefore, we advise that the primary treatment for anal fistulas should be ligation of the intersphincteric fistula tract (LIFT) in order to reduce the morbidity and recurrence rate of these individuals.

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