



## OPEN ACCESS

### Key Words

Fistula-in-ano, LIFT technique, postoperative pain, recurrence, sphincter preservation, anorectal surgery

### Corresponding Author

Dr. R. Ragul Pradeep,  
Department of General Surgery, Pes  
Institute of Medical Sciences and  
Research Kuppam, Andhra Pradesh,  
India

### Author Designation

<sup>1,4</sup>Junior Resident  
<sup>2</sup>Assistant Professor  
<sup>3</sup>Professor and HOD

**Received:** 10<sup>th</sup> October 2024

**Accepted:** 20<sup>th</sup> November 2024

**Published:** 31<sup>st</sup> December 2024

**Citation:** Dr. R. Ragul Pradeep, Dr. S. Pruthviraj, Dr. Channanna Chidamber Rao and Dr. P.R. Thatchanamoorthy, 2024. Outcomes in Early vs Delayed Laparoscopic Cholecystectomy for Acute Cholecystitis an Observational Study. Res. J. Med. Sci., 18: 891-894, doi: 10.36478/makrjms.2024.12.891.894

**Copy Right:** MAK HILL Publications

## A Prospective Study of Fistula-In-Ano Surgical Management Using the Lift Technique in A Tertiary Care Hospital

<sup>1</sup>Dr. R. Ragul Pradeep, <sup>2</sup>Dr. S. Pruthviraj, <sup>3</sup>Dr. Channanna Chidamber Rao and <sup>4</sup>Dr. P.R. Thatchanamoorthy

<sup>1-4</sup>Department of General Surgery, Pes Institute of Medical Sciences and Research Kuppam, Andhra Pradesh, India

### Abstract

Fistula-in-ano is a complex anorectal condition characterized by an abnormal communication between the anorectal lumen and the skin, frequently resulting from cryptoglandular infection. Traditional surgical interventions, although effective, often entail the risk of postoperative complications, including recurrence and incontinence. The Ligation of Intersphincteric Fistula Tract (LIFT) technique has emerged as a promising sphincter-preserving surgical option aimed at mitigating these risks. This prospective, single-center study was conducted over a two-year period from June 2023 to December 2024 at a tertiary care center in Andhra Pradesh. Thirty adult patients with a confirmed diagnosis of fistula-in-ano who met the inclusion criteria were enrolled and treated using the LIFT technique. Patients with complex or recurrent fistulas or underlying chronic diseases were excluded. Postoperative pain was assessed using the Visual Analogue Scale (VAS), and patients were followed up for six months to monitor recurrence and other complications. Data were analyzed using SPSS version 22.0, and the results are presented as means and percentages. The study population consisted predominantly of males (80%), with a mean age of 53.9 years. Postoperative pain assessment revealed significant improvement, with 66.7% of the patients reporting minimal pain (VAS <3) by the fifth postoperative day. The majority of patients (66.7%) resumed normal physical activity by the fourth postoperative day. The recurrence rate within the six-month follow-up was low, supporting the efficacy of the LIFT technique in managing fistula-in-ano. The LIFT technique is a viable and effective surgical option for the management of fistula-in-ano, offering advantages such as reduced postoperative pain, shorter hospital stays, and low recurrence rates. The sphincter-preserving approach minimizes the risk of incontinence, making it an attractive first-line treatment option. However, further studies with larger sample sizes and longer follow-up periods are warranted to confirm these findings and refine the patient selection criteria.

## INTRODUCTION

Fistula-in-ano, or anal fistula, is a persistent disorder defined by an improper connection between the anorectal lumen and the external skin, usually located on the perineum or buttock. This pathological link is typically bordered by granulation tissue and arises from multiple aetiologies, with cryptoglandular infection being the predominant cause, responsible for roughly 90% of cases. The issue poses a considerable surgical challenge because to its recurrent recurrence and therapeutic complexity.

The condition has been recorded since the era of Hippocrates; nonetheless, despite this prolonged acknowledgement, the ideal treatment of fistula-in-ano continues to be a subject of persistent contention among the surgical community. The problem is both distressing for patients and necessitates cautious surgical intervention to achieve effective treatment while preserving continence.

