

## Original Research Article

# A comparative study of laying open of wound vs primary closure in low fistula in ano

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### ABSTRACT

**Background:** Perianal fistulas remain a surgical treatment challenge in colorectal practice due to high recurrence rates and the risk of postoperative wound infection and incontinence. Anal fistula represents one of the most frequent anorectal diseases.

**Methods:** This is a randomized comparative prospective study of 30 cases of fistula-in-ano presenting at the surgical OPD of Almeen Medical College and Research Institute from 1 September 2017 to 31 June 2018.

**Results:** In our study the age of the patient varied from 25-60 years, patient's wound healed in 3-4 weeks in those who underwent open fistulectomy, whereas in the primary closure method the wounds healed in 1-2 weeks. Recurrence of fistula occurred in 5 patients.

**Conclusions:** The primary closure method of fistulectomy is a safe and feasible method and more effective in the management of fistula-in-ano.

**Keywords:** Fistula-in-ano, Fistulectomy, Wounds healing

### INTRODUCTION

Perianal fistulas remain a surgical treatment challenge in colorectal practice due to high recurrence rates and the risk of postoperative wound infection and incontinence. Anal fistula represents one of the most frequent anorectal diseases.<sup>1</sup> The prevalence in men is 12.3 cases per 100,000 population while in women, it is 5.6 cases per 100,000 population.

The common pathogenesis is the bursting open of an acute or inadequately treated ano-rectal abscess. This can be Prevented by providing treat on time and in a correct manner. Patients commonly present with discharge, and repeated abscess formation. Fistula in ano are Classified into Inter-sphincteric, Trans-sphincteric, Supra-sphincteric or Extra-sphincteric by Parks based on the location of the fistula in relation to the anal sphincters.

Ideal surgical treatment for anal fistula should aim to eradicate sepsis and promote healing of the tract, whilst preserving the sphincters and the mechanism of continence. In the surgical management of fistula-in-ano, the two standard procedures used are - a fistulotomy and a fistulectomy.<sup>2,3</sup> Fistulotomy involves laying open of fistulous tract wherein the fistulous tunnel is laid open, which allows the fistula to heal from below upwards.<sup>4</sup> Fistulectomy, on the other hand aims at complete removal of the fistulous tract which is supposed to eliminate the risk of missing secondary tracts.<sup>3</sup>

A low anal fistula is defined as one that has the internal opening below the anorectal ring. Traditionally, the resulting wounds, being contaminated, are left open to granulate, from the base up. Both these conventional methods are associated with prolonged healing times and have concerns regarding continence.<sup>5</sup>

Aim of the study is to study the outcome of primary wound closure over non closure of wound after fistulectomy in low anal Fistulas.

## METHODS

This is a randomized comparative prospective study of 30 cases of fistula-in-ano presenting at the surgical OPD of Almeen Medical College and Research Institute from 1 September 2017 to 31 June 2018.

Patients were divided in two groups based on odd and even numbers, A and B containing 15 patients each. Patient of group A underwent fistulectomy alone whereas patients of group B underwent fistulectomy with primary closure of wound. All the patients were followed for 06 weeks. On each visit, healing was assessed by naked eye examination of epithelialization.

Detail clinical history, thorough clinical examination including per rectal examination were done in all the cases. All patients had undergone routine blood investigations, Chest X-Ray and ECG prior to surgery. In doubtful cases MRI were done.

### Statistical analysis used

All characteristics were summarized descriptively. For continuous variables, the summary statistics of mean± standard deviation (SD) were used. For categorical data, the number and percentage were used in the data summaries and diagrammatic presentation. Chi-square ( $\chi^2$ ) test was used for association between two categorical variables. The difference of the means of analysis variables between two independent groups was tested by unpaired t test. If the p-value was  $< 0.05$ , then the results were considered to be statistically significant otherwise it was considered as not statistically significant. Data were analyzed using SPSS software v.23.0 and Microsoft office 2007.

