

A STUDY ON SPHINCTER PRESERVING PROCEDURE LIFT (LIGATION OF INTERSPHINCTERIC FISTULA TRACT) IN PATIENTS WITH FISTULA IN ANO AT A TERTIARY CARE CENTRE

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Abstract

Background: Fistula in ano is an abnormal tract or cavity lined by granulation tissue, connecting the Perianal skin to anal canal superficially or anorectum and rectum deeply, which evolves following anorectal sepsis in intersphincteric plane.^[1] This non-randomised control trial study evaluates the efficacy of LIFT (Ligation of Intersphincteric Fistula Tract) - closure of internal opening of fistula tract, drainage of infective foci and eradication of fistulous tract with preservation of sphincter function.^[2,3] in the treatment of fistula in ano compared to Fistulectomy in terms of Duration of surgery, Perioperative complications, Postoperative complications, Length of hospital stay, Readmission and Recurrence. **Materials and Methods:** Study was conducted for 12 months with 70 patients (35 underwent LIFT and 35 underwent Fistulectomy). The collected data were analysed and results were computed using unpaired t test and chi square test. **Results:** This study observed that fistula was more common in males (84.3%) and in 31-40 years age (37.9%) group. Fistulectomy group had lesser duration of surgery (mean-34 mins), more intraoperative complications like bleeding (12.9%) and sphincter injury (17.1%) post-operative anal incontinence (7.1%). LIFT had a lesser duration of hospital stay (mean-3.9 days), early wound healing (mean-5 weeks) and no recurrence. **Conclusion:** On basis of the results and analysis of this study, it is concluded that, compared to fistulectomy, LIFT procedure is cost-effective, safe and preferred *sphincter saving* technique for Fistula-in-Ano and has very minimal risk for incontinence^[4] and recurrence. It also has short duration of stay in hospital which helps in resuming early normal daily activities^[5].

INTRODUCTION

Fistula-in-ano is a chronic phase of anorectal infection, characterised by granulation tissue lined tract, connecting an external opening (perianal skin) to internal opening (anal canal superficially or anorectum and rectum deeply).^[1] The *intersphincteric plane* is a potential space containing loose areolar tissue between the external muscle laterally and the longitudinal muscle medially,^[2,3] containing the intersphincteric anal glands.^[3] This forms the route for the spread of pus causing intersphincteric abscess due to draining duct blockage by infected debris, leading to perianal

abscess, ischiorectal abscess and pelvic abscess.^[6,7] These can either burst spontaneously or the source of infection can persist in the intersphincteric space even after treatment leading to formation of Fistula in Ano.^[8,9] Recurrent infections can lead to formation of extensions or secondary tracts (*CRYPTOGLANDULAR HYPOTHESIS*). Tuberculosis, malignancy, inflammatory bowel disease^[10,11], lymphangioma venereum, hidradenitis suppurativa and trauma are other pathologies causing this (*NON-CRYPTOGLANDULAR HYPOTHESIS*). Symptoms include chronic purulent discharge, bleeding, swelling and pain associated with abscess re-accumulation with intermittent spontaneous decompression. Internal openings are

usually single while external openings can be single or multiple. Broadly classified into simple and complex fistula. Simple fistulae further classified into subcutaneous and submuscular (intersphincteric and low transsphincteric). Complex fistulae include high trans-sphincteric, suprasphincteric, extrasphincteric, fistula with multiple tracts, and recurrent fistula. Goodsall's rule states about the course of fistulous tract based on external opening. Fistula rarely heals spontaneously and requires surgical therapies like fistulotomy,^[12,13] fistulectomy, excision of tract with primary closure and staged operations for cure and reducing recurrences.^[13] Surgical complications include faecal soiling, mucus discharge, varying degrees of incontinence and recurrent abscess and fistula ^[14]. Recent advances like fibrin glue, LIFT,^[15,16,17] and VAAFT procedures aims at preserving sphincter anatomically and functionally, thus reducing the incidence of sphincter incontinence and providing a good quality of life. Combination of LIFT and Fistula plug called **LIFT-plug procedure** ^[18,19], a simple minimally invasive procedure can be used ideally for the treatment of trans-sphincteric fistulas with high healing rates.^[20]

MATERIALS AND METHODS

A non-randomised control trial (single blind open label control trial) was done on Patients with fistula in Ano who got admitted in Department of General Surgery for past 12 months. Patients were divided into Group A (LIFT) and Group B (Fistulectomy) randomly with sample size of 35 in each group. Patients were selected based on inclusion and exclusion criteria as described.

