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"COMPARATIVE STUDY BETWEEN LIFT PROCEDURE VERSUS SETON PLACEMENT IN THE MANAGEMENT OF FISTULA IN ANO"

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ABSTRACT: Background: Fistula treatment can cause irreversible sphincter damage leading to embarrassment and poor functional outcomes to the patient. It is notorious for recurring, which poses a complicated issue for the treating surgeon. Thus, it becomes important for the treating surgeon to plan the management of anal fistulas appropriately. Ideal surgical treatment for anal fistula should aim to eradicate sepsis and promote healing of the tract while preserving the sphincters and continence mechanism. **Aim of the study** is to confirm the admirable effects of LIFT procedure over Seton based on Postoperative pain on day 1 and 2, Short term recurrence, Healing, Procedural visits. **Patients & Methods:** A prospective, single centered, interventional study was done in 60 patients with fistula-in-ano admitted to Government General Hospital Kadapa from July 2022 to July 2023. **Results:** In the present study, Visual Analog Scale (0,1,2,3) in LIFT group on POD 1, were 2, 20, 6, 2 and in SETON group on POD 1 were 0, 9, 16, 5 respectively. Similarly, visual analogue scale (0,1,2,3) in LIFT group on POD 2, were 19, 8, 3, 0 and in SETON group on POD 2 were 5, 20, 5, 0 respectively. Patients who underwent LIFT procedure had a satisfactory postoperative period and the wound healed in all the cases. In SETON group 4 patients had two visits, 23 patients had three visits, two patients had four visits, and one patient had five visits leading to discomfort and inconvenience. There was persistent fistula in 6 cases. There were no recurrences in 1 month follow up 1 and 3 in 3rd month, 1 and 3 in 6th month follow up in LIFT and SETON group respectively. **Conclusion:** LIFT gives good outcomes in terms of Postoperative pain on day 1 and 2, wound healing rate, single time procedure and recurrence during our short follow-up period of 6 months.

Keywords: Fistula in ano, LIFT, Seton, Incontinence, VAS

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INTRODUCTION

A fistula-in-ano,[1] or anal fistula, is a chronic abnormal communication, usually lined by granulation tissue, which runs outwards from the anorectal lumen, i.e., the internal opening to an external opening over the skin of the perineum or buttock (or rarely, in women, to the vagina). It is sometimes present in specific conditions, like tuberculosis, actinomycosis, Crohn's disease, lymphogranuloma venereum, rectal duplication, foreign body, and malignancy (Colorectal carcinoma). But a majority of them are non-specific, or cryptoglandular. Intersphincteric anal gland infection is a common aetiology. An estimated recorded incidence of 1.2 to 2.8 per 10,000 population, predominantly affecting males between thirty to fifty years of age, with a male to female ratio of 2: 1.[2]

The standards of anal fistula surgery are to obliterate the fistula, prevent recurrence and maintain sphincter work[3,4]. Many alternative therapeutic procedures have been followed to maintain the sphincter components such as setons, infill substances such as fibrin glue or collagen plug and the rectal mucosal advancement flap[5,6]. The proper surgical procedure's choice planning is widely dependent on the fistula's type, concomitant local diseases such as inflammatory bowel disease and the surgeon'sfavourite[6].

For several decades, Seton has been practiced to manage anal fistula; though, in the literature, Setons were principally used just for the high or complex anal fistula to avoid faecal incontinence and recurrence[7]. Currently, several materials have been used as setons, like silk, braided silk, rubber band, silastic tube, linen, proline, braided polyester, vascular loop, nylon, cable tie, and others[8].

The reported incontinence and recurrence rate varies from 0-62%[19] and 0-16%[9], respectively, with different materials used as Seton. There is a continuous demand to decrease the complications associated with the use of Seton. The most common weak points of this technique are the high incontinence rates, prolonged discharge and numerous visits to check and adjust the Seton. The tight (cutting) Seton is any string-like material which when passed and tied within the fistula track develops gradual transection of the external sphincter muscle due to pressure necrosis with a minor splitting of the cut ends. In this way, it preserves sphincter continuity during the cutting process[10].

Ligation of Intersphincteric Fistula Tract (LIFT) is the most promising surgical technique based on secure closure of the internal opening and removal of the infected crypto glandular tissue through Intersphincteric approach. This procedure is simple, safe, and minimally invasive. It is also useful with a

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high and rapid healing rate without any resultant incontinence. It is now widely adopted because of satisfactory early results.

AIMS AND OBJECTIVES OF THE STUDY

To compare the effectiveness of LIFT over SETON procedure based on Postoperative pain on day 1 and 2, Short term recurrence, Healing, Procedural visits

PATIENTS AND METHODS

A prospective, single centered, interventional study was done in 60 patients with fistula-in-ano admitted to Government General Hospital Kadapa from July 2022 to July 2023.

Inclusion Criteria: Patients above 20 years of age presenting with primary fistula-in-ano which is transphincteric and with a single fistula opening.

