Original Research Article

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A comparative study between fistulotomy and fistulectomy in management of low anal fistulae

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ABSTRACT

Background: Fistula in ano is a silent menace in human beings, the treatment is a challenging one even for experienced surgeons, fistula in ano forms a good majority of treatable benign lesions of rectum and anal canal. Aim was to study the efficacy of fistulotomy and fistulectomy in the treatment of low anal fistulae.

Methods: A randomized control study was conducted to compare fistulotomy with fistulectomy in patients with low anal fistulae

Results: The operating time in fistulotomy group was 12.13minutes±2.11minutes and in fistulectomy group was 22.23±3.36minutes. The post-surgery hospital stays in Group I was 1.80±0.66days and in Group II was 2.60±0.563 days. The wound healing time in Group I was 24.20±2.95 days which was considerably less when compared to patients in Group II where it was 31.50±4.34 days.

Conclusions: Fistulotomy has a slight edge over fistulectomy in the treatment of low anal fistulas since it has shorter operating time, less post-operative pain, less complications, quicker wound healing time, less incontinence and a comparable recurrence rate.

Keywords: Fistula-in-Ano, Low anal fistulae

INTRODUCTION

Perianal fistulae run from the anal canal to the perianal skin or perineum. Perianal fistulae are associated with considerable discomfort and morbidity to the patient. Fistula in ano forms a good majority of treatable benign lesions of rectum and anal canal. 90% of cases are end results of crypto glandular infections. The vast majority of infections is acute and is due to rupture or inadequately drained ano rectal abscess into perianal skin. The persistent majority is contributed by chronic low-grade infections hence pointing to varied aetiology. Most of them are easy to diagnose with good clinical examination and various available investigation modalities. Despite

the ease of diagnosis establishing a cure is problematic due to, significant percentage of cases persisting or recurring when the right modality of surgery is not adopted.³ Due to the lack of a single appropriate technique for the treatment of fistula-in-ano, treatment must be navigated by the surgeon's experience and judgement. The surgeon has to keep in mind the trade-off between the extent of sphincter division, postoperative healing rate, and functional loss. Whatever the type and the extent of fistula are, the principles of anal fistula surgery are to get rid of the fistula, prevent recurrence, and preserve sphincter function. Most of the fistula-in-ano has been conventionally treated by either fistulotomy or fistulectomy which have been proven to be effective.⁴

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Though these two procedures are the commonly performed procedures for low anal fistulas, on reviewing the Cochranes database and Malik's meta-analysis on perianal fistulas till date only two Randomised control studies have been done in this perspective. 5-8 Hence this randomised control study was designed to compare the surgical outcome of fistulotomy and fistulectomy in patients with low anal fistulas.

Aim

To study the efficacy of fistulotomy and fistulectomy in the treatment of low anal fistulae.

METHODS

This randomized control study was conducted in the department of general surgery, Govt. Stanley medical college and hospital, Chennai for a period of one year. The study was conducted after obtaining approval from the Institutional Ethics Committee. Patients who underwent surgery for simple low anal fistulas were divided into two groups namely Group I (Fistulotomy) and Group II (Fistulectomy) by a computer generated

random table, Informed written consent obtained from each and every patient.

Inclusion criteria: Patients between 20 and 50 years of age, simple low anal fistulae.

Exclusion criteria: Recurrent fistula, complex fistula, high anal fistula, patients with neurological lesions, fistulae associated with tuberculosis and Crohn's disease, patients with previous anorectal surgery.

First 60 consecutive patients clinically diagnosed as simple low anal fistula were selected and divided into two groups namely Group I (Fistulotomy) and Group II (Fistulectomy) by a computer generated random table after they sign the consent form.

RESULTS

There was history of perianal abscess in 17(56.7%) patients of Group I and 20(66.7%) patients of group II. In all 37(61.7%) out of 60 patients had previous history of perianal abscess. There was no significant difference between both groups (p=0.426).

		Grou	ір			Total			
		Fistu	ılotomy	Fistulectomy		N.T.	0/	χ2-value	P-value
		N	%	N	%	N %			
H/O perianal abscess	No	13	43.3	10	33.3	23	38.3	0.635	0.426
	Yes	17	56.7	20	66.7	37	61.7		
Position of external opening	Posterior	20	66.7	21	70.0	41	68.3	0.077	0.781
	Anterior	10	33.3	9	30.0	19	31.7	0.077	
Total		20	100.0	20	100.0	60	100.0		

Table 1: Position of external opening and history of perianal abscess.

