



## Ligation of Inter Sphincteric Fistula Tract (LIFT) Technique for Fistula in ANO: Limitations

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### Editorial

Recurrence and incontinence are the two major issues which the surgeon is afraid of and drives him to one or the other side in search of an ideal procedure. Newer less invasive and sphincter friendly techniques have been introduced at the cost of high recurrence rate. The LIFT technique has become popular in some centers because of its simplicity and preservation of continence [1,2]. The various studies reported in the literature have shown variable results. Most of these studies have been framed on small sample of patients with short follow up. The role of this technique as reported in the literature is also confusing. Though the LIFT technique has been reported even for complex and recurrent fistulae, but because of low success rate reported in these fistulae.

The fistulae which have been reported to be associated with poor results with LIFT technique include horse shoe tracts, fistulae with multiple side tracts, high complex fistulae, fistulae with obliterated internal opening, fistulae with inflammation and indurations around the tract, fistulae with scarring around the tract, recurrent and Crohn's fistula. Even very long and very short fistula and fistula in obese patients have been reported to be associated with higher recurrence rates.

In patients with horse shoe tracts, it may be possible to ligate the tract in the intersphincter groove but the difficulty may arise because of very short common internal part of tract because of immediate diversion. The external tracts being curved, it is difficult to clean unless laid wide open. Van Onkelen et al. [3] have reported higher recurrence for horse shoe fistulae. Side tracts and multiple external openings arising from the main fistulous tract are difficult to manage through the small LIFT wound. Not only delimitation but also, the excision/curretage of these side branches is practically impossible.

In patients with scarring either because of primary disease or previous operations in the perianal area, it is difficult to locate the tract and get the correct intersphincter plane which is usually obliterated. Chances of wound dehiscence and recurrence become high. Tan et al. [4] recommended LIFT for patients undergoing primary surgery and endorectal advancement flap (ERAF) procedure for those with multiple previous operations and perianal scarring. Trend for recurrence has been reported in patients with multiple previous operations. Abcarian in a retrospective study reported healing rate of 95% and 65% respectively for patients with first surgery and those with previous multiple surgeries [5].

In presence of inflammation, there may not be adequate tissue strength for ligation. Some studies have reported use of set on before LIFT procedure to reduce inflammation and promote epithelialization of tract [6-9]. Though none of the above studies have shown any advantage or correlation of using set on for drainage and epithelialization of tract before LIFT procedure, for this procedure to be successful, it is essential to have a well epithelialized tract.

High complex fistulae need extensive dissection for complete clearance of unhealthy tissue which is not possible through small LIFT wound. It is difficult to locate and ligate the tract in the intersphincter groove and the approach is also difficult. Unless the wound is laid open, it may not be possible to excise/or currette all the tracts. Such fistulae may need additional procedure like set on placement, endorectal advancement flap (ERAF) or primary sphincter reconstruction.

In patients who come with multiple recurrences, surgeon would always try to do the procedure which has maximum success rate to safeguard his fame. These patients usually have complex anatomy with multiple external openings and multiple side branches. Localization of tract is difficult in presence of scarring. Unless all these tracts are laid open or curreted out completely, the chances of recurrence are high. Healing rate dropped to 40% with the failure rate of 34% as reported in 32 patients with recurrence by Bleier et al. [10]. Complete healing was reported by Lehmann et al. [11]

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in only 47% patients who underwent LIFT procedure exclusively for recurrent fistulae. Aboulian et al. [12] reported higher healing rates (90%) in patients who were primarily dealt with LIFT procedure.

In 20% to 30% of patients internal opening cannot be located. In such cases localization of intersphincteric portion of tract is difficult and as such LIFT technique is not feasible. Patients with intersphincteric fistula have no external opening and are drained from internal opening. Similarly extrasphincteric fistulae have tract outside external sphincter without any internal opening or intersphincteric tract which can be ligated. Therefore these patients are not suitable for LIFT technique.

In Crohn's fistulae, the conservative method of treatment like fistula plug have given promising results [13]. These patients usually have multiple external openings, inflammation and scarring, as such LIFT procedure is unlikely to give satisfactory results.

Even the length of the fistula tract has been reported as a risk factor for failure of treatment. Short tracts with less than 3 cm length had significantly higher primary healing (85% vs. 48%). Very short tract low fistulae can better be managed by fistulotomy or fistulectomy being simple and less time consuming & without affecting the sphincter function significantly.

In obese patients identification of tract is difficult because of depth and lot of subcutaneous fat. In a study reported by Sirikurunpiboon et al. [14] body mass index (BMI) was the only predictive factor for failure in univariate analysis. Failure to identify the fistulous tract was seen more often in obese patients with BMI of more than 30kg/m<sup>2</sup>.

