

Original Research Article

Comparative study on efficacy of fistulotomy and Ligation of intersphincteric fistula tract (LIFT) procedure in management of fistula-in-ano

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ABSTRACT

Background: Fistula-in-ano is one of the most common benign anal conditions in daily surgical practice. Present study aims at comparing the efficacy of open fistulotomy and ligation of intersphincteric fistula tract (LIFT) procedure based on its post-operative outcomes.

Methods: A comparative study was carried out among 50 subjects attending Department of Surgery, K. R. Hospital, Mysuru over a period of 10 months. Subjects of either sex diagnosed with anal fistula were included in the study. Patients with recurrent fistulas, Crohn's disease, anal or distal rectal cancers were excluded from the study. Descriptive statistics, unpaired t-test, Fischer exact chi-square test were used to analyse the results.

Results: The mean age group of the study subjects was 44.6 ± 8.34 and 41.3 ± 9.71 years among fistulotomy and LIFT procedure group respectively. The gender distribution showed a higher number of males (38) as compared to females (12). There was 23 inter-sphincteric, 2 trans-sphincteric fistula in fistulotomy group and 22 inter-sphincteric, 3 trans-sphincteric fistula in LIFT group. The average operative time for fistulotomy was significantly shorter at 19.6 minutes, compared with 28.4 minutes for LIFT procedure. Wound infection detected in 1 (4%) and 2 (8%) subjects in fistulotomy and LIFT groups, respectively. 1 (4%) subject among fistulotomy group developed anal incontinence. The average healing time for fistulotomy was 8 weeks compared to 3 weeks for LIFT procedure. Total 3 (12%) subjects developed recurrence in LIFT procedure, but no recurrence was observed in fistulotomy group.

Conclusions: LIFT procedure is effective and sphincter saving technique for fistula in ano with shorter healing time and lower incidence of postoperative anal incontinence, as compared to open fistulotomy.

Keywords: Anal incontinence, Fistulotomy, Intersphincteric fistula, LIFT procedure

INTRODUCTION

Fistula-in-ano is defined as an epithelized abnormal tract connecting two surfaces; usually the rectal mucosa and perianal skin.¹ Surgical management in any case of fistula-in-ano aims at eradication of sepsis while maintaining continence.² Fistulotomy is the procedure of choice for simple low fistulas, where the tract is submucosal, inter-sphincteric or located in the lower third of the external anal sphincter. A fistulotomy lays open the fistulous tract, thus leaving smaller epithelized wounds,

which hastens the wound healing. Marsupialization of the fistulotomy wounds can further reduce the healing time.³ LIFT (Ligation of the intersphincteric fistula tract) procedure is a recent, minimally invasive, sphincter saving procedure which is easy to learn and perform, and can be used on recurrent cases.⁴

METHODS

After obtaining Institutional ethical committee approval, a prospective, open label, randomized, comparative,

single centered study was conducted among 50 subjects attending General Surgery OPD, K. R. Hospital, Mysuru meeting the inclusion and exclusion criteria over a period of 10 months (January to October 2016) after obtaining a written informed consent using a purposive sampling technique. Subjects of either sex diagnosed with anal fistulas were included in the study. Patients with recurrent fistulas, Crohn’s disease, anal or distal rectal cancers were excluded from the study. All study subjects were randomized to undergo either fistulotomy or LIFT procedure using a computer generated random number table. Descriptive statistics, unpaired t-test, Fischer exact chi-square test were used to analyse the results. The efficacy was assessed based on; average operative time, Post-op wound infection, Post-op anal incontinence, Post-op average healing time and frequency of recurrence.

RESULTS

During the ten months study period, 25 subjects had undergone open fistulotomy and LIFT (ligation of the intersphincteric fistula tract) procedure was performed for 25 study subjects. The mean age group of the study subjects was 44.6±8.34 and 41.3±9.71 years among fistulotomy and LIFT procedure group respectively. The gender distribution showed 38 males compared to 12 females. There was 23 inter-sphincteric, 2 trans-sphincteric fistula in fistulotomy group and LIFT group

had 22 inter-sphincteric, 3 trans-sphincteric fistula (Table 1).

Table 1: Baseline demographic data.

Parameter	Fistulotomy	Lift procedure
Age (mean±SD) (in years)	44.6±8.34	41.3±9.71
Gender		
Male	18	20
Female	7	5
Type of fistula		
Inter-sphincteric	23	22
Trans-sphincteric	2	3

The average operative time for fistulotomy was significantly shorter at 19.6 minutes, compared with 28.4 minutes for LIFT procedure.

The average healing time for fistulotomy was 8 weeks compared to 3 weeks for LIFT procedure. Wound infection detected in 1 (4%) and 2 (8%) subjects in fistulotomy and LIFT groups, respectively. 1 (4%) subject among fistulotomy group developed anal incontinence. Total 3 (12%) subjects developed recurrence in LIFT procedure, but no recurrence was observed in fistulotomy group (Table 2).

Table 2: Assessment parameters.

Parameter	Fistulotomy	Lift procedure	P-value
Average operative time (minutes)	19.6±4.68	28.4±6.04	0.012
Average healing time (weeks)	8	5	0.042
Wound infection	1 (4%)	2 (8%)	0.036
Anal incontinence	1 (4%)	0	-
Recurrence	0	3 (12%)	-

DISCUSSION

No single technique is appropriate for the treatment of all fistula-in-ano and the surgeon's experience and judgement should guide treatment decision.⁵

In the present study, the average operating time was significantly longer for LIFT (ligation of the intersphincteric fistula tract) procedure as compared to fistulotomy (p 0.012) which co-relates well with the results in a study done by Sakda A et al, where 48 and 37 patients underwent LIFT procedure and fistulotomy respectively.⁶

Wound infection detected in 1 (4%) and 2 (8%) subjects in fistulotomy and LIFT groups, respectively (p 0.036). This was similar to a study done by Yardimci E et al, where fistulotomy and LIFT procedure was done in 15 patients each.⁷ There was a significant difference in the

average healing time between the two groups in the present study (p 0.042). While a study done by Yardimci E et al, showed similar observation.⁷

Post-op anal incontinence in fistulotomy and LIFT procedure co-relates well with results in study done by Yardimci E et al, Sakda A et al, respectively.^{6,7} Recurrence observed in LIFT procedure groups co-relates well with study done by Sakda A et al.⁶

The limitations in our study include; Small sample size, Open label, Hospital based single center study. Further studies evaluating these procedures, overcoming the above limitations is highly desired

CONCLUSION

LIFT procedure is effective and preferred sphincter saving technique for fistula-in-ano with shorter healing

time and lower incidence of postoperative anal incontinence, as compared to open fistulotomy.

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Ethical approval: The study was approved by the institutional ethics committee

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