Table 2: Independent samples t-test to compare mean value between the two surgery procedures.

Variables	Group	N	Mean	Std. dev	t-value	P-value
Operating time (minutes)	Fistulotomy	30	12.13	2.113	13.938	< 0.001
Operating time (minutes)	Fistulectomy	30	22.23	3.360	13.936	<0.001
Post-surgery hospital stays	Fistulotomy	30	1.80	0.664	5.031	< 0.001
(days)	Fistulectomy	30	2.60	0.563	3.031	<0.001
Wound hasling time (days)	Fistulotomy	30	24.20	2.952	7.611	< 0.001
Wound healing time (days)	Fistulectomy	30	31.50	4.345	7.011	<0.001
Pain score at 6 hours	Fistulotomy	30	6.33	0.802	3.830	< 0.001
Pain score at 6 nours	Fistulectomy	30	7.23	1.006	3.830	<0.001
Pain score at 24 hours	Fistulotomy	30	5.00	0.871	3.589	0.001
Pain score at 24 nours	Fistulectomy	30	5.90	1.062	3.369	0.001
Dain saora et disaberga	Fistulotomy	30	3.30	0.651	3.427	0.001
Pain score at discharge	Fistulectomy	30	4.00	0.910	3.427	0.001

In 41 (68.3%) patients the position of external opening was posterior of which 20 (66.7%) patients were in group

I and 21(70.0%) patients were in group II. In 19 (31.7%) of patients the position of external opening was anterior

of which 10 (33.3%) patients belonged to group I and 9 (30%) patients to group II. The difference was not statistically significant (p=0.781). The operating time in fistulotomy group was 12.13minutes \pm 2.11minutes and in fistulectomy group was 22.23 \pm 3.36minutes. The difference between 2 groups was statistically significant (p value <0.001).

The post-surgery hospital stays in Group I was 1.80 ± 0.66 days and in Group II was 2.60 ± 0.563 days. The difference was statistically significant (p value< 0.001).

The wound healing time in Group I was 24.20±2.95 days which was considerably less when compared to patients in Group II where it was 31.50±4.34 days. The difference between two groups was statistically significant.

The pain scores at 6 hours, 24 hours and at discharge in Group I were 6.33 ± 0.80 , 5.00 ± 0.87 , 3.30 ± 0.651 and similar values in Group II were 7.23 ± 1.00 , 5.90 ± 1.062 , 4.00 ± 0.910 . Again, both these differences were statistically significant (p value for 6 hours 0.001, p value 24 hours 0.001 and p value at discharge 0.001).

Table 3:	Post-o	perative	comp	lication.
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		Group			Tota	l	_		
Complication		Fistulotomy	Fistulectomy		N.T.		T 0/	χ²-value	P-value
		N	%	N	%	N	%		
I I win our ve antion	No	27	90.0	25	83.3	52	86.7	0.577 0.7	0.706
Urinary retention	Yes	3	10.0	5	16.7	8	13.3		0.700
Dlandina	No	30	100.0	28	93.3	58	96.7	2.060	0.492
Bleeding	Yes	0	0.0	2	6.7	2	3.3	2.069	
Infection	No	29	96.7	27	90.0	56	93.3	1.071	0.610
	Yes	1	3.3	3	10.0	4	6.7	1.071	0.612
Total		30	100.0	30	100.0	60	100.0		

The most common complications that were noted in both groups were urinary retention, bleeding and infection. In Group I, 3 (10%) patients had urinary retention and in Group II 5 (16.7%) patients had urinary retention. This difference was not statistically significant (p value 0.706) There was no bleeding in Group I and 2 (6.7%) patients

had bleeding in Group II. This difference was not statistically significant (p value=0.492). Out of 30 patients in Group I only 1(3.3%) patient had wound infection whereas in Group II 3(10%) patients had wound infection. P value was 0.612 and hence the difference was not significant.

Table 4: Measurement of incontinence.

