Original Article

EFFICACY OF LIGATION OF INTERSPHINCTERIC FISTULA TRACT (LIFT) PROCEDURE FOR PERIANAL FISTULA

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ABSTRACT:

BACKGROUND: A descriptive, cross sectional study conducted to evaluate outcome of ligation of intersphincteric fistula tract in perianal fistula in terms of procedural safety.
METHODS: The purpose of this study is to determine the efficacy of ligation of the intersphincteric fistula tract procedure (LIFT procedure) for the treatment of perianal fistula. The parameters we were concerned about were fistula healing time, presence of recurrence and fecal incontinence. In this study, 50 consecutive cases of perianal fistula underwent ligation of intersphincteric fistula tract. Evaluation of results was done by analyzing data in SPSS V-23.
RESULTS: In our study, 42(84%) patients were female. 8 (16%) patients were male. The age of the patients ranged from 20-60 years. 47 (94%) patients developed complete healing with no evidence of recurrence. There were 3 (6%) non-healing cases. The mean healing time was 8 weeks. Anal incontinence didn't develop in any patient post operatively.
CONCLUSION: We have concluded that LIFT procedure is an effective treatment for fistula in ano as there is favourable healing rate with no or very little effect on anal continence. It is effective alternative to other surgical procedures for perianal fistula.
KEYWORDS: Ligation of intersphincteric fistula tract and Perianal fistula

INTRODUCTION:

Perianal abscess and fistulas are two steps of a single disease. The main underlying pathology is infection of perianal glands. Perianal abscess and fistulas are among the very old surgical diseases in perianal region in human beings.[1]Fistulotomy is not a good surgical procedure for patients who have a high trans-sphincteric fistula that pass through the upper or middle third of the external anal sphincter, because in this procedure a large portion of the anal sphincter is divided, which subsequently results in complication of fecal incontinence. Therefore, such procedures have been developed that preserve the sphincter and it's function for the treatment of high transsphincteric fistulas. Flap repair is one of the examples. In many hospitals, fistulotomy is still the most frequently done procedure for low transsphincteric fistula, that just pass through the lower third of the external anal sphincter. It is true that this procedure is considered simple and effective as anal incontinence is seen in very less number of patients, still some damage to anal sphincter is seen in this procedure as suggested by some studies. Ligation of the intersphincteric fistula tract (LIFT) is a new surgical technique in which sphincter is preserved. This technique may replace fistulotomy in cases of low transsphincteric fistulas and flap repair in cases of high transsphincteric fistulas as it preserves the sphincter function.[2]
The ideal treatment for anal fistula should control sepsis and enhance healing of the tract, while having no impairment of the external and

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internal anal sphincters and full anal continence.[3] Broadly, in complex fistulas, high transsphincteric and suprasphincteric are included. The aims of surgical management are to attain complete fistula healing, prevent recurrences of the disease and maintain continence. The risk of incontinence associated with different surgical procedures for fistula in ano is seen between 10% to 57%.[4] The LIFT procedure, involves the following principles: Internal opening should be identified first. Give an incision at the intersphincteric groove. Dissection of the intersphincteric space is done. Intersphincteric fistula tract is identified. The intersphincteric tract is securely ligated and cut, and fistula tract is excised. It is confirmed that correct fistulous tract is removed. The external opening is widely opened and curetted and in the end closure of the intersphincteric wound is done.[5] Until now fistulotomy is still the preferable treatment option for patients with a transsphincteric fistula passing through the lower third of the external anal sphincter, because it is an easy procedure with good results and safe procedure in regard to minimal risk of sphincter damage, but some data suggest that when the lower third of the external anal sphincter is divided during fistulotomy, there is a risk of diminished anal continence post operatively, specifically in female patients who have an anterior lying fistula and those who already have a compromised anal sphincter function. It has been purposed by many studies that ligation of the intersphincteric fistula tract (LIFT) is an effective sphincter-preserving technique. Therefore, we had doubt if LIFT could be an alternative procedure to fistulotomy in patients with a low transsphincteric fistula or not.[6] Over the past few years, the ligation of the intersphincteric fistula tract (LIFT) procedure has become more preferable as a sphincter-saving technique in the management of perianal fistula.[7] It is a new surgical technique for the management of transsphincteric fistula-in-ano that shows promising results in early post operative period. In recent literature, patients have been followed up for 5 to 9 months on average after surgery. However, results of the procedure for prolonged period of time are unknown.[8] In another study, LIFT technique for fistula-in-ano surgery, which is mainly done to preserve anal sphincter function, has been shown to be safe and easy procedure, with good early results.[9] The major benefit of the LIFT procedure is that it is an effective procedure even in cases of high trans sphincteric fistulas with minimal complications and negligible impairment of anorectal function.[10] Perianal fistula is a common illness and it is challenging to treat it surgically without the risk of recurrence or anal incontinence.[2]

