FISTULOTOMY VS FISTULECTOMY IN THE TREATMENT OF SIMPLE LOW ANAL FISTULA OF MALE PATIENTS

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ABSTRACT

Objective: To compare the efficacy of fistulotomy versus fistulectomy in the treatment of low lying anal fistula in male patients.

Study Design: Randomized clinical trial.

Place and Duration of Study: Surgery Department, CMH Multan and CMH Malir, from Aug 2008 to Oct 2013.

Patients and Methods: Study was done on 262 patients. Patients with anal fistula were divided by simple random allocation into groups A (fistulotomy) and B (fistulectomy). The patients with simple low anal fistula without any comorbids were included in the study and the patients with recurrent fistula, high fistula or those having any comorbid were excluded from the study. Data was analysed using SPSS 17. Descriptive statistics applied for both quantitative and qualitative variables. Mean and standard deviation for quantitative and frequencies and percentages for qualitative data.

Results: Total 262 patients were selected having low lying anal fistula and operated as group A – fistulotomy and group B – fistulectomy, each group constituted of 131 patients each. The operating time was found to be shorter for group A (14.29+3.24 minutes) and group B (25.92 +3.60 minutes). The group A patients were discharged earlier (3.73 + 0.65 days) than group B (4.88 + 0.35 days). In group A incidence of postoperative bleeding (0.8%), infection (2.2%) and recurrence was (10.7%). While in group B bleeding (3.1%), infection (3.8%) and recurrence was (15.3%). Severity of postoperative pain (as assessed by Numeric Rating Scale) was higher in group B as compared to group A. The healing time was shorter in group A (4.04 + 0.33 weeks) as compared to group B (4.57 + 0.497 weeks) and the patients of group A returned to normal activity earlier (10.9 + 2.05 weeks) than group B patients (15.54 + 0.51 weeks).

Conclusion: In male patients suffering from simple low lying anal fistulas, fistulotomy has a definitive superiority over fistulectomy and is recommended to be adopted as primary surgical modality for the treatment.

Keywords: Fistula, Fistulectomy, Fistulotomy, Recurrence.

INTRODUCTION

Anal fistula is a chronic abnormal communication usually lined by some degree of granulation tissue which runs outward from ano-rectal lumen (internal opening) to the external opening on the skin of the perineum or the buttock[1]. The vast majority of anal fistulae are secondary to infection of anal gland which present as perianal abscess which may spontaneously burst or inadequately drained[2]. Anal fistula may be associated with number of disease processes such as Tuberculosis, Crohn's disease, malignancy etc[3]. Anal fistulae are classified into two subtypes on the basis of their location i.e. if their internal opening lies below anorectal ring they are known as low fistula and if they open above ano-rectal ring they are called high fistula. The commonest symptom isa watery or purulent discharge and recurrent episodes of pain[4]. Pain increases gradually until temporary relief occurs with pus discharge[1]. The main principle of management of low anal fistula is to treat the condition without hampering anal continence. Low fistulas can be treated in different ways, which are fistulotomy or fistulectomy. In fistulotomy the tract is laid open, curetted and then allowed to heal by secondary intention. In fistulectomy the whole fistulous tract is excised (with diathermy or knife) but this method might result in anal sphincter impairment resulting into anal incontinence. Although major incontinence is

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rarely seen, minor incontinence may be apparent in upto 24%[5]. Low anal fistulae which are treated by fistulotomy show good results[4] However the surgeon's skills do effect the outcome as do the post op care and patient compliance.

PATIENTS AND METHODS

This is a randomized clinical trial study and was carried out from Aug 2008 to Oct 2013 in Department of Surgery CMH Multan and CMH Malir in Patients suffering from simple low lying anal fistula. Male patients of all ages and race were included in the study.All the patients having high anal fistula, tuberculosis or those with recurrence or any other comorbid disease were excluded from the study. Finally 262 patients were included in the study after in eligible subjects. This represented our study population.