Wound dehiscence has been reported by Rojanasakul and Ooi in 5.5% and 4% of their patients who underwent LIFT technique. The other complications which have been reported with LIFT procedure include anal fissure, chronic anal pain, bleeding, thrombosed external piles and subcutaneous infections. All these complications were mild and resolved with conservative treatment. Local haematomas and sub-cutaneous infections have also been reported after LIFT technique by Lehmann.

Preservation of continence is a major advantage of LIFT technique and this is a reason which has tempted many surgeons to practice this technique. Proper selection of patients for the LIFT procedure is important for successful results. All the studies reported so far on LIFT technique have shown preservation of continence in almost 100% of patients, but the success rate has been variably reported ranging from 40% to more than 90% [15-18]. The higher recurrence rates in some studies are probably because of contemplating this procedure on all types of fistulae. On the other hand, if the procedure is done on selected patients the results of this technique can be improved.

Though some surgeons show concern about the long term recurrence, the others are optimistic that the recurrence after complete healing is usually uncommon. The other advantages of LIFT technique are short hospital stay, early wound healing. As the wound is closed primarily the post operative pain is also less. The complications like incontinence, wound sepsis, wound dehiscence, and recurrence affect the life style of the patient. So it is important to assess the patient satisfaction as well. Patient satisfaction has been reported from 72 to 100% following LIFT technique.

Rojanasakul in 2009 reported a success rate of 94% in 18 patients with a recurrence rate of 5.6%. The success rate of 57% only was reported by Bleier on 39 patients with a follow up of 20 weeks. Recently

one more study was reported from the same centre on 93 patients out of whom 32% had been operated previously; the healing rate dropped to 40% with a failure rate of 34%. Recurrence was observed in 26% of their patients.

A prospective study on 45 patients was reported by Ooi et al. [19] in which recurrence was seen in 17.8% patients. Ooi reported a healing rate of 68% on 25 patients with a mean follow up of 22 weeks. 28% of the patients had recurrence. The healing rate of 68% on 25 patients was reported by Aboulian with a follow up of 27 weeks. 65% of these patients had been operated previously. Sileri et al. [20] reported healing rate of 83% with only 3 recurrences on 18 patients with a follow up period of 6 months. The overall healing rate of 74% was reported by Aboulian on 40 patients. Though the healing rate increased to 90% in those who were primarily dealt with LIFT procedure.

Lehmann have published a series of 17 patients who underwent LIFT for recurrent anal fistulas exclusively, 76.4% healing rate was reported in the study, but only 65% patients were found to have complete healing at a mean follow up period of 13.5 months [11]. The complete healing rate was 47%.

Van Onkelen has reported a healing rate of 82% in 22 patients at a mean follow up of 19.5 months. The same group reported the use of ERAF with LIFT procedure to prevent the recurrence due to infection at residual tissue. A healing rate of 52% was reported in the patients out of whom 48% have been operated previously.

Most of these studies have been reported on small number of patients with short follow up. Recently two large series have been reported with longer follow up. Wallin UG from Minnesota reported success rate of only 40% on 93 patients with a follow up of 19 months. Tan et al. [21] in one of the largest series of 93 patients reported success rate of 86%, recurrence rate of 6.4% and the failure rate of 7.5%. These patients had a follow up of 24 months. Thirteen original studies including 435 patients were reviewed and reported by Han et al. [22] with a mean follow up of 23.92 weeks. The overall mean healing rate was 81.37 % with recurrence reported in 7.58%. In another systematic review on 19 original studies (612 patients) primary healing was achieved in 70.6% patients. In both these systematic reviews no patient with incontinence was reported.

Although supplementing the LIFT procedure with bioprosthetic mesh (BIO-LIFT) or fistula plug (LIFT PLUG) has shown success/cure rates to the tune of 94% and 95% respectively, but the drawbacks of these techniques are more extensive dissection and the high cost of the material. The addition of partial excision of the outer part of the tract up to external sphincter (LIFT-plus) or ERAF (LIFT plus ERAF) has not shown any advantage. Supplementing the LIFT with other techniques means that this procedure is not the ideal one for every type of fistula. The variable results seem to be because of attempting LIFT on all patients without proper selection. Therefore we need to have more corporative prospective randomized trials for various modifications reported for the LIFT technique.

## Conclusion

The available literature indicates that LIFT technique is not feasible in all the patients with fistula in ano and results are not encouraging in complex and recurrent fistulae. The ideal patient for the LIFT technique should be the one with simple, straight, single transsphincteric fistula without any scarring, inflammation and side

branches. Proper selection of patients for this procedure is important to get best out of this technique. The technique is simple and safe; however studies on larger sample of patients with adequate follow up will further supplement the guidelines for this technique.

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