PATIENTS AND METHODS:

The descriptive, cross sectional study was done in surgical unit of Aziz Fatimah Trust Hospital from 1st Jan 2017-30 June 2018. 50 patients were included in the study. All of them underwent LIFT procedure for clinically diagnosed perianal fistula. LIFT procedure was done by selected team of surgeons in Aziz Fatimah Hospital. If patients developed complete healing of surgically created wound and external opening, the technique was considered to be successful. If during the follow up, patient developed recurrence which was diagnosed by clinical assesment and magnetic resonance imaging(MRI) , it was considered as failure of technique. The patients with newly diagnosed and recurrent high perianal fistula (transsphincteric or suprasphincteric) were included in the study. All the patients had MRI scan pre operatively. The patients who had superficial fistula in which simple fistulotomy can be done and who had associated chron's disease, history of previous radiation and colorectal malignancy were excluded from the study. All the steps of the surgery were explained to the patients and the written informed consent was signed by all the patients and they all were willing to come for regular follow up. Outcomes to be followed were healing time, presence of recurrence and fecal incontinence.

LIFT procedure was done in all the selected patients. Patient didn't receive bowel preparation or an enema. Patients were given antibiotic therapy 1hr before surgery and it was continued for 24 hours post operatively. Saddle block was given. Surgery was performed with patients in lithotomy position. The tract of the fistula was identified by passing a probe from external opening to internal opening.

Intersphincteric grove was palpated and a small incision was made over it at the level of the fistula tract, in which we had passed the probe already. Dissection was mainly done with the help of diathermy until fistula tract was reached that was probed. Internal and external sphincters were separated by blunt dissection gently. Two absorbable sutures were used to ligate the fistula tract, as close as possible to internal opening. After securing with double suture ligation, tract was divided between two sutures. The remnant of the tract was removed. The small part of the tract which was left between ligation and internal orifice was not excised. The surgical wound was washed with normal saline and haemostasis was secured. The wound was closed in layers. Excision of external orifice was done to facilitate drainage. Patient was discharged 24 hours post operatively. And patient was routinely checked in outdoor 2 weeks after surgery for follow up. Subsequently patients were called at two and four weeks interval until the wound was healed clinically. The follow up period was for 24 weeks. In case of recurrence, MRI was done to confirm the diagnosis.

RESULTS:

Between January 2017 and June 2018, 50 consecutive patients were operated who were either newly diagnosed or had recurrent disease. The age of the patients ranged from 20-60 years. Mean age of patients was 39.36 ± 7.225. (Table # 1).

TABLE No. 01. AGE DISTRIBUTION (n=50)

Age (Years)	No of Patients	%Age
20-30	5	10
31-40	25	50
41-50	16	32
51-60	4	8
Total	50	100
Mean ± S.D	39.36±7.225	