The data from the patients was recorded through a questionnaire. History was evaluated especially for the duration of symptoms prior to presentation, physical exam and laboratory investigations were performed to outline any co-morbids. All the patients included in the study underwent detailed rectal exam bydigital rectal exam and proctoscopy, in order to rule out any abnormality of anal canal. Patients with palpable fistula tracts were taken into consideration and acute fistula patients where tract was not palpable were excluded from the study. The patients were then allocated into two groups initial i.e.group A patients with fistulotomy and group B patients with fistulectomy by simple random allocation.The chronicity of fistula was not taken into account during randomisation. Patients were consented for the type of procedure adopted. All the patients were operated upon under spinal anesthesia and in lithotomy position. Probing was done from external opening to identify the external opening only and was not probed till the internal opening. This care was taken to avoid creation of any false passage. The internal opening was confirmed by injecting methylene bluefrom the external opening. For patients of group A the track was laid open and curettage was done to remove the mucosa / granulation tissue lining the track. In patients of group B, the track location and the openings were confirmed similarly. Then a 5 Fr nasogastric tube was passed in the tract. The whole tract was then excised. Hemostasis was secured and the excised track was sent for histopathology for any evidence of tuberculosis or malignancy. If the histopath report of the excised tract was positive for either tuberculosis or malignancy, the patient was excluded from the study. Postoperatively the patients were treated with antibiotics (Augmentin and Metronidazole) and oral analgesics (diclofenac sodium). Any requirement of Injectable diclofenac sodium was recorded separately for analysis. Patients were administered thrice daily sitz baths starting from first post-op day. Operating time, healing time and hospital stay were recorded. The patient was discharged from the hospital when the pain was controlled on oral analgesia.Patients were followed up in surgery OPD on weekly basis till complete wound healing for postoperative infection, postoperative pain and fecal incontinence. A monthly follow-up till six months was done for evidence of recurrence.

Data was analysed using SPSS 17. Descriptive statistics applied for both quantitative and qualitative variables. Mean and standard deviation for quantitative and frequencies and percentages for qualitative data. The main quantitative data was of age, operating time, number of days of hospital stay and healing time. The main qualitative data was post operative bleeding and post operative infection and recurrence. Means of all quantitative were compared between groups by independent sample t-test for normal variables and non parametric Mann-whitney U test for non-normal variables. Chi-Square and Fisher's exact test was applied for the association of qualitative variables between groups. A *p*-value of <0.05 was considered significant.

RESULTS

A total of 315 patients were operated upon for low anal fistula during the study period. Forty four (13.97%) were excluded from the study because of comorbidities and another 9 (2.85%) patients were excluded because their histopathology revealed granulomatous

lesion.Thus a total of 262 patients were included in the study. Out of these the first. Only male patients were included in the study. Amongst the patients included in the study the youngest patient was 17 years old and eldest of all was 52 years old. The median age was 31 years in both group A and group B. The mean age of group A was 32.53 + 6.32 and the mean age of group B was 33.47 + 7.54. The frequency of presenting symptoms in patients of both groups are presented in fig.

Severity of postoperative pain (as assessed by Numeric Rating Scale) was higher in Group B as compared to Group A. The complications recorded were bleeding, post-op infection and recurrence. Frequency of these complications is shown in table- 2. In all cases recurrence occurred after 4th week of operation.Severity of postoperative pain (as assessed by Numeric Rating Scale) was higher in group B as compared to group A.

DISCUSSION

There are various treatment options available for fistula in ano. The choice of decision depends on the complexity of the fistula. In this study we have focused only on simple fistula in ano and the two methods of treatment fistulotomy versus fistulectomy. DO Sum Kim et al note fistulotomy to be a standard treatment for simple anal fistulae and the most widely-performed procedure. They also opine that whether to perform a fistulotomy or a fistulectomy may be controversial, the fistulotomy is thought to be preferable because healing times are significantly shorter whereas recurrence rates are comparable but the fistulectomy is slightly more demanding, especially when the tract has ill-defined walls, because more damage is caused to the tissues surrounding the fistula tracts[6]. In our study both groups are comparable as regards the age distribution and the frequency of different

Table-1 : Comparison of the means of both groups.