### Inclusion criteria

The presence of low Anal Fistulas including: trans-sphincteric, inter sphincteric and subcutaneous fistula

### Exclusion criteria

- Recurrent fistula
- patients with associated conditions such as anal fissure, hemorrhoids, Carcinoma
- Irradiation
- Presence of multiple secondary branching tracts or multiple external openings
- Patients with suspected high anal fistula

### Techniques of surgery

After obtaining consent from patient and relatives. Under spinal anesthesia in lithotomy position per rectal

examination done and both external and internal openings were identified with probe. Fistula tract was excised and left open with complete haemostasis. This procedure was done in group A.

After excising the fistula tract wound was closed in layers, sutures were removed on 7 to 10 postoperative day. This procedure was done in group B

## RESULTS

In our study the age of the patient varied from 25-60 years with a mean age 42.7 in Group A and 43.1 in Group B shown in Table 1.

**Table 1: Comparison of mean age between study groups.**

Parameters	Group A		Group B		P value
	Mean	SD	Mean	SD	
Age (years)	42.7	11.3	43.1	11.3	0.923

Out of 30, 20 males 10 females. 9 male patient undergone had undergone primary closure and 6 female patient had undergone primary closure (Table 2).

**Table 2: Distribution of sex between study groups.**

Sex	Group A		Group B		P value
	N	%	N	%	
Male	11	73.3	9	60.0	0.439
Female	4	26.7	6	40.0	
Total	15	100.0	15	100.0	

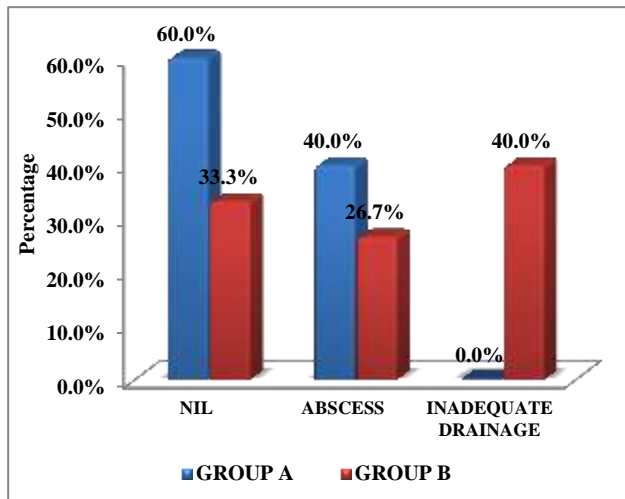
The major cause for fistula-in-ano was anorectal abscess, inadequately drained abscess Shown in Table 3 and Figure 1. Fistulous opening Internal opening Proctoscopic examination revealed all the internal openings in our study. External opening In our study group of 30 patients, 7 had anterior and 23 had posterior openings. In our study, majority of the patient's wound healed in 3-4 weeks in those who underwent open fistulectomy, whereas in the primary closure method the wounds healed in 1-2 weeks Shown in Table 4 and Figure 2. Retention of urine was the commonest complication in the immediate postoperative period. Apart from that 2 patients had haemorrhage. Recurrence of fistula occurred in 5 patients.

**Table 3: Distribution of causes between study groups.**

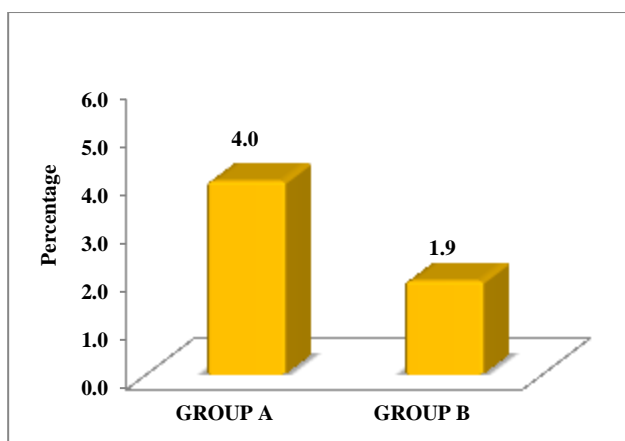
Causes	Group A		Group B		P value
	N	%	N	%	
Nil	9	60.0	5	33.3	0.023*
Abscess	6	40.0	4	26.7	
Inadequate drainage	0	0.0	6	40.0	
Total	15	100.0	15	100.0	