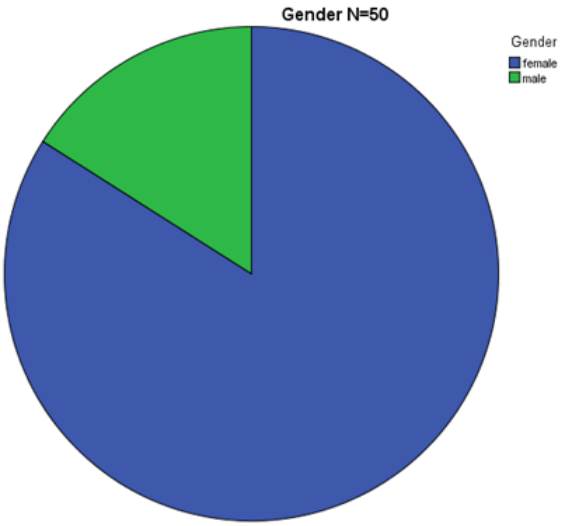
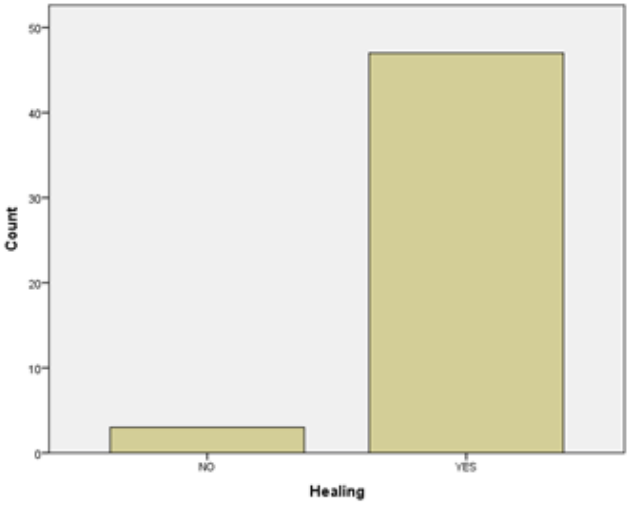


Figure-1: (84%) patients were female. 8 (16%) patients were male.

All patients had undergone pre-operative MRI scan. 45 (90%) patients were newly diagnosed and 5 (10%) patients had recurrent disease. All patients came for follow up. We followed the patients for 24 weeks. 47 (94%) patients developed complete healing as shown in graph # 1. There was no evidence of recurrence in any patient as shown in table 2. There were 3 (6%) non-healing cases as shown in graph 2. The mean healing time was 8 weeks. None of the patients developed clinical anal incontinence as shown in table 3.



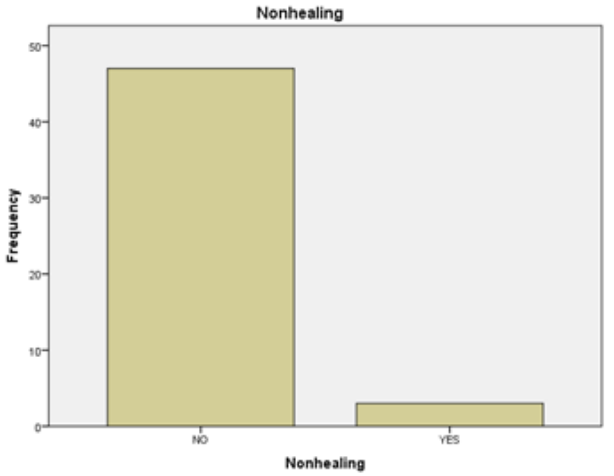


TABLE No. 02:RECURRENCE

		Frequency	Percent
	NO	50	100.0
	YES	0	0.0

TABLE No. 03:ANALINCONTINENCE

		Frequency	Percent
	NO	50	100.0
	YES	0	0.0

The average duration of the procedure was 35 minutes. No patient developed intra-operative or post-operative complications like haemorrhage, haematoma or infection. The LIFT procedure has favourable healing rates with little or no risk of incontinence. This operation is safe and easy to learn, Table no.2,3.

DISCUSSION:

The purpose of the study was to evaluate the efficacy of LIFT procedure for perianal fistula; the LIFT procedure is an easy sphincter preserving technique, with good results. Rojansakul started this procedure for peri anal fistula in 2007 in 18 patients. The procedure was successful in 94% of the cases.[11] Where as Shanwani *et al*. were successful in 77% of cases by using the LIFT procedure in 45 patients who were followed clinically for almost 9 months post operatively, and average healing time was 7 weeks (range, 4–10). Eight patients presented with recurrent fistula in a period of 3–8 months followed by surgery, but there was no significant morbidity.[9] In our study, there was success rate of 94%. In another study, 18 (82%) patients had complete recovery with primary healing of surgical wound and in four patients, the wound did not heal completely. But the transsphincteric fistula was changed into an intersphincteric fistula. Later on fistulotomy was done in these patients and external anal sphincter was saved. So overall 100% healing rate was achieved.[12] In another study, 15 patients (83%) healed primarily. Recurrence was not seen till the end of follow up whereas three patients had persistent complaints and they needed further surgical procedure. [13] In our study there were three (6%) non healing cases. Currently, the LIFT procedure is more frequently performed because it is not a complicated procedure and one can learn it easily and it is safe even in recurrent cases. Tan KK et all stated that the early results of the LIFT procedure were very good. Success rate was seen in range of 57%-94% with minimal morbidity and very little effect on continence status.[14] Abcarian et al. proposed that the number of previous operations for fistula have negative effect on the success rate after LIFT.[15]