	Group_of_op	N	Median	Mean	Std. Deviation	Levene's test Sig	Independent Sample T-Test	Mann Whitney U test
Operatingtime (Minutes)	Fistulotomy	131	15.00	14.29	3.243	0.035		<0.001 Reject the null hypothesis
	Fistulectomy	131	25.00	25.92	3.606			
	Total	262	20.00	20.10	6.755			
HospitalStay (Days)	Fistulotomy	131	4.00	3.73	0.645	<0.001		<0.001 Reject the null hypothesis
	Fistulectomy	131	5.00	4.88	0.351			
	Total	262	4.00	4.30	0.776			
Healing Time (Weeks)	Fistulotomy	131	4.00	4.04	0.338	0.108	<0.001	
	Fistulectomy	131	5.00	4.57	0.497			
	Total	262	4.00	4.31	0.682			
ReturntoNormal Activity (Weeks)	Fistulotomy	131	10.00	10.95	2.053	<0.001		<0.001 Reject the null hypothesis
	Fistulectomy	131	16.00	15.54	0.515			
	Total	262	15.00	13.25	2.741			

Table-2: Comparison of the complications in two groups.

	Fistulotomy n=131		Fistulectomy n=131		*p*-value
	Frequency	Percentage	Frequency	Percentage	
Post op bleeding	1	0.8%	4	3.1%	0.370(Fisher Exact Test)
Post op infection	3	2.2%	5	3.8%	0.722(Fisher Exact Test)
Recurrence	14	10.7%	20	15.3%	0.27 (Chi square test)

symptoms. We compared the average operating time, and outcome in form of hospital stay, healing time and the time taken for return to normal activity in both groups i.e. fistulotomy and fistulectomy as shown in Table-1. We have found that the difference in all the parameters had a *p* value <0.001 as calculated by Independent sample T-test as well as non-parametric Independent Sample Mann-Whitney U test. This rejects the null hypothesis and reflects that the groups are not similar and have a significant difference in the outcome.In an earlier study Kronborg showed a longer healingtimefor both the procedures i.e. 34 days for fistulotomy and 41days for Fistulectomy[7].

The differences in healing time when evaluated for variance by Levene's test returned a value of 0.108 and hence we omitted this parameter in the Mann Whitney U test and preferred to refrain on commenting on it in either group.The variance of healing time has yielded different parameters even in earlier studies as well. This difference of healing time might be due to Older age group of the patients, comorbids and cigarette smoking incidence in Kronborg study patients[7].

Another study by Yasmeen and Saira showed healing times for fistulotomy with the ranges in between 18-30 days and average healing time 24 days. While the healing times for the fistulectomy group were ranging between 28-42 days and mean healing time of 35 days. These results are in congruence with results of our study, further strengthening our study[8]. In our study post-operative bleeding was noticed in 1 out of 131 (0.76%) patients who were treated with fistulotomy and 4 out of 131 (3.05%) patients who were treated with fistulectomy as the modality of treatment given. The Literature of Malik A.I. and Nelson showed

