

Original Research Article

Anal incontinence in patients with fistula-in-ano: a comparative study between LIFT (ligation of inter-sphincteric fistulous tract) and fistulectomy

Vijayalakshmi Vidyanendh, Amilthan Karunakaran*, Arun Damodharan,
Venkatesh Balaiah Karuppiah, Vaitheeswaran Madhesan

Department of General Surgery, Kilpauk Medical College, Chennai, Tamil Nadu, India

Received: 15 May 2018

Accepted: 05 June 2018

*Correspondence:

Dr. Amilthan Karunakaran,

E-mail: vaithylocks@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: General surgeons perform surgeries for Fistula in ano day in and day out as elective procedures. Fistula in ano is more common nowadays because of improper hygiene. 3 major basic aims of Fistula in ano surgeries are control of sepsis closure of fistula and maintenance of continence. Post operatively some patients developed anal incontinence due to sphincter injury which affects patients' day to day activity. The present study compared the utility and effectiveness of two standard procedures LIFT (Ligation of Intersphincteric Fistula Tract) and Fistulectomy in terms of anal incontinence.

Methods: This study included 100 patients with fistula in ano during the 6 months period from January 2017 to June 2017. Randomized controlled trial was done to divide the patients into two groups. Group A underwent fistulectomy and Group B underwent LIFT (Ligation of intersphincteric fistulous tract). Post-operative anal incontinence between the two groups were observed for 6 months.

Results: In our study it was observed that four patients of group A (fistulectomy) had anal incontinence whereas no patients in group B (LIFT) developed anal incontinence.

Conclusions: LIFT (Ligation of intersphincteric fistulous tract) is a better procedure when compared to fistulectomy in preserving sphincter function and preventing anal incontinence offering better quality of life.

Keywords: Anal incontinence, Anal pressure, Fistula in ano, Fistulectomy, LIFT, Sphincter defect

INTRODUCTION

Fistula-in-ano is an abnormal tract or cavity that connects a primary opening inside the anal canal to a secondary opening in the Perianal skin. These fistulas are often confused with Hidradenitis Suppurativa, infected Inclusion cysts, Pilonidal sinus or Bartholin gland abscesses in females. They often arise due to infection resulting in abscess. Symptoms range from minor discomfort to pus discharge with hygiene problems to sepsis. References to Fistula in ano date back from the time of Hippocrates. Late nineteenth and early twentieth

centuries saw the works of prominent surgeons and physicians in this condition. Treatment remains challenging, surgery being the treatment of choice.

There are many surgical procedures available to treat fistula in ano namely fistulotomy, fistulectomy, seton placement, fistula plug placement and ligation of intersphincteric fistulous tract (LIFT). Fistula in ano being a chronic problem poses challenge for the surgeons as it can have complications like post-operative anal incontinence and recurrence. In 2007, Rojanasukul, Thai colorectal surgeon developed a total anal sphincter saving

technique for fistula in ano namely the ligation of intersphincteric fistula tract.¹

In view of the large number of Fistula in ano cases being treated in this hospital, this study form compares two approaches to fistula in ano repairs namely ligation of intersphincteric fistulous tract and fistulectomy, in a tertiary care set up in terms of postoperative anal incontinence.

METHODS

The aim of the present investigation was to compare the outcomes of ligation of intersphincteric fistulous tract and fistulectomy in patients with fistula in ano in terms of anal incontinence.

Inclusion criteria

- Patients giving informed consent for the procedure
- Patients aged more than 18 years of both the genders
- Patients without any comorbidities
- Fistula in ano not associated with inflammatory bowel disease, TB and malignancy.

Exclusion criteria

- Denial of consent
- Patients less than 18 years of age
- Patients with comorbid conditions like immune compromised patients, patients on cancer chemotherapy, immunotherapy and on long term steroids
- Fistula in ano associated with inflammatory bowel disease, TB and malignancy.

This study includes 100 patients admitted in the Department of General Surgery, Govt. Kilpauk Medical College Hospitals during the period of January 2017 to June 2017 with Fistula in ano. The patients admitted with Fistula in ano who satisfy the inclusion criteria are selected for the study. Out of these 100 patients, 50 were randomized as group A, who had undergone Fistulectomy as treatment and remaining 50 were randomized as group B, who had undergone LIFT (Ligation of Intersphincteric Fistula Tract) as treatment of Fistula in ano.