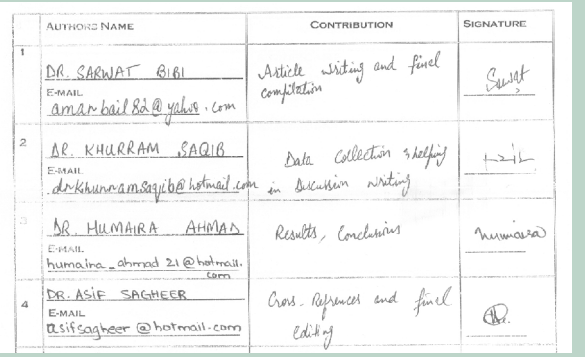
The findings of our study are supportive regarding the effectiveness of the LIFT procedure for perianal fistula in terms of very low recurrence rate and minimal damage to sphincter.

Conclusion: We have concluded that LIFT procedure is an effective treatment for fistula in ano as there is favourable healing rate with no or very little effect on anal continence. It is effective alternative to other surgical procedures for perianal fistula.

REFERENCES:

1. Blumetti J, Abcarian A, Quinteros F, Chaudhry V, Prasad L, Abcarian H. Evolution of treatment of fistula in ano. World J Surg. 2012;3:1162–7.
2. Zeng X, Zhang Y, Surgical treatment of anal fistula. Zhonghua Wei Chang WaiKeZaZhi.2014;17:1164-6.

3. Bleier JIS, Moloo H, Goldberg SM. Ligation of the intersphincteric fistula tract: an effective new technique for complex fistulas. Dis Colon Rectum. 2010;53:43–6
4. Vergara-Fernandez O, Espino-Urbina LA.Ligation of intersphincteric fistula tract: What is the evidence in a review?World J Gastroenterol. 2013;19:6805–13
5. 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; 55:1173–8.
6. Van Onkelen RS, Gosselink MP, Schouten WR.Ligation of the intersphincteric fistula tract in low transsphincteric fistulae: a new technique to avoid fistulotomy.Colorectal Dis.2013 ;15:587-91.
7. Yassin NA, Hammond TM, Lunniss PJ,Phillips RK.Ligation of the intersphincteric fistula tract in the management of anal fistula. A systematic review.Colorectal Dis.2013;15:527-35.
8. Liu WY, Aboulian A, Kaji AH, Kumar RR. Long term results of ligation of intersphincteric fistula tract (LIFT) for fistula in ano. Dis Colon Rectum. 2013;56:343-7.
9. Shanwani A, Nor AM, Amri N. Ligation of the interspincteric fistula tract (LIFT): a sphincter saving technique for fistula-in-ano.Dis Colon Rectum.2010;53:39-42.
10. Shao W. The past, present and future of ligation of intersphincteric fistulous tract for the treatment of fistula in ano.Zhonghua Wei Chang WaiKeZa Zhi.2015;18:1200-2.
11. Rojanasakul A. LIFT procedure: a simplified technique for fistula-in-ano.Tech Coloproctol.2009;13:237–40.
12. vanOnkelen RS,Gosselink MP, Schoutten WR. Ligation of the intersphincteric fistula tract in low transsphincteric fistulae: a new technique to avoid fistulotomy.2013; 15:587-91.
13. 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.TechColoproctal.2011;15:413-6.
14. 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: 1368–72.
15. MadboulyKM, El Shazly W, Abbas KS, Hussein AM. Ligation of intersphincteric fistula tract versus mucosal advancement flap in patients with high transsphincteric fistula-in-ano: a prospective randomized trial. Dis Colon Rectum. 2014;57:1202–8.



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