DOI: https://doi.org/10.53350/pjmhs2115123257

ORIGINAL ARTICLE

Modified Lift Versus Cutting Seton for Transphincteric Fistula -Experience at Tertiary Care Hospital

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ABSTRACT

Background: Fistula in ano is a common disease which has high recurrence rate and high fecal incontinence rate after surgery. We compared modified LIFT (Ligation of the intersphincteric fistula tract (LIFT) through lateral approach) with cutting seton for transphincteric fistula.
Aim: This study is aimed at which procedure is better with respect to postoperative complications
Study design: It was a prospective comparative study.
Methods: This was a prospective comparative study from 01-01-2019 to 30-06-2021 which was conducted on 50 patients who presented with transsphincteric fistula in ano (FIA) in surgical ward of Bahawal Victoria Hospital Bahawalpur. Patients were divided into two groups .Patients of Group A underwent modified lift procedure and patients of group B underwent cutting seton procedure. Data was collected on a proforma which included patients' name ,age ,sex, age group, comorbid disease like diabetes mellitus ,chronic liver disease, cardiovascular disease and chronic renal failure, fistula tract involving less than 50% or more than 50% external sphincter ,procedure done, healing time of wound, complications like recurrence and incontinence. Patients were followed for 6 months for healing rate ,recurrence and incontinence. Data was analysed on spss 22 version
Results: In Group A, complete healing (fistula closure without recurrence) was achieved in 20 patients (80%) out of 25. There was no case of anal incontinence after the procedure. 5 (20%) patients experienced recurrence in 6 months . In Group B, complete healing (fistula closure without recurrence) was achieved in 21 patients (84%), in 6 months follow up . 4(16%) patients were diagnosed as a case of anal incontinence. There were 4 (16%) patients with recurrence.
Conclusion: Modified LIFT is better in terms of incontinence where as cutting seton is better in terms of recurrence.it is suggested that for high lying fistula modified LIFT is better procedure and for low lying fistula involving less than 50% sphincter cutting seton is better procedure..
Keywords: Modified LIFT (ligation of ineter sphincteric fistula tract) ,Cutting seton , transphincteric fistula.

INTRODUCTION

A fistula-in-ano, or anal fistula, is defined as a chronic abnormal communication between the anal canal and perineal skin[1]. It is a common disease worldwide with incidence of anal fistula of 1.69 cases per 10,000 individuals[2] and prevalence of 8.6 to 10/100,000 of the population per year, with a male to female ratio of 1.8:1[3]. Anal fistulae may be inter-sphincteric, trans-sphincteric, supra-sphincteric, or extra-sphincteric[4] .Treatment depends upon the fistula tract that which structures the fistula involves(either internal or external sphincter complex or both)[5]. Chances of fecal incontinence is minimal even if 30% of the external sphincter muscle is cut[6]. Fistulotomy laying open of the fistula tract is still considered as procedure of choice by many surgeons.[7] Seton slowly cut through the sphincter muscle over time and is followed by healing. Cutting seton has slightly high incontinence rates but low recurrence rate[8].

Another procedure for FIA is ligation of the intersphincteric fistula tract (LIFT),[9] which is considered as sphincter preserving procedure. This procedure is claimed to be having high healing rate exceeding 70%[10-12], and low incontinence rate[13]. LIFT is associated with higher recurrence in the form of an intersphincteric fistula formation[14]. LIFT is difficult to perform due to narrow intersphincteric space [15] and recurrent fistula at intersphincteric incision site [16,17]. In modified LIFT, fistula is ligated at high level after dissection from the external opening, along the fistula tract, toward the internal opening (lateral approach) until internal anal sphincter is reached and the sphincter space is exposed, where fistula is ligated followed by the removal of the ligated distal part.[18] This reduces the chance of inter sphicteric fistula formation.

As there are many procedures for FIA, this study is aimed at to compare the outcome of cutting seton and modified LIFT in terms of healing time, recurrence rate and occurrence of fecal incontinence.

Received on 14-07-2021
Accepted on 13-11-2021

MATERIAL AND METHODS

This was a prospective comparative study from 01-01-2019 to 30-06-2021 which was conducted on 50 patients who presented with transsphincteric fistula in ano (FIA) in surgical ward of Bahawal Victoria Hospital Bahawalpur after permission from IRB. Patients of both sexes of any age above 15 years with the diagnosis of transsphincteric fistula (on the basis of fistulogram and MRI) were included. Patients below 15 years of age and diagnosis of Crohn's disease, tuberculosis, actinomycosis, foreign body and malignancy were excluded. Patients were randomly divided into 2 groups (A and B).Group A patients underwent modified ligation of intersphincteric fistula tract (modified LIFT). Group B patients underwent cutting seton procedure. Data was collected on a proforma which included patients' name ,age ,sex, age group, comorbid disease like diabetes mellitus ,chronic liver disease, cardiovascular disease and chronic renal failure, fistula tract involving less than 50% or more than 50% external sphincter ,procedure done, healing time of wound, complications like recurrence and incontinence.

