

COMPARISON OF EFFICACY OF LIGATION OF INTERSPHINCTERIC FISTULA TRACT (LIFT) VS CONVENTIONAL FISTULECTOMY IN PATIENTS WITH LOW ANAL FISTULAS– PROSPECTIVE RANDOMISED CONTROL STUDY

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Abstract

Background: Anal fistulas are one of the most prevalent causes of chronic seropurulent discharge that causes discomfort to the perianal skin. Most cases of anal sepsis are caused by infections of the glands and ducts of the anal region. Hence, this study aims to evaluate the efficacy of intersphincteric fistula tract ligation against standard fistulectomy in treating low anal fistulas. **Materials and Methods:** A prospective, double-blind study was conducted at Kanyakumari Government Medical College and Hospital for 24 months (Oct 2019 – Sep 2021). A total of 64 cases were divided into two groups, Group A - 32 cases – Conventional Fistulectomy, and Group B – 32 cases– Ligation of intersphincteric fistula tract (LIFT). Informed written consent was obtained from all patients. Thorough clinical history and digital rectal and proctoscopic examination were conducted on each patient. In addition, patients have explained the nature of the disease and possible complications. **Result:** In the study, both groups consist of 29 (90.6%) males and 3 (9.4%) females. Most cases are reported between 40-60 years of age. 11 (34.4%) patients in group A were between 51-60 years old. About 12 (37.5%) of patients in group B were between 41 and 50 years old. There is a significant difference in operative time, duration of hospital stay, and wound healing time between the groups ($p < 0.0001$). However, there is no significant difference in fistula type and 1st post-op visit between the groups ($p = 0.768$) and ($p = 0.491$). **Conclusion:** We conclude that the LIFT procedure gives a better outcome than fistulectomy in patients with low anal fistula.

INTRODUCTION

The fistulotomy procedure is recognised worldwide as the most effective and reliable method of surgical therapy for low anal fistula. During this surgical operation, the fistula can either be split, in which case the fistula tract will be left open to epithelialise, or a fistulectomy, in which case the fistula tract will be excised entirely. Both of these options are available. The fistulectomy is a procedure requiring a little more effort on the patient's part than the fistulotomy.^[1] During the fistulectomy procedure, it's possible for the tissues that surround the fistula to sustain more damage. This is especially the case since inflammatory changes can occur on the walls of the fistula. No compelling data demonstrates that one method is demonstrably superior to the other concerning the rate at which the patient recovers.^[2]

A reed, pipe, or flute is known in Latin as a Fistula. Fistula in ano is an abnormal communication between the skin and anal canal lined by granulation tissue, representing the chronic form of a suppurative abscess.^[3] An anal fistula connects an internal anal canal to an exterior abscess-draining orifice. Anal abscesses caused by an infection of cryptoglandular glands are the most common cause of these fistulas, potentially curable conditions. Cryptoglandular infection is the most common cause in approximately 90% of these cases.^[4] Anal fistulas are one of the most prevalent causes of chronic seropurulent discharge that causes discomfort to the perianal skin. Fistula in ano is extremely common and usually resembles perianal and perirectal suppuration. A fistula and abscess may occur or be connected with unusual internal

apertures and numerous pathways. Anal abscess–fistula and smoking history are related.^[5]

Most cases of anal sepsis are caused by infections of the glands and ducts of the anal region. The bacterial blockage of the ducts by faecal material results in obstruction, which then leads to the development of an abscess. The cryptoglandular hypothesis of anal sepsis describes this mechanism as its central component.^[6] The fistula in ano rarely heals spontaneously and more often requires surgical treatment. The old procedure was partially or entirely opening the fistulous tract in one or more Stages and allowing the incision to heal naturally. Surgical procedures such as fistulous tract excision and staged procedures have made the post-operative time uneventful and dramatically reduced the recurrence rate. Preoperatively, the patient must thoroughly discuss all possible surgical options and hazards.^[7]

AIM

To compare the effectiveness of ligation of intersphincteric fistula tract with conventional fistulectomy in low anal fistulas.

MATERIALS AND METHODS

A prospective, double-blind study was conducted at Kanyakumari Government Medical College and Hospital for 24 months (Oct 2019 – Sep 2021). A total of 64 cases were divided into two groups, Group A - 32 cases – Conventional Fistulectomy, and Group B – 32 cases– Ligation of intersphincteric fistula tract (LIFT). Informed written consent was obtained from all patients.

