

ORIGINAL RESEARCH

Fistulotomy in comparison with fistulectomy for the management of simple low-lying perianal fistula- a prospective randomised trial.

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Abstract

Background: Fistula-in-ano is common surgical condition yet difficult to treat without problems. Now a days management remains dependent on two conventional surgical options (open fistulectomy/ fistulotomy and fistulectomy with primary closure), mostly depends on preference of surgeon, and their experience.

Methods: This was a prospective, randomized study conducted to compare fistulotomy with fistulectomy in the management of patients with fistula-in-ano attending surgical out-patient department. Fifty patients were recruited and randomized into two groups each containing 25 patients in both the groups, group I was managed by fistula tomy and group II was managed by fistulectomy. The outcomes of the study include type of fistula, post-surgery hospital stay, wound healing time, postoperative pain, and postoperative complications early as well late.

Results: Out of the 50 patients, 09 (18%) were female and 41 (82%) were male with a mean age of 36.2 ± 12.36 years. The mean post-surgical hospital stays in the 1st group was 14.44 ± 8.2 days and in the 2nd, group was 6.59 ± 1.83 days ($p < 0.001$). Mean Visual Analog Scale score (VAS) was higher in fistulotomy when compared with the fistulectomy immediately after surgery ($p < 0.001$). Postoperative complications were found to be same in fistulotomy patients compared with patients who underwent fistulectomy.

Conclusion: From this study we can conclude fistulectomy with primary closure is ideal for low anal fistula. This saves number of days required for wound healing, hospital stay and results in less expenditure for patients, saves the number of working days lost. This lessens the work load on doctor and hospital staffs.

Key words: fistula in ano, fistulotomy, fistulectomy

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Introduction

Fistula in Ano is as old as mankind itself. The management of Fistula in ano was described by Hippocrates as early as 450 BC. In 2500 B.C., Sushruta, the well-known ancient surgeon of India, has conducted operations on Fistula-in-Ano. This was known as “Salya tantra”. Sushruta traced the source of origin of fistula in ano known as “Murma” to the abscess in the perianal region. He had various instruments in his armamentarium for the surgery on fistula in ano.^{1,2} Fistula-in-Ano is the most common malady and an intriguing problem of the Ano-rectal region in general population. Fistula-in-Ano is a preventable disease provided the perianal – perirectal suppurations are treated timely and in a corrective manner. The location of the diseased part makes the patient refrain from early consultation. The common

pathogenesis is the bursting open of an acute or inadequately treated ano-rectal abscess into the perianal skin.³ The cause for the delay in treating the patients with perianal suppurations are the shy patients themselves who come to the surgeon late. The more important second factor is that a significant percent of these diseases persist or recur when the right modality of surgery is not adopted or when the post-operative care is inadequate. The chronicity with its annoying symptoms like soiling of the under garments, itching, repeated abscess formation, makes an otherwise healthy and active person lose their earning capacity, with lowered self-confidence. The fundamental principles of treatment of anal fistula are closure of internal opening of fistula tract, necrotic tissue drainage or purulent of infection removal, and extermination of fistulous tract with safe guarding of

the sphincter function. Two Studies have reported that high fistulae have low incidence. Commonest anal fistulae are the Low fistulae and can be managed easily by conventional laying-open technique. High fistula-in-ano are difficult to treat since the conventional laying-open will lead to division of most of the anal sphincter muscles resulting in incontinence.⁴ Surgical management is the commonly approved method for treatment which includes fistula tomy or fistulectomy. Open Fistulectomy is regarded as the standard treatment for fistula in ano, but fistulectomy with primary closure has the advantages of short hospital stay for patients, early wound healing, lowers costs and is a safe procedure. Complications of surgical management incorporate recurrence, delayed and/or impaired healing, and bleeding.^{5,6} Our main objectives are to compare between fistula tomy and fistulectomy as a treatment of FIA in patients admitted in surgical wards and their surgical outcome viz, duration of hospital stays, healing, and complications.

Methodology

This is a randomised, prospective comparative study of 50 cases of fistula in ano, presenting in all surgical units of M. R. Medical college, Kalaburagi. Out of which, 25 cases are treated by open fistulectomy, 25 by fistulectomy with primary closure procedure by random selection method, during period of Feb 2020 to July 2021. Clinical history and Clinical examination including per rectal and proctoscopy examination was done in all the patients. All the patients were processed by routine investigations, chest X-ray etc., prior to surgery. For all the patients, Pus culture sensitivity and Fistulogram was done. And as per requirement C.T. Scan and M.R fistulogram was advised.

Inclusion Criteria: Patients with low level fistula in ano, fistulotomy, fistulectomy,

Exclusion Criteria: Patients with high level fistula in ano, recurrent fistula in ano and anal fistula associated with Inflammatory Bowel Disease. If the patients were found to have any complicating medical conditions like Diabetes mellitus, Hypertension, Ischaemic heart disease and COPD, they were treated for the condition first and reassessed for fitness for surgery. All patients were given pre-operative prophylaxis with InjCefotaxime 1gm IV. Only spinal anesthesia was administered to both the cohorts. Postoperatively, Inj Diclofenac 75 mg IM BD was given as analgesia for 48 hours to both the cohorts. Post operatively InjCefotaxime 1gm IV, BD was given for 48 hours to both the cohorts.

