

Ligation Of Intersphincteric Fistula Tract (LIFT) For Complex Fistula In Ano – Our Initial Experience¹Musharraf Husain, ²Mir Mujtaba Ahmad, ³Tajamul Rashid, ⁴Manzoor Ahmad¹Musharraf Husain Professor and head department of surgery, Hamdard institute of Medical sciences and research²Mir Mujtaba Ahmad, Assistant professor, department of surgery Hamdard institute of Medical sciences and research³Tajamul Rashid, Senior resident department of surgery Hamdard institute of Medical sciences and research⁴Manzoor Ahmad, Senior resident department of surgery Hamdard institute of Medical sciences and research**Corresponding Author:** Musharraf Husain, Professor and head department of surgery, Hamdard institute of Medical sciences and research**Type of Publication:** Original Research Paper**Conflicts of Interest:** Nil**Abstract**

Background: An anal fistula is an abnormal pathological tract between the anal canal and the perianal skin which primarily originates from the crypto-glandular infection. The estimated prevalence of anal fistula is 1/10,000 per year and male to female ratio is 1.8:1. Various treatment options available are: fistulotomy, application of fibrin glue, endorectal advancement flap, Fistula plug, VAAFT (video-assisted technique) and ligation of the intersphincteric fistula tract (LIFT). Every procedure has its own merits and demerits which need to be evaluated.

Aim of study: The study aimed to assess the results of LIFT technique for the patients with complex anal fistula.

Methods: This was a prospective study conducted over a period of three years from May 2015 to April 2018. All patients with complex anal fistula were subjected to LIFT technique and the outcome was assessed on parameters like recurrence rate, faecal incontinence, wound dehiscence and persistent perianal pain. Patients were followed for a minimum period of 6 months.

Results: Thirty-six patients, age ranging 21- 67 years underwent LIFT procedure. Success rate was 86% with 14% recurrence rate. None of the patients developed faecal incontinence.

Conclusion: LIFT is a sphincter preserving, simple and cost-effective procedure for complex fistula in ano. It can be considered as the procedure of choice due to its high healing rate and very low incidence of faecal incontinence.

Keywords: Fistula in ano, Crypto glandular, Intersphincteric, Lithotomic

Introduction

Abscesses and anal fistulas represent about 70% of perianal pathologies, with an estimated incidence of 1/10,000 per year and representing 5% of disease burden in coloproctology¹. An anal fistula is an abnormal pathological tract between the anal canal and the perianal skin which primarily originates from the abscess formation with crypto-glandular infection. About 65% of patients with perianal abscess will develop chronic or recurrent anal fistula². With regards to the treatment of this disease, surgery remains the only modality for the effective treatment of this condition. The main objective of the operative intervention is to heal the fistula with minimal morbidity and preservation of continence mechanism³. There has been no consensus on surgical options for treating it. Recurrence and incontinence are the two major paradoxical factors which a surgeon fears and drives him/her to tilt on one side or the other.

There are multitude of options available in surgical practice for management of fistula in ano, the selection of procedure for a particular patient is of remarkable importance in ultimate outcome of the procedure. Among the current treatment options are: fistulotomy, fistulectomy, application of fibrin glue, endorectal advancement flap, VAAFT (video-assisted technique) and ligation of the intersphincteric fistula tract (LIFT)⁴

In 2007, Rojanasakul et al. described a new therapeutic option for this disease, with very promising initial results which was named as Ligation of internal fistulous tract (LIFT)⁵. The central idea of this procedure is that the excision and ligation of intersphincteric tract can occlude the entry of faecal particles in the fistula and, at the same time, eliminate the septic focus in intersphincteric plane⁶. This procedure is simple, safe, and minimally invasive. It is also effective, with a high and rapid healing rate without any resultant incontinence, with good results in complex cases⁷. This technique result in faster healing of Fistula-in-ano, and does not divide the anal sphincters and postoperative anal function remain intact.

With this background, we conducted a prospective study, aimed to assess the results of the LIFT technique for the patients with complex anal fistula in our surgery unit.