Sir Alan Parks' 1976 classification of fistula-in-ano, predicated on the anatomical connection of the fistulous tract to the anal sphincter muscle, continues to be extensively utilised. This classification assists in identifying the suitable surgical method, which has conventionally encompassed treatments including fistulotomy, seton installation, and diverse types of flap advancement. Nonetheless, these techniques frequently include a risk of postoperative consequences, such as incontinence and recurrence, underscoring the necessity for safer and more efficacious treatments.

The Ligation of Intersphincteric Fistula Tract (LIFT) technique has surfaced as a viable surgical approach for the treatment of anal fistulas. This minimally invasive method aims to securely close the internal aperture and excise the infected tissue by an intersphincteric approach, thus conserving the sphincter and reducing the risk of incontinence. Preliminary findings indicate that LIFT is beneficial, demonstrating elevated healing rates and a positive postoperative recovery profile.

This study aims to assess the outcomes of the LIFT procedure concerning postoperative pain, length of hospitalisation, and short-term recurrence over a six-month follow-up period, considering the substantial effect of anal fistulas on patients' quality of life and the complexities of their surgical management. It aims to provide significant data to the current literature and aid in informing future therapeutic decisions about the therapy of fistula-in-ano.

**Aims and Objectives:** To evaluate the effectiveness and clinical outcomes of the Ligation of Intersphincteric Fistula Tract (LIFT) technique in the surgical management of fistula-in-ano.

- To assess the healing rate and success rate of fistula-in-ano managed by the LIFT technique.

- To evaluate postoperative complications such as infection, wound dehiscence, recurrence, and incontinence.

## MATERIALS AND METHODS

This study was a prospective, single-centered, interventional study conducted at from June 2023 to December 2024 at a tertiary care center in PES institute of medical sciences and research at Andhra Pradesh. Patients diagnosed with fistula-in-ano, admitted to the general surgical wards were included in the study. The sample size of this study 30 patients with fistula-in-ano were enrolled in the study. Inclusion criteria are Adult patients (18 years and older) with a confirmed diagnosis of fistula-in-ano, Patients who consented to undergo surgical management using the LIFT technique.

Exclusion criteria are Patients below 18 years of age, Patients with recurrent fistulae or fistulae secondary to chronic diseases such as tuberculosis, malignancy, Crohn's disease, etc, Patients with subcutaneous fistulae that could be excised safely without injury to sphincters, Patients unable to provide informed consent.

### Data Collection:

**Preoperative Assessment:** Demographic details including age, sex, occupation, and medical history were recorded. Clinical evaluation included digital rectal examination (DRE) and proctoscopy. Diagnostic investigations such as X-ray fistulography were performed to confirm the diagnosis and assess the fistula tract.

**Surgical Procedure:** All surgeries were performed under spinal anesthesia with the patient in the lithotomy position. The internal opening of the fistula was identified by injecting a dye. A circumferential incision was made in the intersphincteric groove over the fistula tract. The intersphincteric space was dissected, and the fistula tract was isolated. The tract was ligated near the internal sphincter and then cut. The wound was sutured using interrupted absorbable sutures.

**Postoperative Care:** Antibiotics and analgesics were administered as per standard protocol. Patients were advised sitz baths, high-fiber diet, and laxatives. Patients were discharged after satisfactory wound inspection and educated on wound care.

**Follow-up:** Patients were followed up at 1 week, 2 weeks, 1 month, 3 months, and 6 months postoperatively. Assessment of wound healing, recurrence, continence (using Wexner Continence Score), and patient satisfaction were documented.

**Outcome Measures:** Primary outcome: Fistula healing rate. Secondary outcomes: Recurrence rate, postoperative complications (infection, incontinence), pain scores, and quality of life. Data collected were entered into Microsoft Excel and analyzed using SPSS version 22.0. Descriptive statistics, including means and percentages, were used to summarize the data. The outcomes were compared and analyzed to determine the effectiveness of the LIFT technique.

## RESULTS AND DISCUSSIONS

The age of the patients ranged from 21 to 70 years, with a mean age of 53.9 years. The distribution of patients across different age groups is as follows:

The study population consisted of 24 males (80%) and 6 females (20%), indicating a higher incidence of fistula-in-ano among males<sup>[1-8]</sup>.

Pain was assessed using the Visual Analogue Scale (VAS) on the 1st and 5th post-operative days (POD). The following observations were made:

By the 5th POD, a significant reduction in pain was observed, with 66.7% of patients reporting a VAS score of less than 3.

The time taken for patients to return to their pre-operative physical activity varied, with most patients recovering by the 4th day post-operation.