Inclusion Criteria

Patients with intersphincteric fistula, Low transphincteric fistulas, and Single internal and external opening.

Exclusion Criteria

Age < 12 years, very high Anal fistulas, Chron's disease, Previous Anal incontinence, Malignancy, Tuberculosis, Anal Sphincter impairment, Previous history of radiation therapy, Recurrent fistulas, Patients in the immunocompromised state – Uncontrolled diabetes, Anaemia.

Thorough clinical history and digital rectal and proctoscopic examination were conducted on each patient. In addition, patients have explained the nature of the disease and possible complications.

Anaesthetic fitness was obtained, and patients were operated on in the standard operating room by the same surgeon with strict aseptic precautions after receiving the same preoperative antibiotics and done under spinal anaesthesia.

After painting and draping parts, the lithotomy location and the external aperture have been established. First, methylene blue dye was injected with hydrogen peroxide along the external opening to determine the patency of the tract. After that, the exterior aperture of the tract was gently probed, and the internal opening was identified.

Fistulectomy

Tissue on both sides of the tract is dissected to reach the interior aperture, which is reached by making a deepening elliptical incision around the exterior hole. When sphincter muscles are found, they are cut free from the tract at any point in the dissection process. Next, the incision was dissected to the internal orifice and left open to heal by granulation.

Ligation of intersphincteric tract (LIFT)

This approach includes cutting the intersphincteric groove and identifying the fistula tract and sphincter muscle dissection. The fistula probe helps in tract identification. First, the probe and fistula tract is dissected. Next, the fistula tract is ligated using an absorbable suture near the internal opening and divided. The fistulous tract is then curetted to the external opening, and the wound is left open. Postoperatively all patients will be given a sitz bath and intravenous antibiotics.

Unpaired t-tests were used for continuous data in Statistical Package for the Social Sciences, whereas chi-square tests were used for categorical data.

RESULTS

In the study, both groups consist of 29 (90.6%) males and 3 (9.4%) females. In both patients who underwent fistulectomy and LIFT, Incidence was higher in males than in females.

About 11 (34.4%) of patients in group A were between 51-60 years. About 12 (37.5%) of patients in group B were between 41 and 50 years old. Most cases are reported between 40-60 years of age.

Table 1: Distribution of patient's characteristics

Variable	Group	
	Fistulectomy	LIFT
Gender	Male	29 (90.6%)
	Female	3 (9.4%)
Age group	<30	2 (6.3%)
	31-40	7 (21.9%)
	41-50	5 (15.6%)
	51-60	11 (34.4%)
	>61	7 (21.9%)

Table 2: Comparison of Operative time, Duration of hospital stay, and wound healing time between groups

	Mean and Std deviation		P-value
	Fistulectomy	LIFT	
Operative Time	39.84 ± 5.89	30.47 ± 5.14	<0.0001
Duration of hospital stay	7.69 ± 1.53	5.25 ± 1.02	<0.0001
The wound of healing time	9.25 ± 1.19	6.25 ± 1.22	<0.0001

There is a significant difference in operative time between the groups ($p < 0.0001$). There is a significant difference in the duration of hospital stay between the groups ($p < 0.0001$). Finally, there is a significant difference in the wound healing time between the groups ($p < 0.0001$).

Table 3: Comparison of fistula type, first post-op visit, complication, and recurrence between groups

		Group		P-value
		Fistulectomy	LIFT	
Fistula type	Inter sphincteric	24 (75%)	25 (78.1%)	0.768
	Trans sphincteric	8 (25%)	7 (21.9%)	
First post-op Visit	Wound healthy	26 (81.3%)	28 (87.5%)	0.491
	Wound infection	6 (18.8%)	4 (12.5%)	
Complication	Incontinence Transient	2 (6.3%)	1 (3.1%)	0.165
	Wound infection	3 (9.4%)	0	
	Nil	27 (84.4%)	31 (96.9%)	
Recurrence	No	30 (93.8%)	32 (100%)	0.151
	Yes	2 (6.3%)	0	

There is no significant difference in fistula type between the groups ($p = 0.768$). In addition, there is no significant difference in 1st post-op visit between the groups ($p = 0.491$).