		Group				Total			
Incontinence		Fistulotomy		Fistulectomy		_ N T	0/	χ²-value	P-value
		N	%	N	%	N	%		
Solid	No	30	100.0	30	100.0	60	100.0		
Solid	Yes	0	0.0	0	0.0	0	0.0	-	-
T:!.d	No	30	100.0	29	96.7	59	98.3	- 1.017	1 000
Liquid	Yes	0	0.0	1	3.3	1	1.7	1.017	1.000
C	No	28	93.3	26	86.7	54	90.0	0.741	0.671
Gas	Yes	2	6.7	4	13.3	6	10.0	0.741	0.671
Total		30	100.0	30	100.0	60	100.0		

Incontinence was assessed with respect to solids, liquids and gases. There was no incontinence to solid stool in both groups. None of the patient in Group I had incontinence to liquids whereas in Group II 1(3.3%)

patient had incontinence to liquid stool. The difference was not statistically significant (p value 1.000). 2(6.7%) patients in Group I and 4(13.3%) patients in Group II had incontinence to gases. The difference was not statistically

significant (p value= 0.671). All these patients had only minor incontinence when followed up had their

symptoms completely resolved over a period of 2 months.

Table 5: Recurrence.

Group						Total			
		Fistulotomy		Fistul	Fistulectomy		%	χ²-value	P-value
		N	%	N	%	- N	70		
D	No	29	96.7	30	100.0	59	98.3		
Recurrence	Yes	1	3.3	0	0.0	1	1.7	1.017	0.315
Total		30	100.0	30	100.0	60	100.0		

All the patients were followed up for a period of 8 months. Recurrence rate in Group I was 3.3% (n=1) whereas none of the patients in Group II had recurrence. The difference was statistically insignificant (p=0.315).

DISCUSSION

Despite being a common problem, perianal fistula has been pushed to the back pages because of the poor standardisation of the treatment protocols. The optimal surgical treatment for anorectal fistulae would be one that is associated with least recurrence rates, minimal incontinence and a good quality of life. Fistula in ano seems to be affecting males predominantly as evidenced by the present study population. Also, the presenting complaint is usually discharge from an external opening and in this study, this amounted to 88.3%

Majority of our patients (61.7%) had previous history of perianal abscess, reaffirming that anorectal abscess is the acute inflammatory process that often is the initial manifestation of an underlying anal fistula. On comparing the results of two groups, the mean operating time in the fistulotomy group was significantly less. The meticulous dissection in fistulectomy and a need for achieving complete haemostasis usually increases the operating time. Hospital stay is less in fistulotomy group by almost a day, probably due to less post-operative pain (as evident by the pain scores) and smaller wound size.

Also, a higher incidence of urinary retention and wound infection in the fistulectomy group can be related to the increased pain and size of the wound respectively. As the tract is divided over a probe and the resultant wound is small, wound healing is faster in fistulotomy and present study confirms the same. In a study by Kronberg et al in low anal fistulas comparing fistulotomy with fistulectomy fistulotomy wounds healed quicker than fistulectomy wounds by at least 1 week.⁵

None of the patients in present study suffered from major incontinence. Shouler et al reviewed Birmingham results, 96 of 115 patients had a fistulotomy and among them

only ten experienced soiling, and only one patient complained of temporary incontinence of flatus.⁹

Cavanaugh and colleagues in a study of 110 patients found trans-sphincteric tracts and the extent of external sphincter involvement to be risk factors for postoperative incontinence after fistulotomy. In the study by Kronberg et al the incidence of incontinence in fistulotomy group was 3.8% (1/26) whereas in fistulectomy group it was 14.28% (3/21). Khubchandani et al also reported similar results favouring fistulotomy.

The incidence of recurrence cannot be commented upon as the follow up period in this study was only 8 months. During this study period only one patient from the fistulotomy group (1/60) developed recurrence. Shouler et al reported 7 recurrences in 96 out of 115 patients who underwent fistulotomy for low anal fistulas (8%). In the fistulectomy group, Khubchandani et alreported recurrence rate of 5.8% (4/68 cases), Vasilevsky and Gordon et al reported recurrence of 6.3% (10/160), Kronberg et al reported 9% (2/21) recurrence rate. 5,11,12

CONCLUSION

Both the procedures are easy to perform, provide excellent healing rates and will result in division of only a small portion of the external anal sphincter. However, fistulotomy has a slight edge over fistulectomy in the treatment of low anal fistulas since it has shorter operating time, less post-operative pain, less complications, quicker wound healing time, less incontinence and a comparable recurrence rate.

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