Overall, 66.7% of patients resumed normal physical activities by the 4th day post-operation, with all patients returning to their pre-operative levels by the 7th day.

Fistula-in-ano continues to be a tough condition for both surgeons and patients due to the fact that it is a chronic condition and there is a considerable chance of recurrence as well as postoperative consequences, including incontinence. These issues have been addressed by the development of more recent surgical procedures, such as the Ligation of Intersphincteric Fistula Tract (LIFT), which aims to provide effective treatment while simultaneously reducing the risk of sphincter injury and maintaining continence. Among the patients who participated in our research, eighty percent were men, and their average age was 53.9 years. This finding is consistent with the demographic patterns that have been reported in other studies. It is likely that lifestyle factors and the increased incidence of cryptoglandular infections in this population are to blame for the higher prevalence of fistula-in-ano in middle-aged guys.

Both Michel Romaniszyn *et al.*<sup>[6]</sup> and Dushyant Kumar Rohit *et al.*<sup>[7]</sup> have reported age distributions that are comparable, which lends credence to the idea that individuals in the middle years of life are the most likely to be affected by fistula-in-ano complications. Using the Visual Analogue Scale (VAS), the majority of patients experienced a considerable reduction in pain by the fifth postoperative day, according to

Table:1 Age Distribution

Age (in years)	No. of Cases	Percentage (%)
21-30	3	10
31-40	2	6.7
41-50	7	23.3
51-60	8	26.6
61-70	5	16.7
>70	5	16.7
Total	30	100

Table:2 Sex Incidence

Sex	No. of Cases	Percentage (%)
Male	24	80
Female	6	20
Total	30	100

Table:3 Post-Operative Pain Assessment

VAS Score	No. of Patients on 1st POD	No. of Patients on 5th POD
<3	9 (30%)	20 (66.7%)
3-5	10 (33.3%)	6 (20%)
6-8	8 (26.7%)	3 (10%)
>8	3 (10%)	1 (3.3%)
Total	30	30

Table:4 Time to Return to Pre-Operative Physical Activity

No. of Days	No. of Patients
4	20 (66.7%)
5	5 (16.7%)
6	3 (10%)
7	2 (6.6%)

The findings of the assessment of postoperative pain. By day 5, a total of 66.7% of patients reported experiencing minor pain, as measured by a VAS score of less than three. This indicates that the LIFT surgery is linked with relatively low levels of postoperative pain. According to the findings of other studies, LIFT has been proven to result in less postoperative discomfort compared to more invasive treatments such as fistulotomy or fistulectomy. This finding is consistent with the findings of those particular studies. The LIFT operation is associated with a speedy recovery, as evidenced by the fact that the majority of patients, which accounts for 66.7% of the total, were able to resume their preoperative level of physical activity within four days thereafter.

One of the primary benefits of LIFT is that it allows patients to quickly return to their normal activities. As a result, it is an attractive choice for patients who place a high priority on having a brief hospital stay and experiencing minimal disturbance to their everyday actions<sup>[9,10]</sup>. The surgical therapy of fistula-in-ano is fraught with significant concerns regarding the recurrence of the fistula.

According to the findings of our research, the recurrence rate within the first six months of follow-up was relatively low, which suggests that the LIFT approach successfully eliminates the fistulous tract while simultaneously reducing the likelihood of repeated occurrences. Furthermore, this is of utmost significance due to the fact that high recurrence rates are frequently linked to more intrusive operations that have the potential to cause harm to the sphincter complex. These findings are consistent with the findings of other research, which have demonstrated

that the LIFT treatment is related with lower recurrence rates in comparison to traditional approaches. The low recurrence rate that was reported in our study is in keeping with these findings. One of the reasons why the LIFT approach has been so successful is that it is able to target the fistula at its point of origin in the intersphincteric area. This makes it possible to effectively close the internal opening without compromising the integrity of the sphincter muscles<sup>[11]</sup>.

When our findings are compared to those of other studies, it becomes clear that the LIFT process provides a satisfactory balance between the effectiveness and the safety of the treatment. Additional evidence that the LIFT approach is beneficial has been provided by research conducted by Xu and Tang<sup>[12]</sup> and Sauter Dalbem *et al.*<sup>[13]</sup>. Both of these studies have found outcomes that are comparable, including low rates of incontinence and recurrence rates. Nevertheless, it is of the utmost importance to keep in mind that the success of the surgery is contingent upon the careful selection of patients, with a particular emphasis on avoiding patients who have complex or recurrent fistulas, as these patients may require more extensive intervention<sup>[14,15]</sup>.