- In all cases, bowel preparation in the form of soap and water enema and tablet dulcolax was given on the prior day of surgery
- In the group A, Fistula in ano was treated with Fistulectomy
- In the group B, Fistula in ano was treated with LIFT (Ligation of Intersphincteric Fistula Tract)
- Preoperative and Post-operative antibiotics were given to all patients. Postoperative anal incontinence was checked in the patients and the sphincter integrity is checked with the help of endoanal ultrasound.

RESULTS

In present study, on comparing post-operative short term anal incontinence in group A and group B, among group A patients who underwent Fistulectomy, only 2 (4%) out of 50 patients had the complication of incontinence and among group B who underwent LIFT procedure zero (nil) patients reported with incontinence. Hence it shows LIFT produces lesser incontinence when compared to Fistulectomy.

Table 1: Fistulectomy versus LIFT.

Patients (100 cases)	Fistulectomy (50 cases)	Ligation of Intersphincteric Fistulous Tract (50 cases)
Who had developed Anal Incontinence	2 Cases (4%)	0 Cases (0%)
Who had no complication of anal incontinence	48 cases (96%)	50 cases (100%)

DISCUSSION

Ligation of intersphincteric fistula tract is done for complex Trans sphincteric and Intersphincteric fistulas. The internal opening is closed securely and the infected cryptoglandular tissue is removed.

On identifying the Intersphincteric tract, it is hooked with a small right-angle clamp and ligated close to the Internal sphincter. The tract is divided distal to the point of ligation. It is confirmed by injecting hydrogen peroxide. The external opening and remnant tract is curetted. Finally, the incision is sutured loosely with an absorbable suture. The curetted wound is left open for dressing.

In 2007, Rojanasukul, Thai colorectal surgeon developed this procedure for the first time. The healing percentages in the first report were 94% in 2007.¹

In present study, in post-operative follow up period, post-operative healing time is measured in weeks in group A and B. In group A, who underwent fistulectomy, 82% falls between 5-9 weeks. Hence the average post-operative healing time for Fistulectomy is 7 weeks. Similarly, in group B, who underwent LIFT, 84% falls between 3-7 weeks. Hence the average post-operative healing time for LIFT procedure is 5 weeks.

In present study, post-operative wound infection rate is compared among group A and group B patients. In group A, who underwent Fistulectomy, 22 patients got wound infection among the 50 patients. In group B, who underwent LIFT procedure, only 12 patients acquired wound infection. On comparison and analysis of the two groups, wound infection rate in Fistulectomy is more when compared to LIFT procedure.

In a study conducted by Rojanasakul et al, from Thailand in 2009 developed the LIFT technique saving the anal sphincter with the success rate of 94.4%, whereas our study gave a 100% positive result in sphincter saving for LIFT technique.¹ In contrast, the study by Shanwani et al, from Malaysia studied LIFT procedure with the success rate of 82% only.²

In study done in Govt. Mohan Kumaramangalam Medical College, Salem is shown that LIFT procedure has least or literally no intraoperative or postoperative complications with very short hospital stay and no risk of anal incontinence was very similar to the result obtained in our study.³

Similar results, favourable for LIFT technique, were obtained in the studies done by Alapach et al, Sileri et al.^{4,5}

In a prospective randomized study done in June 2015, it is shown that fistulotomy has an additional increase in the incidence of anal incontinence compared to LIFT, which is in accordance with the findings obtained in our study.

In present study the average post-operative healing time for fistulectomy is 7 weeks for LIFT procedure is 5 weeks. This result of shorter post-operative healing time and hence shorter post-operative healing time is supported by the results of the studies conducted by Rojanasakul et al, Shanwani et al, Alapach et al, Sileri et al the benefit of shorter average post-operative healing time for LIFT procedure over fistulectomy appears to be because of the smaller incision and smaller raw area in case of LIFT procedure.^{1,2,4,5} Studies conducted by Meinero et al and Aboulain et al also showed similar results.^{7,8}

The post-operative wound infection rate from present study shows that LIFT procedure is safe over fistulectomy for fistula-in-ano as the post-operative wound infection rate was 24% in LIFT procedure as compared to the fistulectomy (44%). The studies done by Rojanasakul et al, Shanwani et al, Alapach et al, Sileri et al clearly show this safety of LIFT procedure over Fistulectomy in their results.^{1,2,4,5} The increase wound healing time in fistulectomy appears to be because of the increased time of fistulectomy procedure, large incision, more manipulation and bigger raw area exposure post-operatively.