Materials and Methods

This was a prospective study conducted over a period of three years (May 2015 till April 2018) ,in one unit of department of surgery at Hamdard institute of medical sciences and research after an ethical approval. The study included a total of 36 patients diagnosed to have fistula in ano with most of them being complex. Patients diagnosed as having simple ,low fistula were excluded and subjected to fistulotomy. All the patients aged above 18 years. Patients with preoperative incontinence, inflammatory bowel disease, tuberculosis were excluded from the study. At the time of admission, a detailed history and the clinical

examination were carried out. All the patients were subjected to digital rectal examination, proctoscopy and MR fistulogram .All baseline investigations and PAC was done in all patients. A rectal enema was administered to patients, night before surgery. The procedures were performed under spinal anesthesia, with lithotomic position for patients having predominant anterior disease and Jack knife position for patients having a posterior external opening.

The steps of the procedure are as follows; the location of the internal opening was identified by injection of methylene blue and hydrogen peroxide through the external opening and gently probing the fistula tract. The intersphincteric plane at the site of the fistulous tract was entered via the curvilinear incision with direct palpation of groove by other hand. The intersphincteric tract was identified by meticulous dissection, using scissors and electrical cautery . The exposure of the intersphincteric plane was facilitated using especially designed long and narrow blade retractors. The intersphincteric tract was hooked using a small right-angled clamp. The tract was then ligated close to the internal sphincter with vicryl size 3/0. After that, the tract was divided distal to the point of ligation. The remnant of the intersphincteric tract or possibly the infected gland was removed. The fistulous tract would then be thoroughly curetted and sent for HPE. The external opening was left open for drainage. After the operation, no restriction of diet was required. The patients were advised to self-care their wounds by cleansing with tap water . All the patients were given postoperative three doses of antibiotics , sitz bath from the first postoperative day, an analgesic for pain relief and stool bulking agents were given.

All the patients were followed up for a median period of 36 weeks and clinically assessed for recurrence, incontinence, wound sepsis and perianal pain. All the patients were

scheduled for follow-up at 1, 3, 8, and 12 weeks postoperatively, and at 6-weekly intervals thereafter up to 36 weeks. At each visit, patient was examined locally for any recurrence or wound sepsis and the patient's clinical continence status was evaluated. All the results were analyzed and tabulated according to age, sex, different surgical procedures, and their complications.

Results

A total of 36 patients were included in the study, predominantly male gender with a mean age around 42 years. Majority of patient were newly diagnosed cases, with posterior placed external opening in majority of cases. Transsphincteric variety was the most common type encountered. The mean operative time was around 38 minutes and average hospital stay was 2 days

Following observations were made:

Number of the patients	36
Male, n (%)	26 (72.2%)
Female, n (%)	10 (27.8%)
Mean age (range) years	41.7 (21-69)
Types of fistula	
Transsphincteric	30
Intersphincteric	5
Supralelevator	1
Localization of fistula	
Anterior	08
Posterior	28
Surgery history	
Recurrent fistulas	8
Newly diagnosed	28
Operative time	
Mean	38 (28-72) min
Hospital Stay	
Mean	2 (1-4) days

At the end of the follow-up, 31 patients (86.1%) had healed with recurrence free and 5 patients (13.8%) had recurrence. Recurrence was defined as a nonhealing wound or reappearance of an external opening with persistent discharge or reappearance of a fistula after the initial wound had healed. An important observation was that the recurrences were simpler than the earlier complex fistulas which were treated by LIFT. The recurrences were taken care of by simpler procedures like fistulotomy/ fistulectomy

(3 cases) and 2 cases were lost to follow up. No incontinence was observed in any of the patients at the follow-up. Few minor postoperative complications like wound sepsis, pain or fissure were noticed.