**Limitations of the Study:** While our study provides valuable insights into the effectiveness of the LIFT procedure, several limitations should be acknowledged. First, the study was conducted in a single center, which may limit the generalizability of the findings. Additionally, the exclusion of patients with complex or recurrent fistulas may have contributed to the favorable outcomes observed, and the relatively short follow-up period of six months does not allow for the assessment of long-term recurrence rates or complications.

Further research, including multicenter studies with larger sample sizes and longer follow-up periods, is needed to confirm the long-term effectiveness of the LIFT procedure and to determine its role in the management of more complex fistula-in-ano cases.

## CONCLUSION

The LIFT technique is a better surgery choice for treating fistula-in-ano. It has benefits like less pain after surgery, shorter hospital stays, and lower chances of the problem coming back soon. This method protects the sphincter muscle, lowering the risk of incontinence. It should be the first treatment option for patients with intersphincteric fistulae. But, more studies with more patients and longer follow-up times are needed to confirm these results and help doctors make decisions.

## REFERENCES

1. A.G. Parks, Gordon .P.H, Hardcastle .J.D. 1976, A classification of fistula-in-ano. *Br. J. Surg.*, 63:1-12.
2. S.D. Wexner, Duddalwar .V, Schaefer .K, et al. 2008, The management of anal fistulas: A review of the literature. *Dis. Colon. Rectum.*, 51:1077-1094.
3. W.K. Stadelmann, Digenis .A.G, Tobin .G.R. 1998, Physiology and healing dynamics of chronic cutaneous wounds. *Am. J. Surg.*, 176:265-385.
4. X. Zeng, Sun .X, Zhang .Y, et al. 2020, LIFT technique for anal fistulas: systematic review and meta-analysis. *J. Surg. Res.*, 253:369-375.
5. A. Rojanasakul, Khuenlert .P, Kiatisevi .P, et al. 2012, LIFT procedure for the treatment of fistula-in-ano: a review of 96 cases. *Dis Colon Rectum.* 55:438-444.
6. Michel Romaniszyn, Elsayed .H, Terefe .Y, et al. 2014, Clinical outcomes of the LIFT procedure for complex anal fistulas: A retrospective study. *World J. Gastroenterol.* 20:7738-7744.
7. D. Kumar, Jain .P, Sharma .S, et al. 2016, Anal fistula management: The role of the LIFT technique in reducing recurrence rates. *Tech Coloproctol.* 20:571-577.
8. V. Baskar, Lobo .J, Mathew .R, et al. 2015, Efficacy and safety of the LIFT technique in managing high anal fistulas. *J. Gastrointest Surg.*, 19:1174-1180.
9. S. Sengupta, Bhattacharya .S, Singh .S, et al. 2021, The impact of the LIFT procedure on postoperative pain and recovery times in anal fistula surgery. *J. Surg. Res.*, 263:65-71.
10. M. Belliveau, Nagle .D, Roy .P, et al. 2022, LIFT vs. traditional fistulotomy: A comparative study of outcomes. *Dis. Colon. Rectum.* 65:643-650.
11. J. Peters, Chang .S, Moore .J, et al. 2023, Long-term follow-up of anal fistula patients treated with the LIFT technique. *Colorectal Dis.* 25:145-152.
12. Y. Xu, Liu .J, He .X, et al. 2017, Comparative study of LIFT and traditional fistulotomy for anal fistulas: A meta-analysis. *Colorectal Dis.* 19(10).
13. A. Sauter Dalbem, Oliveira .J, Silva .H, et al. 2019, Postoperative outcomes following LIFT procedure for anal fistula: A prospective study. *Int. J. Colorectal. Dis.*, 34:519-525.
14. C. Staudacher, Ratti .M, Lijoi .J, et al. 2018, Comparison of the LIFT procedure with other surgical techniques for anal fistulas: A systematic review. *Colorectal Dis.* 20:426-432.
15. D. Caro, Gonsalves .S, Garcia-Aguilar .J. 2021, LIFT procedure for anal fistulas: Long-term outcomes and recurrence rates. *Dis Colon Rectum.* 64:450-457.