Post operatively, the following was evaluated:

1. Period of stay in hospital was compared by using the hospital records.
2. Period of healing was compared by measuring the time taken for complete epithelialization of

the operated site in open fistulectomy cases and complete wound healing in fistulectomy with primary closure.

3. Work load on the hospital was compared based on number of days of bed occupancy, use of dressings and other medications.
4. Cost factor was compared based on expenditure on the cost of surgical procedures, dressings, financial loss incurred due to absence from work etc.

Patients were followed up once a month for the first three months, once every three months thereafter in first year and once in six months in the next year and assessed for recurrence. An Ethical clearance letter has been obtained from the institution for the present study.

Results

The study was conducted on 50 patients, where 41 were male (group I, 21 and group II, 20) and 09 were female (group I, 4 and group II, 5), with a mean age of 36.2 ± 12.36 years in group I and 39.96 ± 12.7 years in group II (Table 1). The VAS score after surgery in group I is more i.e., 8.88 ± 0.78 compared to group II i.e., $5.2 \pm .76$ ($p < 0.001$), and it is statistically significant. Only one (4%) of the patients in group I discharged within 1st week where as in group II 11 (44%) (Fig 1) of patients discharged within 1 week. The mean hospital stays after surgery as well overall stay, when compared between both the groups, it was statistically significant ($p < 0.001$) The mean time taken for wound healing in both group I and group II patients were reported to be 45.64 ± 21.3 and 8.44 ± 0.65 days with a statistical significance of $p < 0.001$. (Fig 2) Early complications like retention of urine were seen among few patients among both the groups and it was not statistically significant also ($p = 0.84$). Late postsurgical complications are Nil among both groups and presented in table 1. Ano is a preventable disease provided the perianal – perirectal suppurations are treated timely and in a corrective manner. The location of the diseased part makes the patient refrain from early consultation. The common pathogenesis is the bursting open of an acute or inadequately treated ano-rectal abscess into the peri-anal skin.³ The cause for the delay in treating the patients with perianal suppurations are the shy patients themselves who come to the surgeon late. The more important second factor is that a significant percent of these diseases persist or recur when the right modality of surgery is not adopted or when the post-operative care is inadequate. The chronicity with its annoying symptoms like soiling of the under garments, itching, repeated abscess formation, makes an otherwise healthy and active person lose their earning capacity, with lowered self-confidence.

Table 1: Baseline demographic variables and comparison outcomes of patients underwent open fistulectomy (group: I) and fistulectomy with primary closure (group II)

Variables		Group I (open fistulectomy) n=25	Group II (fistulectomy with primary closure) n=25	P value
Age				
Range (In years)		15-70	18-65	
Mean±SD (in years)		36.2 ± 12.36	39.96 ± 12.7	0.79
Sex				
Male: Female		21:04	20:05	0.48
Presents with discharge	Yes	24	24	1
	No	1	1	
Duration of discharge	<1 month	12	6	0.07
	>1month	13	19	
Pain and swelling	Yes	19	19	1
	No	6	6	
Type of Fistula	Anterior Low Anal Fistula	8	8	1
	Posterior Low Anal Fistula	17	17	
Co-morbidities	Nil	20	22	0.6
	Fissure in ano	2	0	
	DM/HTN	3	3	
VAS score (post op)	Mean±SD	8.88 ± 0.78	5.2 ± .76	<0.001
Retention of Urine	Retention with Catheterization	2	1	0.83
	Retention with Non-Catheterization	6	6	
	No Complications	17	18	
No. of days stay in hosp. after operation (days)	Mean±SD	14.44 ± 8.2	6.59 ± 1.83	<0.001
Overall Hospital Stay (days)	Mean±SD	17.6 ± 11.08	6.55 ± 2.94	<0.001
Time taken to heal wound(days)	Mean±SD	45.64 ± 21.3	8.44 ± 0.65	<0.001
Late complications		0	0	