Inclusion Criteria

- Patients aged 18 years and above consenting for the procedure
- Patients with intersphincteric fistula in ano

Exclusion Criteria

- Patients who deny consent
- Age below 18 years
- Patients undergoing treatments like chemotherapy, immunotherapy and steroids.
- Patients with Inflammatory Bowel Disease, malignancy and tuberculosis
- Patients having recurrent or complex fistula in ano
- Patients having perianal fistula due to perianal injuries

FISTULECTOMY PROCEDURE

1. Probe passed from external to internal opening.
2. Internal opening felt as an induration and Fistula is laid open using a knife.
3. Fistulous tract along with unhealthy granulation tissue and all external openings are removed in toto.



Figure 1: Fistulectomy

LIFT PROCEDURE

1. Internal opening identified by dye test
2. Intersphincteric groove incision made and dissected
3. Intersphincteric tract identified, hooked out, ligated with vicryl and removed.
4. Curetting done from external opening to clear off the infected contents.
5. Sphincter defects closed with intermittent sutures.
6. Wound is closed and sterile dressing done.



Figure 2: Intersphincteric tract identified in LIFT technique

MONITORING

Patients were followed up at regular basis on immediate postoperative period, 1 week, 1 month, 6 weeks and 3 months. The following factors were assessed for both groups

- Pain
- Bleeding
- Wound infection
- Incontinence ^[21]
- Length of hospital stay
- Wound healing time
- Recurrence and re-admission

RESULTS

A non-randomised control trial (single blind open label control trial) was done for 12 months in 70 patients among which 35 patients were taken as test group- group A- and underwent sphincter preserving LIFT (ligation of intersphincteric fistula tract) technique; 35 patients were taken as control group- group B- and underwent fistulectomy.

The collected data were analysed. To describe about the data descriptive statistics, frequency analysis and percentage analysis was used for categorical variables and the mean & SD were used for continuous variables. To find the significant difference between the bivariate samples in independent groups the Unpaired sample t-test was used. To find the significance in categorical data Chi-Square test was used similarly if the expected cell frequency is less than 5 in 2x2 tables then the Fisher's Exact was used.

This study observed that fistula in ano was more common among males (84.3%) than females (15.7%) and more common among 31-40 years group (37.9%) as depicted.

Duration of surgery was lesser for fistulectomy (mean-34 mins) than LIFT (mean- 40 mins).

Duration of hospital stay was lesser for LIFT (mean 3.9 days) than fistulectomy (5.3 days).

Wound healing time was lesser for LIFT (5 weeks) than fistulectomy (6.5 weeks).

Surgical difficulties like bleeding (12.9%) and sphincter injury (17.1%) were more encountered during fistulectomy than LIFT.

Post operative period

Postoperative bleeding seen commonly in patients who underwent fistulectomy amounting to 11.4% and has a highly significant p value.

Postoperative incontinence was seen in patients who underwent fistulectomy (7.1%). Incontinence is not reported in patients who underwent LIFT.

1 week post operative period

Pain was significantly seen in patients who underwent Fistulectomy with p value 0.001

Incontinence was significantly seen in patients who underwent fistulectomy (5.7%) and nil in LIFT group

Wound infection seen more in patients who underwent fistulectomy (10%) than LIFT (7.1%)

No readmission required in both fistulectomy and LIFT groups after 1 week

1 month post operative period

Pain was seen significantly in patients who underwent fistulectomy (2.9%)

Incontinence seen in patients who underwent fistulectomy (5.7%)

Wound infection is significant in patients who underwent Fistulectomy (7.1%) compared to LIFT (2.9%).

Readmission required for 7.1% of fistulectomy group after 1 month

6 weeks postoperative period

Pain and incontinence were not significantly seen in both the groups after 6 weeks.

