Short term Outcome of Ligation of Intersphincteric Fistula Tract (LIFT) in Treatment of Transsphincteric Perianal Fistula

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ABSTRACT

Background*: Perianal fistula is an abnormal connection between the epithelialized lining surface of anal canal and the perianal skin. The ideal treatment for an anal fistula should be associated with low recurrence rates, no incontinence and good quality of life.* ***The aim*** *of this study is to evaluate the ligation of the intersphinteric fistula tract (LIFT) technique as a method in treatment of perianal transsphincteric fistula.* ***Patient and method****: This prospective study was done in zagazig university, general surgery department from May 2015 to October 2016 and follow up ranged from 6 to 18 months with a mean follow up of 12 months, included (28) patients suffered from perianal transsphincteric fistula. They underwent LIFT technique. Patients with perianal fistulas from other causes like individuals with Crohn's disease, tuberculosis, anal cancer and who had recurrent fistulas or active perianal sepsis were excluded. Patients with intersphincteric, suprasphincteric and extrasphincteric perianal fistulas were also excluded. Follow-up included postoperative infection, healing time, recurrence and fecal continence according to St. Mark score were evaluated.* ***Result:*** *local infection occurred in six patient (21.4%), treated by drainage and antibiotic, the healing time varied from 5 to 7 weeks after the procedure. Twenty two patients (78.6%) had complete healing and resolution of the fistula, while six patients (21.4%) had a recurrence in the form of an intersphincteric fistula, subsequently operated by two stage operation (fistulectomy, seton) with complete resolution. One case (3.6%) developed incontinence for flatus improved after 6 months.* ***Conclusion****: LIFT is good and safe technique for treatment of perianal transsphincteric fistula*

Keywords: *LIFT, Anal sphincter, Fecal incontinence*

INTRODUCTION

Perianal fistula is the chronic stage of anorectal suppuration that manifest by chronic purulent discharge or periodic pain associated with acute relapse of abscess followed by intermittent spontaneous drainage[1,2]. Classification of perianal fistulas depends on the course of the fistula tract in relation to the anal sphincters. It is classified into four main types of fistulas: intersphincteric, transsphincteric, suprasphincteric and extrasphincteric fistula[3].

The surgery for perianal fistula aims to cure the patient with minimal or no sequel. Through an accurate assessment of the fistula by experienced surgeon who can deal with fistulas on a scientific basis to perform the appropriate operation and prevent postoperative incontinence**.** To obtain this outcome, many principles must be observed; the primary opening of the track must be identified and the relationship of the fistula to the puborectalis muscle must be distinguished. The least amount of muscle should be divided for the fistula management [4].

Many surgical operations are used as lay open of fistula in ano, cutting seton, seton stitch, fibrin glue injection, fistula plug, endorectal advancement flap[5],VAAFT[6],FILAC[7].In2007,Rojanasakul et al.[8] described a new surgical technique with very promising initial results. The LIFT (ligation of the intersphincteric fistula tract) technique, as it became known, has shown good results also in many studies[9].

The main idea of this technique is that the excision and ligation of intersphincteric fistula tract can occlude the entry of fecal particles in the fistula and eliminate the intersphincteric septic focus. Which results in the cure of anal fistula. This technique aims to maintain the anal sphincter intact, preserving continence postoperatively [8, 10]. The aim of this study is to evaluate the results of LIFT technique in patients with transsphincteric perianal fistula.

PATIENT AND METHOD

This prospective study was approved by Research Ethics Committee of the hospital of The Zagazig University and done in general surgery department from May 2015 to October 2016 and follow up ranged from 6 to 18 months with a mean follow up of 12months included (28) patients suffered from of perianal transsphincteric fistula. Patients with perianal fistulas from other causes like individuals with Crohn's disease, tuberculosis, anal cancer and who had recurrent fistulas or active perianal sepsis were excluded. Patients with intersphincteric, suprasphincteric and extrasphincteric perianal fistulas were also excluded. The patients underwent complete history taking, clinical examination, laboratory investigations, MRI in some patients, pelviabdominal ultrasound for more evaluation of some patients, and informed consent.

Surgical technique:

Preoperative dose of intravenous 3rd generation cephalosporin, (ceftriaxone) was administered in all patients; the operation was done under spinal or general anesthesia. The location of internal opening is identified by injection of hydrogen peroxide with methylene blue through the external opening and by gently probing the fistula tract **(fig. 1)**. A 1.5 to 2.0 cm curvilinear incision is made at the intersphincteric groove overlying the fistula tract. The dissection is kept close to the external sphincter to avoid cutting through the internal sphincter and breaching the anal mucosa. After the intersphincteric tract has been identified and dissected out **(fig. 2)**, the tract is ligated close to the internal sphincter. Secure transfixing ligation with polyglactin zero of the intersphincteric tract abutting the internal opening is the key to success **(fig. 3)**.