Data was analysed on SPSS 22 version and a value of 0.05 was taken as significant. Patients of group A underwent modified lift . (Procedure was performed in lithotomy position .Internal opening was identified by passing a probe through fistula tract or by injection of hydrogen peroxide in external opening. Fistula tract was dissected out from external opening/openings towards internal opening till the internal anal sphincter reached where the fistula tract was ligated with vicryl 2/0.distal part resected and wound left open for free drainage).

Group B patients underwent cutting seton. Procedure was also performed in lithotomy position. Internal opening was identified by passing a probe through fistula tract or by injection of hydrogen peroxide in external opening. The identification of the primary tract of the fistula and the placement of the thread can be performed in one single step. a non-absorbable, braided thread is inserted. External opening /openings and the extrasphincteric parts of the fistula were excised. Two threads of silk no.1 were passed through the fistula tract in external and internal sphincter , the

thread was grasped and pulled out of the anus .One thread was tied tightly around the sphincter ; the other was tied loosely .The tightly tied seton was replaced after 2 weeks. This thread cut slowly through the muscle.

RESULTS

This study was performed on 50 patients with diagnosis of transsphincteric fistula. They were divided equally in 2 groups (A and B). Minimum age was 18 years and maximum age was 65 years with mean age of 38.14 as shown in table number 1. Patients were further divided into 4 groups according to age range as shown in graph number 1. There were 40 male and 10 female patients with male to female ratio of 5:1.

Group A patients underwent modified lift. Wound was healed in one month in 19(76%). It took more than one month in 5(20%) patients and did not heal at all in one (4%) patient even after 6 months and was labeled as persistence of fistula. In group B, wound was healed in one month in 15(60%) patients and in more than one month in 10 patients (40%) (Table 2).

Major complications in group A and B were recurrence and incontinence as shown in table number 3

There was significant correlation between healing rate and cutting seton. In those patients in which less than 50% sphincter was involved majority of wounds healed in one month (13 out of 17) and in those patients in which more than 50% external sphincter was involved, majority of wounds were healed after one month (Table 4).

There was also significant correlation among type of procedure, thickness of sphincter involved and incontinence. In those patients in whom more than 50% sphincter was involved and cutting seton was performed they have the highest incontinence rate (50% 4 out of 8) (Table 5)

There was no significant correlation among type of procedure,thickness of sphincter involved and recurrence as shown in table number 6.

Recurrence was more common in those patients who have diabetes mellitis as comorbid disease as shown in table number 7.

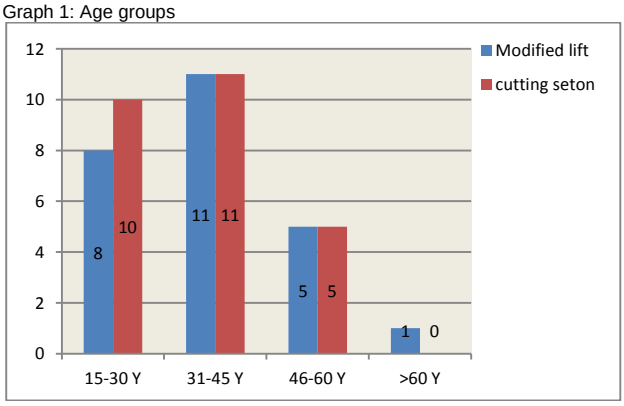
Table 1: Age of patients

	Age in years
Minimum	18
Maximum	65
Mean	38.14
St. Deviation	10.73

Table 2: Healing rate

Healing time	**Group A**	**%age**	**Group B**	**%age**
Less than one month	19	76%	15	60%
More than One month	5	20%	10	40%
No healing	1	4%	0	0
Healing at 6 months without recurrence	20	80%	21	84%
Total	25	100	25	100

Graph 1: Age groups



Graph 2: Sex distribution

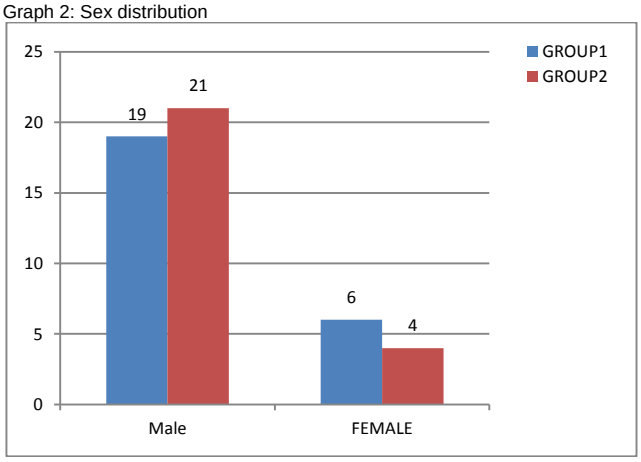


Table 3: Complications

Complications	**Group A**	**Group B**
Recurrence and persistence of fistula	5	4
Incontinence	0	4
Total	5	8
%Age	20%	32%