Total sphincter conservation was advocated by Matos et al resulted in better anal continence after the procedure which is very much similar to our study results.⁹ Similar results were obtained in the studies conducted by Bleier et al, Mushaya et al and Ooi et al.¹⁰⁻¹²

Studies conducted by Tan et al and Wallin et al showed increased anal incontinence following LIFT procedure which is contrasting to the results obtained in our study.^{13,14}

CONCLUSION

It is evident from the above study that the LIFT procedure is significantly safer over Fistulectomy for fistula-in-ano because of the following factors: Anal sphincter saving, Easy procedure, Minimal tissue injury, Shorter healing time, Small scar, Lesser post-operative complication, Shorter hospital stay

LIFT procedure is going to be a novel sphincter saving procedure, which is effective and safe in treating Transsphincteric and Complex anal fistulas.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. 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;90(3):581-6.
2. 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(1):39-42.
3. Nirmala A, Jiva N, Swaminathan R, Sivakumar V. A comparative study on various techniques in management of fistula in ano. *IOSR J Dent Med Sci*. 2016;15(6):8-13.
4. Alapach S, Khaimook A. Comparison between ligation of intersphincteric fistula Tract (LIFT) technique and conventional fistulotomy in the treatment of fistula-in-ano at Hat Yai regional hospital. *Thai J Surg*. 2014;35(1):20-3.
5. Sileri P, Franceschilli L, Angelucci GP, D'Ugo S, Milito G, Cadeddu F, et al. Ligation of the intersphincteric fistula tract (LIFT) to treat anal fistula: early results from a prospective observational study. *Techniq Coloproctol*. 2011;15(4):413-6.
6. Yardimci E, Cipe G, Hasbahceci M, Aysan E, Bektasoglu H, Idiz U, Muslumanoglu M. Comparison of lift and fistulotomy in treatment of intersphincteric and low transsphincteric anal fistula: prospective randomized study. *Dis Colon Rectum*. 2015;58(5): E165-E165.
7. Meinero P, Mori L. Video-assisted Anal fistula treatment (VAAFT): A novel sphincter-saving procedure for treating complex anal fistulas. *Techniq Coloproctol*. 2011;15(4):417-22.
8. Aboulain A, Kaji AH, Kumar RR. Early result of Ligation of the Intersphincteric Fistula Tract for Fistula-in-ano. *Dis Colon Rectum*. 2011;54(3):289-92.

9. Matos D, Lunniss PJ, Phillips RK. Total sphincter conservation in high fistula in ano: results of a new approach. *Br J Surgery.* 1993;80(6):802-4.
10. Bleier JI, Moloo H, Goldberg SM. Ligation of the intersphincteric fistula tract: an effective new technique for complex fistulas. *Dis Colon Rectum.* 2010;53(1):43-6.
11. Mushaya C, Bartlett L, Schulze B, Ho YH. Ligation of intersphincteric fistula tract compared with advancement flap for complex anorectal fistulas requiring initial seton drainage. *Am J Surgery.* 2012;204(3):283-9.
12. Ooi K, Skinner I, Croxford M, Faragher I, McLaughlin S. Managing fistula-in-ano with ligation of the intersphincteric fistula tract procedure: the Western Hospital experience. *Colorectal Dis.* 2012;14(5):599-603.
13. Tan KK, Tan IJ, Lim FS, Koh DC, Tsang CB. The anatomy of failures following the ligation of intersphincteric tract technique for anal fistula: a review of 93 patients over 4 years. *Dis Colon Rectum.* 2011;54(11):1368-72.
14. Wallin UG, Mellgren AF, Madoff RD, Goldberg SM. Does ligation of the intersphincteric fistula tract raise the bar in fistula surgery?. *Dis Colon Rectum.* 2012;55(11):1173-8.

Cite this article as: Vidyanendh V, Karunakaran A, Damodharan A, Karuppiyah VB, Madhesan V. Anal incontinence in patients with fistula-in-ano: a comparative study between LIFT (ligation of intersphincteric fistulous tract) and fistulectomy. *Int Surg J* 2018;5:2533-6.