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Comparative Study between Ligation of Intersphincteric Fistula Tract (LIFT) Versus Seton in Treatment of Perianal Fistula

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Abstract: ***Introduction: Fistula in-ano or perianal fistula is a chronic abnormal communication which extends from anorectal lumen (internal opening) to external opening over the skin of perineum. Per- rectal examination is mandatory to assess the internal opening and also to assess the other associated conditions like anal fissure, hemorrhoids. The main principles of anal fistula surgery are to eliminate the fistula tract, prevent recurrence and preserve anal sphincter function. These surgical procedure Ligation of Intersphincteric fistula tract and Seton placement are being widely used to treat the perianal fistula or fistula in-ano. This research paper aims to compare the advantages and disadvantages between ligation of intersphincteric fistula tract versus Seton placement in treatment of perianal fistula. The study to evaluate parameters such as post- operative pain using VAS score, study to compare the patient's quality of life and other complications like fecal incontinence, recurrence and duration of hospital stay to determine most effective treatment method. Methodology: The study involves a comparative analysis of the patients undergoing Ligation of intersphinteric fistula tract and Seton procedure for treatment of Peri-anal fistula or fistula in ano with parameters such as post –operative pain using VAS score, post-operative quality of life and recurrence, fecal incontinence, Emotional health and Daily Physical activity of Patients. Result: The result indicate that both the procedure is safe in terms of fecal incontinence and recurrence and post- operative pain on Post- operative day 1 is more associated with LIFT procedure as compare to Seton. Post-operative discomfort is more with Seton placement and social activity limitation is slightly higher with Seton. Discussion: Currently fistulectomy, laser treatment, Ligation of inter-sphincteric fistula tract and Seton placement procedure is being performed frequently for the treatment of fistula in perianal fistula. current paper reports on comparision of these procedures LIFT and Seton are better in terms of fecal incontinence and recurrence for the treatment of fistula in ano. social activity limitation is slightly higher with Seton procedure as compare to LIFT procedure. Post-Operative pain on day one is more with LIFT as compare to Seton but pain on post-operative day-15 is slightly more with Seton as compare to LIFT procedure. Conclusion: In both the procedure recurrence rate is very low, there is no fecal incontinence with both procedures. There significant difference in post-operative pain on day one which is more with LIFT as compare to Seton placement. Social and emotional behavior is slightly more affected with Seton placement as compare to Ligation of inter-sphincteric fistula tract surgery.***

