

The effectiveness of Ligation of inter sphincteric fistula track(LIFT) in the treatment of trans-sphincteric fistula

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Abstract:

Aim: The fistula in ano is a common surgical condition with different surgical procedures described for its management. This study aimed at the evaluation of the effectiveness of the Ligation of intersphincteric track(LIFT) for the treatment of Trans-sphincteric Fistula.

Methods: Fourteen patients with trans-sphincteric fistula including two recurrent cases were included in the study. Evaluation was done regarding the durable closure of fistula, healing time, post-operative complications, post operative morbidity.

Results: No major post operative complication was noted. Median operative time was 40 minutes (25 to 60). Median age of the patient was 32 years (25 to 53). Healing was achieved in twelve patients with two recurrence. Follow up was done for six months. No incidence of incontinence. No significant post operative morbidity.

Conclusion: The Ligation of intersphincteric fistula track(LIFT) technique for simple, complex and recurrent transsphincteric fistula in ano is safe and effective.

Index Terms: Fistula-in -Ano -Ligation of intersphincteric fistula track-faecal incontinence-recurrence.

I. Introduction

Anal fistula is the common surgical problem in general surgical practice. It is the abnormal communication between the anal canal to the perianal skin lined by granulation tissue. Fistula in ano does not heal spontaneously due to passage of faecal particles into track causing infection and compression of the intersphincteric track causing closed septic foci [1]. Fistula may present as chronic purulent drainage or cyclical pain associated with abscess re-accumulation followed by intermittent spontaneous decompression (2). Most of them are cryptogenic origin (2).

A fistula -in ano (crypto glandular) can be simple or complex. Submucosal, low trans-sphincteric (traversing less than 30% of anal sphincter muscle), inter-sphincteric fistula are considered simple. Fistula-in_ano is considered as complex, when it traverses more than 30% of external sphincter, anterior fistula in females, presence of multiple tracks, recurrent fistula (3).

The goal of treatment is durable closure of fistula, eradication of infection and preservation of anal continence. Fistulotomy is an effective treatment option for simple fistula with minimal incidence of faecal incontinence and high cure rate. The treatment options for complex fistula are fibrin application, plug placement, Endo-rectal advancement flap (ERAP), Partial fistulotomy and seton placement, fistulotomy with primary sphincter repair, LIFT and video assisted fistula procedure (VAAFT). LIFT and ERAF are most preferred procedures for the management of complex trans-sphincteric fistulae at present.

Since its initial description in 2007 by Rojasakulet *al*, LIFT has been evolving as the most promising sphincter saving technique for complex trans-sphincteric fistula -in-ano. Though the time tested Fultulotomy is best procedure for simple fistula-in-ano, it's not appropriate for patients with high fistula passing through the upper and middle third of external anal sphincter and for female patients with low anterior trans-sphincteric fistula, due to significant incidences of post operative faecal incontinence (3). LIFT is the new sphincter preserving technique for the treatment of transsphincteric fistulae and the reported results are promising. As still many studies are going on the subject, the goal of our work is to evaluate the results of LIFT in the patients with transsphincteric fistulae.

II. Method

Fourteen patients with transsphincteric fistulae of cryptoglandular origin were included in this prospective study done between September 2012 to December 2013 after explaining them regarding the technique and possible complications and obtaining written consent. Endo-rectal ultra-sonogram was done in all patients to know the type of fistula and anatomical configuration of fistula track and presence multiple tracks. Median age is 35 (25 to 52) male patients 8 female 6. Anterior fistula are 4 posterior are 10. Two patients were with recurrent fistula.

Operative Technique

All the patients were given five day course of antibiotic (Ofloxacin and Ornidazole) prior to surgery .No seton drainage was employed prior to procedure .Under spinal anaesthesia with 5% sensorcain ,patients were placed in lithotomy position, the internal opening was identified by injecting hydrogen peroxide or bitadine lotion. Probe was then introduced in to the fistula track,taking care not to create false passage.A curvilinear incision was made just out side the intersphinctericgroove.Then dissection was continued down into the intersphincteric space until the fistula track was encountered .The dissection was continued carefully on either side of fistula track until the track was encircled and isolated.The isolated track was ligated close to the internal sphincter using 3-0 vycryl and was cut. Normal saline was injected into the track to confirm the track .Fistula track was curetted to remove granulations from the track .The scar tissue at external opening was excised to facilitate drainage and healing.Then the intersphincteric track was excised close to external sphincter and the opening in the external sphincter was closed with the 3-0 vycril. The intersphincteric wound was closed loosely with the same suture material.

post operatively all patients were kept on antibiotics (ofloxacin 200mg+ornidazole500mg) for one week and stool softener for one week.Patients were advised Sitz bath twice a day until complete would healing. All cases were discharged on second post operative day (48 hrs).