Figure 1: Number of days stay in hospital after operation

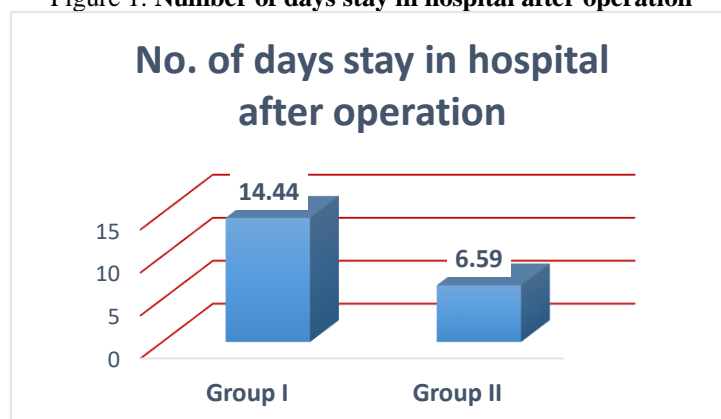
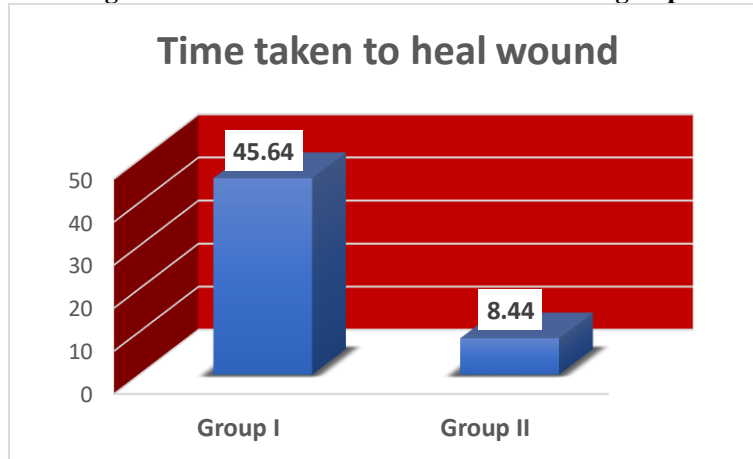


Figure2: Time taken to heal wound in the both groups

Discussion

Fistula-in-ano is an everyday problem associated with high degree of discomfort and morbidity in patients suffering with it. Surgery is one among the most believed, preferred, and important treatment modality. Though different surgical procedures available are available to treat, most of the surgeons prefer either fistulotomy or fistulectomy. The main aim of management of low fistula in ano is to completely remove the internal opening as well as the epithelized fistulous tract, while protecting the function of the anal sphincter. Several factors, like aetiology, the anatomy of fistula, severity of symptoms, comorbidity, and experience of the surgeon, must be considered.^{7,8,9}In spite of the fact that both the procedures have their own complications, major outcome should be good quality of life, minimal incontinence, and less recurrence rate.^{8,9,10,11}Fistula in ano most commonly occurs in male compared to female; it is almost double the incidence.^{8,12} In the present study male and female incidence was in the ratio of 4:1 and it is supported by many studies. Predominantly patients present with intermittent relapse of inflammation with or without purulent discharge, perianal pruritis, and/or granuloma. In Prakash et al¹³ study, most common symptom is perineal discharge followed by swelling in the perineum. The main presenting symptoms in all series were discharge, pain and swelling. In our study 90% of patients had purulent discharge, 6 % blood mixed discharged, 4% has serous discharge. It is supported by Ramachandra et al¹⁴ and Goligher, et al¹⁵ studies. In our study, the duration of hospital stay after the surgery and healing time of the wound was found to be more in patients undergoing fistulectomy than patients undergoing fistulotomy, it may be because of the high postoperative pain (high VAS score) as there will be more dissection around the fistula tract and the raw area left after coring. Many other studies also reasserted the same,^{13,14,15} except for the studies conducted by Jain et al¹⁶, where the VAS score in their study patients were reported to be same in both the groups and statistically insignificant. Decrease in postsurgical hospital stay and wound healing time in

fistula tomy patients over fistulectomy patients is common. It might be due to the less dissection and less surgical trauma leading to quick wound healing compared with fistulectomy patients. Because of the reduced surgical trauma also leads to decreased inflammation and decreased inflammatory mediators, hence comparatively helps to reduce postsurgical hospital stay and postoperative pain. Results from our study population suggest that, there is no statistical difference in complications like urinary retention with or without catheterization among both types of surgery groups. From the previous studies we could find that greater patient comfort and lesser complications was seen among fistulotomy patients compared to patients who underwent fistulectomy.^{8,9,17} we could not find any late complications after 6 weeks. A study done by Bijaya Kumar Sethi et al¹⁸, showed that 10% recurrence among fistulotomy group compared to 3% recurrence among fistulectomy group and it was statistically significant with p value of 0.006. In our study, the mean healing time in group open fistulectomy was 45.64 ± 21.3 days, whereas the mean healing time in group closed fistulectomy was 8.44 ± 0.65 days (p-value <0.001), consistent with the finding of various studies conducted earlier. In a study by Ahmed et al¹⁹, the mean values of healing time were 21 ± 3.01 days for group A (range 17–28 days) and 26.6 ± 1.42 days for group B (range 25–30 days). Similarly, in a study conducted by Srikantiah CSH and Rakesh P¹² reported that mean healing time among fistulotomy group was 23.48 ± 1.44 and among fistulectomy group was 1.04 ± 2.71 days with a statistical significance of p value less than 0.01. Limitations of the present study were, we could cover only a small sample size, single institution surgery OPD data was taken, and patients with complex and high anal fistulae were excluded from the study. Conclusion: The operating time, hospital stay, wound healing time, and postoperative pain after Fistulotomy was of shorter duration compared to fistulectomy. From this study, we can draw the inference that fistulotomy may be used as the surgical procedure of choice to treat simple low-lying fistula-in-ano compared with fistulectomy. The findings of the

present study need to be upfolded further by conducting multicentric research and with large sample size, and can also be tried with different types of fistulae to reach a harmony.

Conflicts of interest: none declared

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