Keywords: LIFT procedure, fistula in ano, Seton wire, incontinence

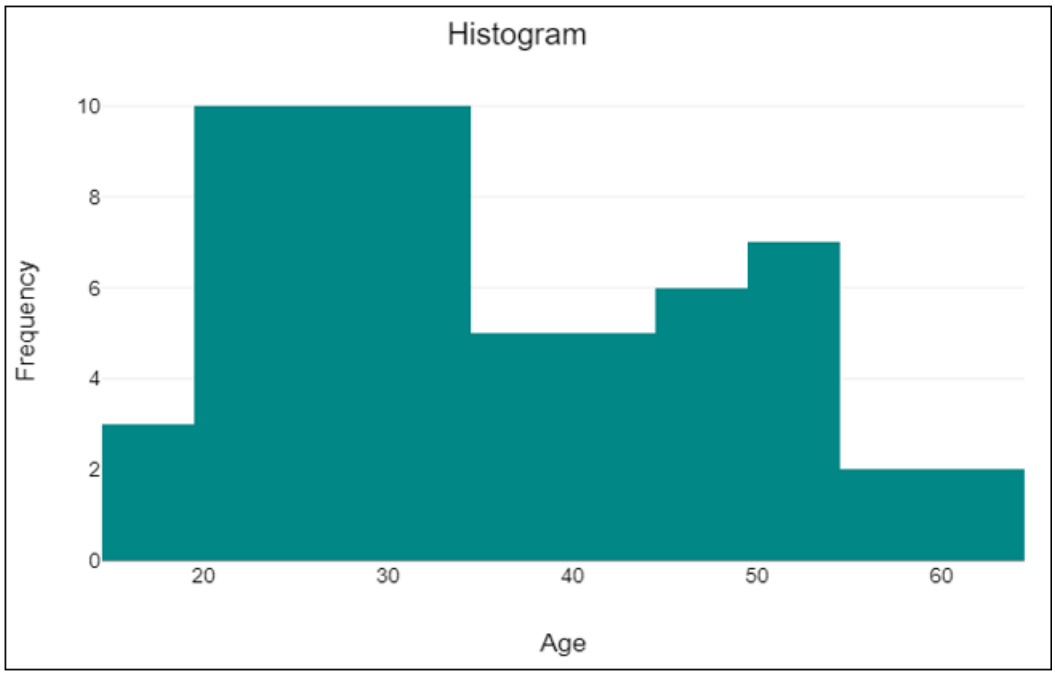
1. Introduction

Fistula in ano, also known as FIA, is a persistent form of ano-rectal sepsis that is characterized by recurrent episodes of discomfort and persistent purulent discharge. It generally starts with abscess re-accumulation and then continues as recurrent bouts of intermittent spontaneous decompression. Because of the ongoing closed sepsis that is present inside the fistula tract, which is continually entering through its internal entrance, this disease does not heal on its own naturally[1-3].Considering the complexity of underlying disease and the recurrence of the condition, the management of fistula is challenging and not satisfactory in many cases as it is rightly said that most of the reputations of great surgeons are lost in the management of fistula in ano than in any surgery[4].The primary goals of the care of FIA are to heal the fistula, to avoid or minimize the recurrence of the fistula, and to have the patient maintain their continence. Due to the complexity and chronicity of the condition, as well as the healing rate, incontinence, and recurrences associated with the individual procedures, there is no single method that can be applied to all cases of FIA. This is the case despite the numerous advancements and developments that have been made in the management of FIA [5-8]. It is possible to position a Seton on its own or in conjunction with a fistulotomy or in a phased manner. When dealing with complex or many fistulas, as well as recurring fistulas following a previous fistulotomy, it is beneficial. People with Crohn's disease or patients who are immunosuppressed, patients with anterior fistulas in female patients, patients with low preoperative sphincter pressures, and individuals with these conditions. During following office visits, the Seton is tightened until it is drawn through, which typically takes between six and eight weeks. For the treatment of transsphincteric fistulas that pass through the upper or middle part of the external anal sphincter, trans anal advancement flap repair has been proposed as a viable therapeutic option. A flap in the shape of a diamond or a V is mobilized from the dentate line and then sutured to the neodentate line using absorbable sutures.

2. Result

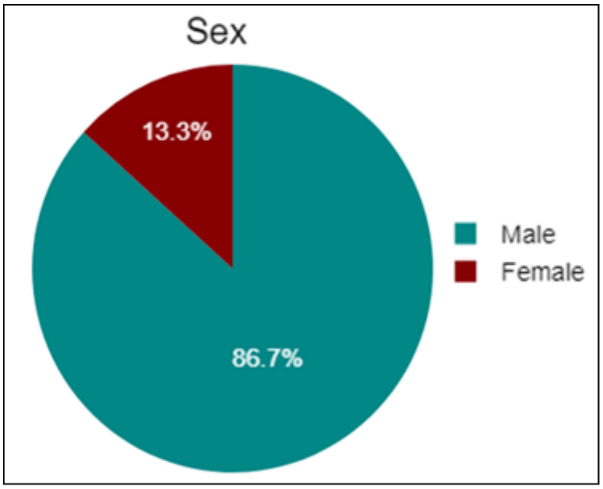
a) Age wise distribution

	Age
Mean	35.15
Std. Deviation	11.6
Minimum	18
Maximum	60
95% Confidence interval for mean	32.15 - 38.15



b) Sex wise distribution

Sex	Frequency	%
Male	52	86.67%
Female	8	13.33%
Total	60	100%
Invalid	0	0%
Total	60	100%