DISCUSSION

In group A, 11 (34.4 %) patients fall between 51-60 years, and in group B, 12 (37.5 %) patients come under 41-50 years. Hence, summing up both groups, most patients were between 40- 50 years of age. Comparing the type of fistula, In Group A, 24 (75%) were Intersphincteric, and 8 (25%) were Trans sphincteric fistulas. In Group B, 25 (78.1%) were Intersphincteric, and 7 (21.9%) were Trans sphincteric fistulas. Most of the patients presented with fistula were Intersphincteric, 49 (76.6%) of patients presented with Intersphincteric fistulas. The Observed difference between the two groups is not Statistically Significant ($P < 0.05$) in our study.

According to Sirikurnpiboon et al., the average age of the 41 patients in the research was 40.78 and 11.84 years. An average of 24 weeks was spent keeping tabs. Among all patients, 83% were successful; this included 81% in the LIFT group and 86% in the LIFT with partial core out fistulectomy group. There was no difference in the median number of weeks needed for wounds to heal (4 weeks). There was no discernible difference in performance between LIFT and LIFT + procedures, as evidenced by the data. The LIFT treatment is an effective method for managing fistula-in-ano and preserving continence.^[8]

According to a study by Al Sebai et al., no one had incontinence after the LIFT procedure was carried out on all individuals in group I. Group II had two occurrences of incontinence to gases solely post-fistulotomy. After LIFT, 80% of patients were completely healed. In 93.3 percent of cases, fistulae closed following surgery. The LIFT method has replaced open fistulotomy as the favoured sphincter-

saving technique for fistula-in-ano because of its shorter recovery time and lower risk of post-operative anal incontinence.^[9]

According to Goudar et al., the average LIFT age was 44.17, whereas that of CF was 41.1. The primary wounds of 86.7% of LIFT patients and 100% of CF patients healed successfully. When comparing LIFT and CF, the mean pain score was considerably lower on days 1, 3, and 7 post-ops. There was no difference in the rates of anal incontinence (10% in CF and 0% in LIFT) or recurrence (6.6% in LIFT and 0% in CF) at the same location. The findings suggest that LIFT is a potential and sphincter-saving procedure that is straightforward, easy to learn, associated with quicker healing rates and improved patient satisfaction but also carries the chance of failure and recurrence. Failure rates can be reduced by testing several versions of LIFT.^[10]

In a study by Han et al. compared to the LIFT-plug method, the LIFT procedure was shown to have a shorter operational time ($P = 0.03$). The median duration for healing in the LIFT-plug group was 22 days, while it was 30 days in the LIFT group. In addition, more patients in the LIFT-plug group recovered from their primary injury than in the LIFT group. People with transsphincteric anal fistulas have shown that both the LIFT-plug and the LIFT treatments are straightforward, risk-free, and successful. Compared to traditional plugging methods, LIFT-plug offers the advantages of an increased speed of recovery, shorter recovery time, and a decreased initial post-operative pain score.^[11]

In a study by Gopi et al., they found that cases performed with LIFT required much less time in surgery, less time in the hospital, and fewer painkillers. The mean time for complete healing was

substantially reduced in cases performed using the LIFT method, and the difference in incidence rates was insignificant. There were three occurrences of recurrence after LIFT and one after fistulotomy, respectively. According to the findings, LIFT surgery is the most successful and widely-preferred sphincter-saving approach for fistula-in-ano.^[12] A study by Dong et al. found that those in the study group fared better regarding operation conditions, VEGF and IL-2 levels, pain ratings, post-operative wound healing rate, and overall effectiveness. In addition, there was a considerable improvement in surgical complications, duration of hospital stays, rates of wound healing, absence of nocturia, and severity of post-operative discomfort for patients who received LIFT.^[13]

In our study, the mean operative time in patients who underwent fistulectomy was 39.84 mins in patients who underwent (LIFT). The mean operative time was 30.47 mins. Compared to fistulectomy, Operative time in the LIFT was shorter when comparing the groups.

In the study by Andreou et al., eighty-five percent of those who needed healing saw improvement. Anal fistula plug had the greatest recurrence rate, at 42%. As far as the cutting-seton operations go, there were no repeats. Consistent post-operative discomfort or incontinence was not noticed for the procedures considered here. The best method for anal fistula repair that guarantees the anal sphincter won't be damaged is still missing despite the many procedures developed thus far.^[14]

CONCLUSION

We conclude that the LIFT procedure gives a better outcome than fistulectomy in patients with low anal fistula. In addition, operative time, duration of hospital stay and wound healing time was shorter in patients who underwent LIFT when compared to fistulectomy.

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