Healing rate	86% (31/36)
Recurrence rate	14% (5/36)
Postoperative complications	
	Anal fissure (1)
	Persistent pain (2)
	Wound infection (1)
Number of recurrence	
	Transsphincteric fistula (1)
	Intersphincteric fistula (4)

Discussion

It is important to consider that no single technique is the best for the treatment for all types of anal fistula. Most of the anal fistulas are simple or superficial and can be treated by fistulotomy with a little incontinence and with an approximately 100% high success rate⁸. Also for complex fistulas, there are many sphincter sparing treatment options but the recurrence and incontinence risk after these procedures should be kept in mind

LIFT procedure was first proposed by Rojansakul in 2007 in 17 patients with a success rate of 94%⁶. There was no change incontinence status with no major postoperative complications. Shanwani et al. applied the same technique on 45 patients with success rate of 77% with a median follow-up of 9 months (range, 2–16), with a median healing time of 7 weeks (range, 4–10). Recurrence occurred in eight patients over a period of 3–8 months, with no significant morbidity⁹. In our study the success rate of 86% is comparable to the healing rates with other studies, and no fecal or gas incontinence was observed in any of the patients.

Three of five recurrences in our study were intersphincteric fistulas which were managed by simple fistulotomy. It may replace a difficult method to treat high transsphincteric fistula to an easier one to manage intersphincteric fistula

nonetheless. These results were similar to the previous studies¹⁰.

Other minor complications like wound sepsis, anal fissure and postoperative persistent pain were in accordance with the previous studies¹¹.

Due to the benefits mentioned, the LIFT technique has assumed a good surgical space and should remain with considerable one in relation to the various treatment options for anal fistula especially in complex types. True comparison and advantage of the LIFT procedure may not be clear until larger prospective, randomized studies are performed. However, with the current reported data in consideration, we believe that the LIFT procedure is a safe and more effective technique with minimal tissue injury and low recurrence rates.

Conclusion

The LIFT procedure is relatively easy to learn and perform; with no high-technology equipment required has a high healing rate and appears to be safe with low morbidity with this method fistula-in-ano could be easily treated even at primary health care level. Finally, the greatest advantage of this procedure is that there is no chance of incontinence as the infective focus is removed without dividing any part of the anal sphincter complex.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest

Reference

1. Vergara - Fernandes O, Espino - Urbina LA. Ligation of intersphincteric fistula tract: What is the evidence in a review? *World J Gastroenterol*. 2013 Oct 28;19(40):6805–6813.
2. Malik A, Nelson R. Surgical management of anal fistulae: a systematic review. *Colorectal Dis*. 2008;10(5):420-30.
3. Abbas MA, Jackson CH, Haigh PI. Predictors of outcome for anal fistula surgery FREE. *Arch Surg*. 2011;146:1011–6
4. Huda T, Ashok M. Lift Technique for Fistula in ANO with Redefined Criteria - A Step towards Better Outcome. *IOSR Journal*. 2013 Nov-Dec; Volume 11(Issue 1):PP 61–PP 63
5. Rojanasakul A, Pattanaarun J, Sahakitrungruang C, Tantiphlachiva K. Total anal sphincter saving technique for fistula-in-ano; the ligation of intersphincteric fistula tract. *J Med Assoc Thai*. 2007 Mar;90(3):581–586.
6. Rojanasakul A. LIFT procedure: A simplified technique for fistula-in-ano. *Tech Coloproctol*. 2009;13:237–40
7. Sirikurnpiboon S, Awapittaya B, Jivapaisarnpong P. Ligation of intersphincteric fistula tract and its modification: Results from treatment of complex fistula. *World J Gastrointest Surg*. 2013;5:123–8.
8. Rizzo JA, Naig AL, Johnson EK (2010) Anorectal abscess and fistula-in-ano: evidence-based management. *Surg Clin North Am* 90: 45-68,
9. Shanwani A, Nor AM, Amri N. Ligation of the intersphincteric fistula tract (LIFT): A sphincter-saving technique for fistula-in-ano. *Dis Colon Rectum*. 2010;53:39–42.
10. Fakhrosadat A, Gholamreza B, Roubik B, Omid E. Long-term results of ligation of intersphincteric fistula tract (LIFT) for management of anal fistula. *Journal of coloproctol (rio j)*. 2016;36(4):227–230
11. Yansong Xa, Weizhong T. Ligation of Intersphincteric Fistula Tract Is Suitable for Recurrent Anal Fistulas from Follow-Up of 16 Months. *Hindawi BioMed Research International* Volume 2017, Article ID 3152424, 4 pages.