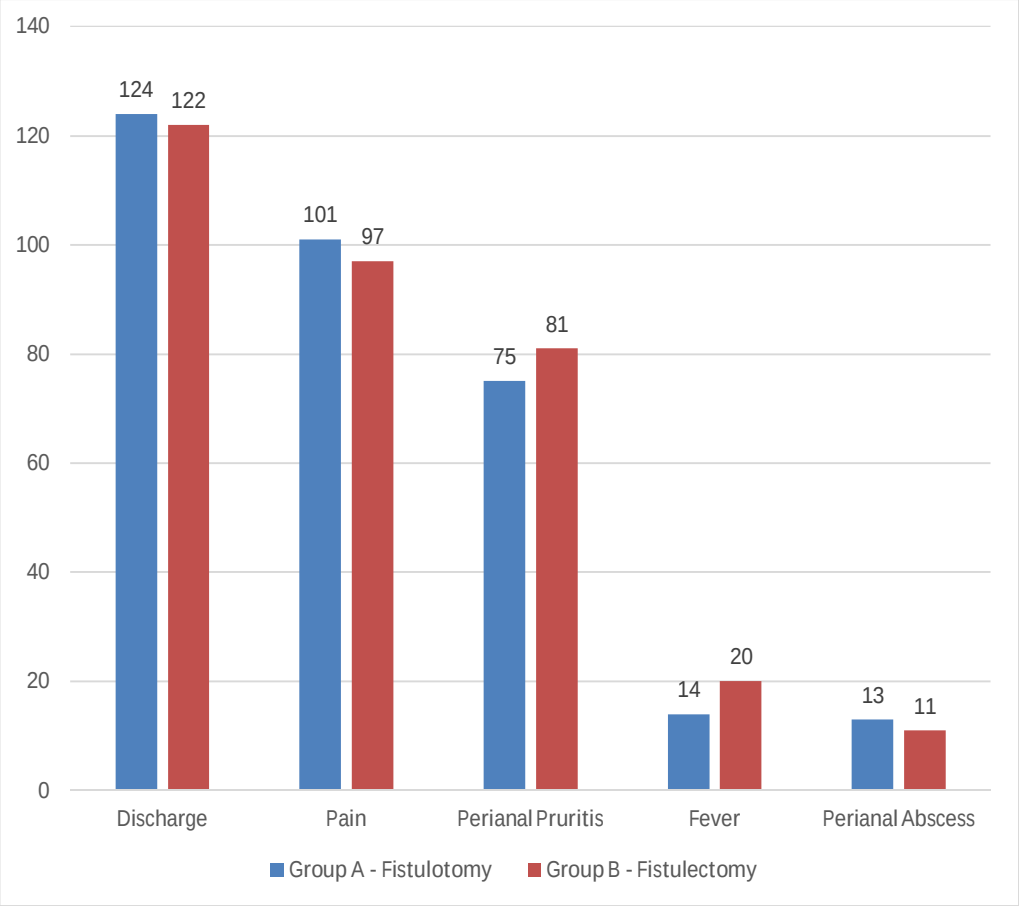

Figure: Comparison of frequency of symptoms in both groups.

that there was no post-operative bleeding in patients treated with fistulotomy compared with one case of post-op bleeding out of 44 patients (2.27%) in fistulectomy group. This result is comparable to our study; however there was 1 case of post-op bleeding of fistulotomy group in our study while none in study of Malik and Nelson. This difference might be due to low sample size of Malik and Nelson.

The frequency of post-op infection was 3 cases out of 131 patients (2.29%) treated with Fistulotomy and 5 cases out of 131 patients (3.81%) who were treated with Fistulectomy. The p-value of all these variables was significant as calculated by Fisher's Exact test. This depicted that fistulectomy yielded a slightly higher incidence of post-op infection incidence that might be due to the actual surgical procedure with a wider excision along the track and a larger wound formation obviously predisposing to the infections. The study of Malik and Nelson showed one case of postoperative infection out of 32 cases (3.12%) of fistulotomy and one case of postoperative infection out of 44 cases (2.27%) in fistulectomy group[9]. These results however showed that both the studies are comparable, but sample size was larger in our study showing slightly different results.

CONCLUSION

In male patients suffering from simple low lying anal fistulas, fistulotomy has lesser operative time and lesser incidence of complications than fistulectomy. We recommend it to be adopted as primary surgical modality for the treatment.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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