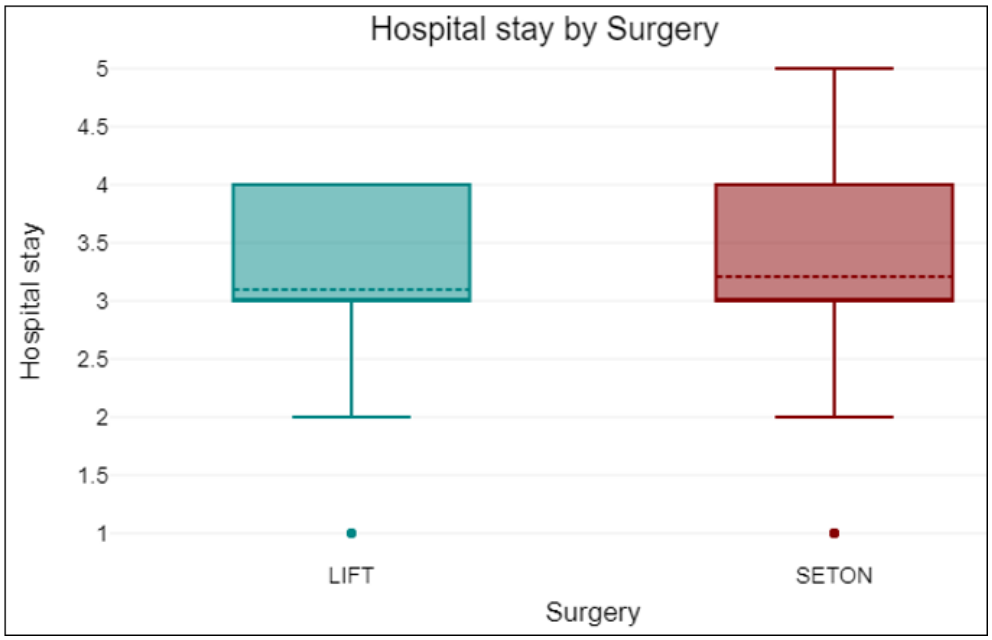
c) Fecal incontinence using Cleveland score

		Frequency	Mean	Std. Deviation	Minimum	Maximum
Fecal incontinence using CLEVELAND clinic fecal incontinence score	LIFT	31	0	0	0	0
	SETON	29	0	0	0	0

CCFI was zero in both groups-no fecal incontinence noted in our study

d) Hospital stay after surgery

		n	Mean	Std. Deviation	Std. Error Mean
Hospital stay	LIFT	31	3.1	0.91	0.16
	SETON	29	3.21	0.98	0.18



		t	df	p	Cohen's d
Hospital stay	Equal variances	-0.45	58	0.653	0.12
	Unequal variances	-0.45	56.86	0.653	0.12

A two tailed t-test for independent samples (equal variances assumed) showed that the difference between *LIFT* and *SETON* with respect to the dependent variable Hospital stay was not statistically significant, $t(58) = -0.45$, $p = .653$, 95% confidence interval [-0.6, 0.38]

SF-36 Questionnaire

a) Physical health

Surgery				
		Lift	Seton	Total
Limitation of activities during last 4 weeks	No	30	0	30
	Mild	1	29	30
	Total	31	29	60

	Chi^2	df	p
Limitation of activities during last 4 weeks - Surgery	56.13	1	<.001

there's enough evidence to suggest a significant association between Limitation of activies during last 4 weeks and Surgery at the traditional 5% significance level.