Exclusion criteria: Patients below 20 years of age, pregnant patients, unfit for surgery, Recurrent fistulae, complicated and high fistula.

Method of data collection:

Demographic data like age, sex, name, occupation noted, clinical symptoms of presentation with duration, associated complaints, past medical and surgical history, personal and family history was noted. Examination findings on DRE, proctoscopy, and investigations like X ray fistulography findings were noted. Patients were divided into two groups, group A patients undergoing LIFT procedure and group B, patients undergoing SETON placement of Fistula-in- ano. Patients were allocated into groups by Random Allocation Technique. The outcomes of surgery assessed postoperatively. Visual analogue scale (VAS) is used to assess subjective pain on the first and second postoperative days and documented. After discharge, all patients were followed once a month for six months and assessed for recurrence. All patients were assessed for any persistent fistula post operatively.

STATISTICS: Data collected were entered in Microsoft Excel and analyzed using SPSS -22.0. Mean and percentages, Standard Deviation was used for descriptive analysis. Significance of difference is measured using p-value, t value.

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RESULTS

Age in years	LIFT		SETON	
	No of patients	%	No of patients	%
13-20	0	0	0	0
21-30	0	0	0	0
31-40	5	16.7	4	13.3
41-50	9	30	8	26.7
51-60	9	30	12	40
>60	7	23.3	6	20
Total	30	100	30	100

TABLE NO 1: AGE DISTRIBUTION IN THE STUDY

Sex	LIFT	SETON
Male	21 (70%)	21 (70%)
Female	9 (30%)	9 (30%)
Total	30	30

TABLE NO 2: SEX DISTRIBUTION IN THE STUDY

VAS	LIFT		SETON	
	POD 1	POD 2	POD 1	POD 2
Score 0	2	19	0	5
Score 1	20	8	9	20
Score 2	6	3	16	5
Score 3	2	0	5	0

TABLE NO 3: SCORE ON VAS SCALE IN THE STUDY

Criteria		LIFT	SETON
Patient Satisfaction	Comfort	30	0
	Discomfort	0	30
Healing	Healed	30	24 (80%)
	Persistent	0	6 (20%)
Recurrence at 1 month		0	0
Recurrence at 3 months		1 (3.3%)	3 (10%)
Recurrence at 6 months		1 (3.3%)	3 (10%)
Incontinence		0	0

TABLE NO 4: COMPARISON OF POSTOPERATIVE CRITERIA IN THE STUDY

Variables		N	Min	Max	Mean	Std. Deviation
Age		30	35	74.00	52.0000	10.64797
VAS	POD 1	30	.00	3.00	1.2667	.69149
	POD 2	30	.00	2.00	.4667	.68145
Patient Discomfort		30	1.00	1.00	1.0000	.00000
Hospital stay		30	3.00	5.00	3.3000	.65126

TABLE NO 5: DESCRIPTIVE STATISTICS FOR LIFT PROCEDURE

Variables		N	Min	Max	Mean	Std. Deviation
Age		30	35.00	77.00	52.8000	10.35374
VAS	POD 1	1.00	3.00	1.8667	.68145	.69149
	POD 2	.00	2.00	1.0000	.58722	.68145
Patient Discomfort		30	2.00	5.00	3.0000	.58722
Hospital stay		30	2.00	7.00	3.7333	1.04826

TABLE NO 6: DESCRIPTIVE STATISTICS FOR SETON PROCEDURE

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TABLE NO 7: INFERENTIAL STATISTICS

	Group	N	Mean	Std. Deviation	t-value	p-value
Age	LIFT	30	52.0000	10.64797	-0.295	>0.05
	SETON	30	52.8000	10.35374		
POD 1	LIFT	30	1.2667	.69149	-3.385	**0.001 S**
	SETON	30	1.8667	.68145		
POD 2	LIFT	30	.4667	.68145	-3.247	**0.002 S**
	SETON	30	1.0000	.58722		
Discomfort visits	LIFT	30	1.0000	.00000	-18.655	**0.000 S**
	SETON	30	3.0000	.58722		
Hospital stay	LIFT	30	3.3000	.65126	-1.923	0.059
	SETON	30	3.7333	1.04826		

TABLE NO 8: CROSSTAB FOR SEX

Sex	LIFT	SETON	Total
Male	21 (70%)	21 (70%)	42
Female	9 (30%)	9 (30%)	18
Total	30	30	60
p = 0.05 not significant			

TABLE NO 9: CROSSTAB FOR POSTOPERATIVE EVENTS

Criteria		LIFT	SETON	P-value
Patient Satisfaction	Comfort	30	0	**<0.0001S**
	Discomfort	0	30	
Healing	Healed	30	24 (80%)	**0.010 S**
	Persistent	0	6 (20%)	
Recurrence at 1 month		0	0	
Recurrence at 3 months		1 (3.3%)	3 (10%)	>0.05NS
Recurrence at 6 months		1 (3.3%)	3 (10%)	>0.05NS
Incontinence		0	0	

DISCUSSION

The high recurrence rates of fistula-in-ano attributed to epithelialisation of fistulous tracts, branching and complexity of fistulous tracts, the inadequateness and complications of many conventional procedures. Without considering postoperative continence, it is conceivable that a high success rate of sepsis control will be achieved by fistulotomy alone, even in complex fistulae. The newer methods that have come into vogue are like an injection of foam into the tract, seton application, LIFT (ligation of intersphincteric fistulous tract), plugging the tract, VAAFT(Video-assisted anal fistula treatment), PERFACT (proximal superficial cauterization, regularly emptying fistula tracts and curettage of the tracts)

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MAFT (minimally invasive anal fistula treatment).