Follow up

Post operative follow up visits were conducted at 2,4,6,weeks and telephonic interviews once in two months until 6 months .During outpatient followups , stage of wound healing,presence of infection and discharge ,changes in faecal continence and appearance of recurrent fistula were evaluated.

Assessment of wound healing(1):

Grade 1:Complete epithelization of wound.

Grade2:Healing wound with granulations

Grade3:Granulations with purulent discharge .

Grade4:Non healing of wound at 10 wks.

Assessment of clinical continence (1):

Category A: Continent of solid and liquid stools and flatus.

Category B: Continent of solid and usually liquid stools,but not flatus.

Category C: Acceptable continence for solid stool,but no control over liquid stool or flatus.

Category D: continued faecal leakage.

III. Results

Fourteen patients with transsphincteric fistula were included in study.Of them 8 (57%)were male and 6 (43%) were female.The age of the patients ranged between 25 to 51 with median age 35yrs. Out of 14 patients , 5 were anterior fistulae and 9 were posterior fistulae.,.8 were mid anal fistulae(traversing middle third of external sphincter) and of them ,2 were recurrent(mid anal) fistulae. 6 were low fistulae.The healing time varied between 4 to 8 wks(mean 6 wks) after procedure.

Out of 14 patients,4 patients developed would dehiscence and purulent discharge and were managed conservatively with complete healing.Out of 14 patients , 2(14.3%) patients developed recurrent fistulae in the form of intersphinctreicfistula.No patient showed any signs of faecal incontinence. Two were developed fissure in ano with bleeding.

S.no	Sex	Age(yrs)	Position of Fistula	Type of Fistula	Outcome
1	F	42	Anterior	Mid anal	Healed
2	M	28	Posterior	Mid anal with Extrasphincteric track	Healed
3	F	35	posterior	Mid anal with intersphincteric track	Healed
4	M	36	posterior	Recurrent mid anal fistula	Healed
5	M	25	Anterior	Low fistula	Healed
6	F	30	Anterior	Mid anal	Healed
7	F	28	Anterior	Low fistula	Healed
8	M	52	Posterior	Mid anal With extrasphincteric track	recurred
9	M	28	posterior	Low Fistula	Healed
10	F	42	Posterior	Low fistula	Healed
11	M	29	Posterior	Mid anal with intersphicteric track	recurred
12	F	32	Anterior	Recurrent Mid anal fistula	Healed
13	M	28	Posterior	Low fistula	Healed
14	M	35	Posterior	Low fistula	Healed

IV. Discussion:

Fistula in ano is a common condition we deal in general surgical practice and is known for its recurrence and incontinence post operatively. Though Fustulotomy is the gold standard treatment for fistula in ano, but is only ideal for simple fistulae including intersphinct fistulae and lower transsphincteric fistulae. Bokhari and Lindsay (4) observed major and minor incontinence after fustulotomy for low fistulae in 5% and 11% of their patients. They found even high percentage of incontinence in the female patients with low anterior fistulae. Hence there is a need of sphincter saving procedures for all types of transsphincteric fistulae of cryptoglandular origin, including low fistulae.

After its initial description and publication by Rojanasakul et al with 94% successful healing and no incontinence, many studies were being conducted world wide to evaluate LIFT.

In this study of short duration(six months) with small sample, primary healing rate of 85.7% was observed. In American studies by Bleir et al(5), that included patients with complex fistulae and recurrent fistulae(74% of the sample), the success rate was between 55% to 64%. In Australian studies by Ooi et al(6), which included recurrent fistulae (40% of the sample), the success rate of primary healing was 68%. European studies showed healing rate of 71% to 83%. Lehmann et al (7) reported the efficacy of the LIFT for exclusively for the recurrent fistulae in 17 patients. The success rate in this study was 76.4%.

Though two patients(14.3%) developed recurrence in the form of intersphincteric fistulae, four patients(28%) had wound dehiscence with purulent discharge which were treated successfully, there was no incidence of faecal incontinence.

V. Conclusion

LIFT is simple, safe and effective sphincter saving procedure, with minimum postoperative morbidity, for management of all types of intersphincteric fistulae including recurrent fistulae.

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