Surgery				
		Lift	Seton	Total
Physical Health problem during last 4 weeks	-	30	0	30
	S	1	29	30
	Total	31	29	60

	Chi^2	df	p
Physical Health problem during last 4 weeks - Surgery	56.13	1	<.001

there's enough evidence to suggest a significant association between Physical Health problem during last 4 weeks and Surgery at the traditional 5% significance level.

b) Emotional health

Surgery				
		Lift	Seton	Total
Emotional health problem during last 4 weeks	-	30	5	35
	M	1	24	25
	Total	31	29	60

	Chi^2	df	p
Emotional health problem during last 4 weeks - Surgery	38.99	1	<.001

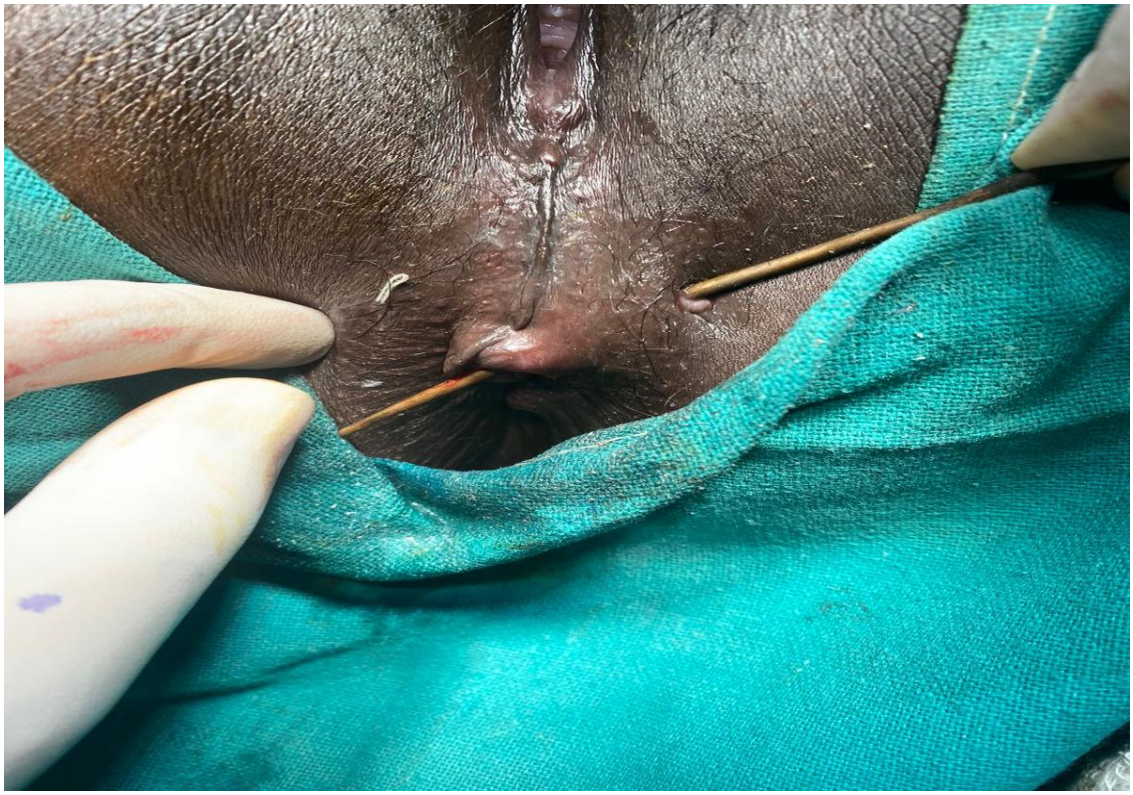
there's enough evidence to suggest a significant association between Emotional health problem during last 4 weeks and Surgery at the traditional 5% significance level.

c) Social activities

Surgery				
		Lift	Seton	Total
Social activities during last 4 weeks	-	30	0	30
	M	1	29	30
	Total	31	29	60

	Chi^2	df	p
Social activities during last 4 weeks - Surgery	56.13	1	<.001

there's enough evidence to suggest a significant association between Social activities during last 4 weeks and Surgery at the traditional 5% significance level.



3. Discussion

In our study, there were a total of SIXTY patients, with a ratio of 52 males to 8 females, which is close to the ratios seen in earlier studies. This demonstrates that FIA is more prevalent in males than it is in females. Gupta et al noted that majority of the study participants in both their groups were females. Seton placement was done only in females in their study.