Age incidence: In this present study, maximum patients were in 41-60 years in the LIFT group 18 (60%), with mean age group 50.5 years. In a study by Michel Romaniszyn et al.,[11], the mean age of the study group was 45.9years. In the study by Dushyant Kumar Rohitet al.,[12] the ages of the patients ranged from 21-56. In the present study, maximum patients were in 51-60 years in the SETON group 12 (40%), with a mean age of 55.5 years. In a study done by M Noor et al.,[13] operated on 57 patients of fistula-in-ano with seton, the patients' mean age was 38.2±6.8 years.

Sex incidence: In this study, maximum patients were male 21 in each group (70%), and female were 9 in each group (30%). In a study by Michel Romaniszyn et al. [11] study group consisted of 13 males and one female. The study by Dushyant Kumar Rohit et al. [12] consisted of 14 males (87.5%) and 02 females (12.5%). In a study done by M Noor et al.,[13] on 57 patients of fistula-in-ano with seton during 46 (80.7%) were males, and 11(19.3%) were female.

Postoperative pain: In this study mean VAS with LIFT procedure on POD 1 was 1.266, and on POD 2 was 0.466, with an SD of 0.69 and 0.68 respectively, and with SETON procedure on POD 1 was 1.866 and on POD 2 was 1.000 with an SD of 0.69 and 0.68 respectively. Postoperative pain was assessed using a visual analogue scale, represented by a straight-line measuring 10cms, the extremes of which correspond to no pain at one end and worst at the other end. In the study by Yansong Xu and Welzhohong Tang[14], two patients had persistent pain. Patients were assessed on 1st and 5th post operative day in the morning, and as per results, it was observed that post-op pain gradually decreased.

Duration of hospital stay: In this study, mean hospital stay after LIFT procedure was 3.3 with an SD of 0.65. In the study by Yansong Xu And Welzhohong Tang,[14] the postoperative hospital stays ranged from 1-4 days with a mean of 2 days. In this study, Mean hospital stay after SETON procedure was 3.73 with an SD of 1.048. In a study done by Ashish Kharadi et al[15]. In the analysis of the management of fistula-in-ano Seton placement was associated with the maximum duration of postoperative hospital stay (average 14.2 days)

Recurrence: Initially, LIFT had a success rate of 40% and with subsequent surgical treatment 75%. Recurrence after LIFT is related to the height of the internal fistula opening and is associated with diminished quality of life.[16] In the present study, following the LIFT procedure, there was no recurrence at one month followup, but one patient showed recurrence at 3rd month and 6th month follow-up respectively. In studies of Yassin et al. and Liu et al., mean follow up was at 19 and 28 months, and the

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recurrence rate was 36% and 32%, respectively. In the study by Caroline Sauter Dalbem et al.,[17,] the mean follow up was for 14, and the recurrence rate was 23%. In the present study, following SETON procedure, there was no recurrence at one month follow up, but three patients showed recurrence at 3rd month and 6th-month follow-up respectively. In a study done by MNoor et al.,[13] operated on 57 patients of fistula-in-ano with seton, recurrence was found in 4 (7%)patients.

Incontinence: The LIFT has the advantages of minimal impairment of continence (6%).[18] LIFT procedure has the advantages of preservation of the anal sphincters, minimal tissue injury, short healing time with no additional costs. In case of failure, LIFT procedure can be readily repeated. In the present study, both groups (LIFT and SETON) showed no incontinence. In a study done by Dalbem CS,[19] et al. Assessment of LIFT (ligation of the intersphincteric fistula tract) technique in patients with perianal transsphincteric fistulas, out of 22 patients treated with LIFT, one female patient developed mild faecal incontinence. In a study done by Mahammad Ali Sutar,[20] Role of Seton in the management of Fistula-in ano, Two out of 66 patients (3.0%) were observed as having incontinence, and one patient having transient stool incontinence and one had gas incontinence.

CONCLUSION

Based on the results of our study in 60 patients comparing the efficacy of LIFT Verses SETON procedure for fistula in ano, the LIFT procedure can be considered as an effective sphincter-sparing technique in the management of transsphincteric fistula with an acceptable long-term outcome with minimal discomfort to the patient and effective wound healing than seton placement which needs multiple visits and discomfort due to the presence of suture material. Hence, we conclude that LIFT gives good outcomes in terms of Postoperative pain on day 1 and 2, wound healing rate, single time procedure and recurrence during our short follow-up period of 6 months.

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