Table 4: Corelation between healing time and procedure

	< 50% sphincter involved	**> 50% sphincter involved**	**P value**
Modified lift			
<one month	6	13	.936
>one month	2	3	
No healing after 6 months	0	1	
Total	8	17	
Cutting seton			
< one month	13	2	.046
>one month	4	5	
No healing after 6 months	0	1	
Total	17	8	

Table 5: Correlation between incontinence and procedures

	< 50% sphincter involved	**> 50% sphincter involved**	**P value**
Modified lift			
Gas	0	0	
Gas and solid	0	0	
None	8	17	
Total	8	17	
Cutting seton			
Gas	0	1	0.006
Gas and solid	0	3	
None	17	4	
Total	17	8	

Table 6: Correlation between recurrence and procedures

Recurrence	**< 50% sphincter involved**	**> 50% sphincter involved**	**P value**
Modified lift			
< 3 months	1	2	.569
>3months		1	
None	7	13	
Persistence of fistula	0	1	
Total	8	17	
Cutting seton			
< 3months	1	1	.680
>3months	0	2	
None	16	5	
Persistence of fistula	0	0	
Total	17	8	

Table 7: Comorbid diseases and recurrernce of fistula in ano

Comorbidity	Total patient	Recurrence in group A		Recurrence in group B	
		Comorbidity in group A	Recurrence	Comorbidity in group B	Recurrence
Diabetes mellites	10	5	3	5	2
Congestive cardiac failure	2	2	0	0	0
Chronic liver disease	1	1	0	0	0

DISCUSSION

There were 50 patients in our study with male(40) to female(10) ratio of 4:1 which is comparable to other studies[3,19,20].This shows FIA is more common in male than in female. In our study patients of 30-45 years of age were more commonly affected and the mean age was 38.14 which is similar with results of other studies[21,22].

In our study, complete healing without any recurrence at 6 months was achieved in 80% patients in group A which is comparable to the results of Chen et al. [17]. Shanwani et al. [23] also reported primary healing in 82.2% of the patients, with a median healing time of 7 weeks. They suggested that coring out of external fistula tract after the LIFT procedure would prevent perianal sinus formation in the epithelialized external tract remnant. Similar results have been claimed in other studies on original LIFT operation[13].

In group B complete healing without recurrence was observed in 21(84%) patients at 6 months which was comparable to the results of other study. Mahammad Ali Sutar et al reported 73.3% healing rate for cutting seton[24] . Some study claimed more than 96% healing rate and no case of anal incontinence with cutting seton .Munir Akhtar et al concluded that treatment of high fistula-in-ano with a cutting seton is associated with a low complication rate and can be recommended as the standard treatment for high fistula-in-ano.[25]

In group A 5 (20%) patients presented with recurrence .This result is comparable to the study done by Chen TA and Iiu KY et in which recurrence after modified LIFT was 20% which is comparable to other study[17]. In group B recurrence was observed in 4(16%) patients. In a study by Eitan, Koliada and Bickel (2009) the recurrence rate of the fistula or suppuration was reported as 19.5% in cases of transsphincteric fistulae[26].

In our study there was no case of incontinence in group A. Chen et al. and Kang WH et al, also reported that their study patients showed no fecal incontinence after the same procedure They suggested that this surgical technique is a valuable sphincter-preserving procedure.[17,18] In group B incontinence was observed in 4 (16%) patients. The use of a cutting seton or staged fistulotomy has been associated with fecal incontinence rates of approximately 5%–30% despite gradual cutting of the sphincter. Raslan SM and Aladwani M et al also reported 15.7% rate of fecal incontinence[27]. Ritchie et al in their study reported that cutting seton is associated with high incontinence ratesas it damages the continent sphincter.[28]

It was observed in our study that incontinence rate and recurrence rate after cutting seton was high in those patients in whom more than 50% external sphincter was involved while there was no incontinence in modified LIFT but recurrence was also common in those patients in whom more than 50% external sphincter was involved. In our study ,recurrence was more common in diabetic patients in which recurrence was seen in 5(50%) patients.

CONCLUSION

There is no ideal surgical treatment for transsphincteric fistula. Modified LIFT is better in terms of incontinence where as cutting seton is better in terms of recurrence. It is suggested that for high lying fistula modified LIFT is better procedure and for low lying fistula involving less than 50% sphincter cutting seton is better procedure.

Conflict of interest: Nil
Author contribution: MNI: Data collection and analysis, **AN:** Literature Review

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