The tract next to the suture site is divided, and the rest of intersphincteric tract is excised. After removal of the correct fistulous tract has been confirmed, infected granulation tissues in the rest of the tract and cavity are thoroughly removed with curettage. The external hole was left open to heal by secondary intention and also that this period could promote good drainage of the surgical wound. The open defect at the external anal sphincter is sutured through the intersphincteric wound. Finally, the incision wound is closed loosely.

The postoperative follow-up was performed in an outpatient clinic on the 7th day and then every week until the complete healing of the fistula. Thereafter, the visits occurred every month or before that time, if necessary. In the outpatient follow-up, perioperative infection, healing time, recurrence which was defined as no healing of the fistula or recurrence after initial healing through the follow-up period and fecal continence according to St. Mark score were evaluated.

Fig. (1): Probing of the fistula track

Fig. (2): Dissection of intersphincteric part of the fistula

Fig. (3): Ligation of intersphincteric part of the tract

RESULTS

This study included 28 patients with transsphincteric perianal fistulas of which 16 (57.14%) were male and 12 (42.86%) were female. Their ages ranged from 20 to 60 years, with a mean of (36.7) year. The hospital stay ranged from (1-2) days. The patients were followed-up for about 12months, The follow-up included local infection which occurred in 6 patient (21.4%),they treated by drainage of pus from surgical wound ,antibiotic and followed up with spontaneous resolution without further intervention, The healing time varied from (5-7) weeks after the procedure. 22 patients (78.6%) had complete healing and resolution of the fistula, while 6 patients (21.4%) had a recurrence in the form of an intersphincteric fistula, being subsequently operated by two stage operation(fistulectomy,seton) with complete resolution. One case (3.6%) developed incontinence to flatus only which improved after 6 months.

Table (1): Patient's demography:

	Number (n=28)
Age (mean)	36.7 year
Sex	
Male	16 (57.14%)
Female	12 (42.86%)
Hospital stay (range)/ day	1-2
Healing time (range)/weeks	5-7

Table (2): Outcome of LIFT technique:

Outcome	**No. of patient**	**Percent**
Local infection	6	21.4%
Complete resolution	22	78.6%
Recurrence	6	21.4%
Incontinence (to flatus)	1	3.6%

DISCUSSION

Many studies are still in progress; to evaluate the LIFT surgical technique as it is considered a novel technique for use in the treatment of perianal fistulas. In 2013, Liu et al.[11] and Sileri et al.[12] Obtained favorable long-term results for the LIFT technique and considered it a good choice for patients having complex perianal fistula.

In our study the healing time varied from 5 to 7 weeks after the procedure. This result agrees with the Ooi et al [13], and Shanwani et al [9], as they reported a mean healing time of 6 and 5 weeks, respectively.

The presence of slight variations is probable according to what is considered as "healing". Here, we considered as "complete healing" the disappearance of the flow of purulent secretion with coaptation of the edges of the wound. In our study twenty two patients (78.6%) had complete healing and resolution of the fistula, while, Shanwani et al[10] reported cure in 82% of their sample. European studies showed resolution rates of (71-83%) for primary healing[14]. this demonstrates that our results in the study were within the expected, which can be considered a good outcome for this technique.

The mean follow-up in our study was 12 months and the recurrence rate was 21.4%. In studies of Yassin et al[14], and Liu et al[11].the mean follow-up was 19 and 28 months, respectively, and the recurrence rate was 36% and 32%, respectively. The lower relapse seen in this study is inferior to the other studies presented here may be due to a shorter follow-up, although the most important publications on LIFT demonstrate no late recurrence of fistulas. If the relapse occurs, it is usually in the first weeks, a fact also observed in our six patients in whom recurrence was occurred.

Our study shows one case (3.6%) developed fecal incontinence to flatus. In a prospective study done by Sileri et al[12], on 18 patients resulted in a cure rate of 83% with only three recurrences (17%), There were no cases of incontinence in his study. These results are near to our results in case of recurrence and incontinence.

No American, Asian or Oceanian study reported damage to the anal sphincter function. However, in a review conducted by Yassin et al[14]. it was found that in11% of their sample there was some sort of change in continence. This may be due to the inclusion of patients with recurrent perianal fistula who had gone through previous treatments.

The data are not sufficient for comparison with other results regarding the postoperative infection, may be because this analysis is quite

subjective and less important compared with fistula healing and the evaluation of continence.

CONCLUSION

The LIFT is a new promising effective technique in the treatment of perianal transsphincteric fistulas.

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