Wound infection was significant in patients who underwent Fistulectomy (8.6%) than LIFT (2.9%)

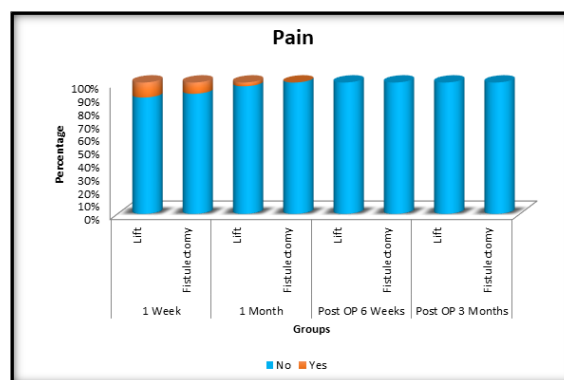
After 6 weeks no patients required readmission in both the groups.

3 months postoperative period

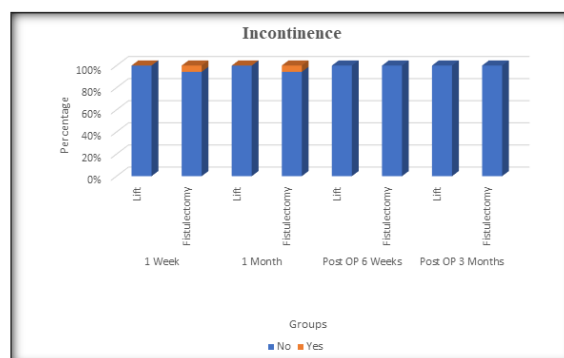
Pain and incontinence were not reported in both the groups after 3 months indicating fistulectomy group has a disadvantage of short-term anal incontinence.

After 3 months, no patients required readmission in both the groups

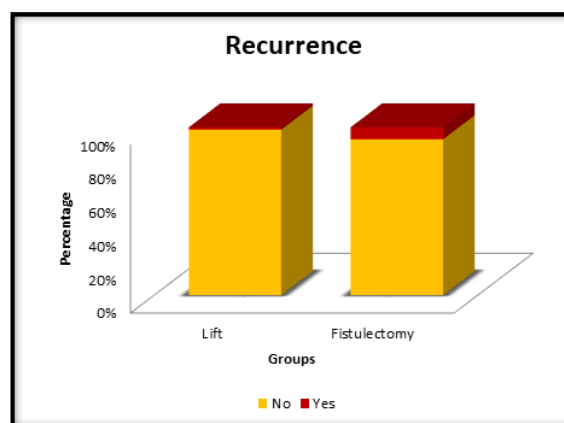
Significant recurrence was noted in patients who underwent fistulectomy (7.1%) compared to LIFT group (1.4%)



Graph 1: Pain in LIFT vs FISTULECTOMY patients



Graph 2: Incontinence in LIFT vs FISTULECTOMY patients



Graph 3: Recurrence in LIFT vs FISTULECTOMY patients

DISCUSSION

The cure of fistula in ano results from elimination of infective foci (cryptoglandular infection) and from preventing the entry of faecal particles through the internal opening which can be achieved by closure of internal opening and removal of infective foci. Most of the surgical techniques sacrifices the sphincter to achieve this goal resulting in anal incontinence; Sphincter preserving techniques fails to remove the infective foci and results in recurrence and chronic wound infection. Both of which is not acceptable. LIFT technique,^[22,23] overcomes the above-mentioned drawbacks,^[24] by providing the expected outcomes without sacrificing the sphincter functions.^[25,26]

This study compared LIFT and Fistulectomy. The results of the study showed that incidence of fistulas is more common among males than females for unknown reasons. The incidence of fistulas is more among the middle age group persons. In view of duration of surgery, fistulectomy has the advantage of lesser duration of surgery. But LIFT is advantageous,^[27] in all other aspects like lesser duration of hospital stay, early resuming of daily activities, preserving sphincter functions, maintaining continence,^[27,28] having early wound healing time and having low wound infection rates. LIFT also shows minimal or nil intraoperative, postoperative complications and Recurrence.^[29]

CONCLUSION

On basis of the observational results and analysis of this “STUDY ON SPHINCTER PRESERVING PROCEDURE LIFT (LIGATION OF INTERSPHINCTERIC FISTULA TRACT) IN PATIENTS WITH FISTULA IN ANO ”, it is concluded that, compared to fistulectomy, LIFT procedure is cost-effective, safe and preferred^[30] sphincter saving technique for Fistula-in-Ano as this technique has very minimal risk for incontinence and recurrence, and also has short duration of stay in hospital which helps in resuming early normal daily activities.

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