Our study found that patients between the ages of 30 and 45 were more likely to be impacted, and the mean age was 35.15 +/- 11.6 years old. The age of the patients ranged from 19 to 65 years in a study by Gupta et al. The average age of patients undergoing LIFT procedure and Fistulectomy with Seton wire placement was 40.1 and 43.6 respectively. There was no statistically significant difference in their study. This finding is consistent with the findings of earlier studies by Effkas et al and Olfat et al (12,13).

In our research, majority of patients in both groups were able to accomplish full healing without experiencing any recurrence at the six-month mark, without any alteration in physical, social and emotional health scores. This finding is equivalent to the findings of Chen et al. research. According to Shanwani et al. [14], primary healing occurred in 82.2% of the patients, and the median amount of time it took for patients to recover was seven weeks. After the LIFT surgery, they proposed that the creation of perianal sinuses in the epithelialized external tract remnant may be avoided by performing a coring technique on the external fistula tract. Other investigations on the original LIFT operation, 13 have claimed to have obtained findings that are comparable to these.

Pain and hospital stay was significantly higher in LIFT group in our study, with a 100% healing rate in both groups. In Gupta et al, It was seen that patients undergoing LIFT procedure had pain score of 2.6 & 0.5 at 1 week and 1 month respectively while it was 3.9 & 1.0 in patients undergoing fistulectomy with Seton wire placement. None of the patients in both the groups reported any pain at 3 months of follow-up, which was similar to the findings of the present study. It was reported by Mahammad Ali Sutra and colleagues that the healing rate for cutting Seton 24 was 73.3%. Some studies have shown a recovery rate of more than 96% and have found no instances of anal incontinence associated with cutting Seton. According to the findings of Munir Akhtar and colleagues, the use of a cutting Seton for the treatment of high fistula-in-ano is linked with a low risk of complications and can be suggested as the standard therapy for high fistula-in-ano. [15]

In our study, there were NO recurrences noted on follow-up. Only five patients, or twenty percent, in group A presented with a recurrence in a study by Chen et al. This finding is comparable to the study that was carried out by Iiu KY et al., in which the recurrence rate following modified LIFT was 20%, which is equivalent to the findings of previous studies. A recurrence was seen in four (16%) of the individuals who were in group B in Chen et al. The recurrence rate of the fistula or suppuration was observed to be 19.5% in cases of transsphincteric fistulae [11], according to a study that was conducted by Eitan, Koliada, and Bickel (2009).

Our research revealed that group A/B did not have any instances of incontinence. In addition, Chen et al. and Kang WH et al. stated that the patients in their research did not exhibit any signs of faecal incontinence following the same particular operation.
It was stated by them that this surgical approach is an effective method for maintaining the sphincter. (9,10) Despite the slow cutting of the sphincter, rates of faecal incontinence have been related with the use of a cutting Seton or staged fistulotomy.

These rates range from around five percent to thirty percent as noted by Shanwani et al [14].

In addition, Raslan SM and Aladwani M et al. found a rate of faecal incontinence that was 15.7%. According to the findings of the research conducted by Ritchie and colleagues, cutting Seton is linked to high rates of incontinence because it causes injury to the sphincter of the urethra.

Both the rate of incontinence and the rate of recurrence after cutting Seton were found to be high in patients in whom more than fifty percent of the external sphincter was involved in studies by other authors. On the other hand, there was no incontinence in patients who underwent modified LIFT, but recurrence was also common in patients who had more than fifty percent of the external sphincter involved. However, in our study, there was no recurrence in our study in either groups.

4. Conclusion

There is no ideal surgical treatment for trans sphincteric fistula. Modified LIFT is better in terms of incontinence whereas cutting Seton is better in terms of recurrence. It is suggested that for high-lying fistula modified LIFT is the better procedure and for low-lying fistula involving less than 50% sphincter cutting Seton is better procedure.

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ANNEXURE-4

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