**Table 4: Comparison of mean healing time between study groups.**

Parameters	Group A		Group B		P value
	Mean	SD	Mean	SD	
Healing (weeks)	4.0	0.8	1.9	1.0	<0.001*



**Figure 1: Distribution of causes between study groups.**



**Figure 2: Comparison of mean healing time between study groups.**

**DISCUSSION**

Anal fistula is a common condition causing discomfort, pain, discharge and absence frame work. Different therapies are being used to treat anal fistula world wide ranging from fistulotomy to fibrin glue plug and radiofrequency ablation.<sup>6</sup> But the treatment still poses a surgical problem. Many authors have presented new operative techniques and case series to minimise the recurrence rate and incontinence. But the treatment remained a challenging job for the surgeon. Modern treatments are not available due to financial constraints. So, we have to stick to basic and simple techniques of fistulectomy traditionally, most surgeons believe fistulotomy to be adequate treatment for fistula in ano.<sup>7</sup>

In a study by Shahbaz et al, the peak incidence of fistula-in-ano was 21-40 years of age group and the male:female ratio was 4:1. In our study also the peak age incidence was 21-40 years with a male:female ratio of 4:1.<sup>8</sup>

In a study by Vasilevsky et al, the cause for fistula-in-ano was anorectal abscess (21%), I and D (39%) and previous surgery (11%). In our study of 52 cases, the causes were anorectal abscess (54%), I and D (37%) and previous rectal surgeries (10%). This clearly proves that in our place the major cause was anorectal abscess owing to poor hygiene of the patients, as most of them are from poor socio-economic group.<sup>9</sup>

In a study by Damor et al, the average wound healing time for open fistulectomy cases was 21.24 days and for primary closure cases it was 8.24 days.<sup>10</sup> In another study by Prakash et al, the average healing period for open group was 5 weeks while in closure group it was 2 weeks.<sup>11</sup> In our study, the average healing period for open fistulectomy cases was 4-5 weeks and for closure group it was 1-3 weeks. This is again in favour of primary closure of fistulectomy wound.

**CONCLUSION**

The primary closure method of fistulectomy is a safe and feasible method and more effective in the management of fistula-in-ano, is a better alternative in the surgical management of fistula-in ano considering the benefits of lesser postoperative pain, early healing, early discharge, early return to normal activity, cost effective and lesser recurrence rate above the open fistulectomy.

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**REFERENCES**

1. Filingeri V, Gravante G, Baldessari E, Casciani CU. Radiofrequency fistulectomy vs. diathermic fistulotomy for submucosal fistulas: a randomized trial. Eur review for med Pharmacol Sci. 2004;8:111-6.
2. Dżiki Ł, Mik M, Trzeciński R, Włodarczyk M, Skoneczny M, Dżiki A. Treatment of Perianal Fistulas in Poland. Pol Przegl Chir. 2015;87:614-9.
3. Ratto C, Litta F, Donisi L, Parello A. Fistulotomy or fistulectomy and primary sphincteroplasty for anal fistula (FIPS): a systematic review. Techniques Coloproctol. 2015;19(7):391-400.
4. Wang C, Rosen L. Management of low transsphincteric anal fistula with serial setons and

- interval muscle-cutting fistulotomy. *J Integrat Med*. 2016;14(2):154-8.
5. Van der Hagen SJ, Baeten CG, Soeters PB, Van Gemert WG. Long-term outcome following mucosal advancement flap for high perianal fistulas and fistulotomy for low perianal fistulas. *Inter J Colorect Dis*. 2006;21(8):784-90.
  6. Gordon PH. and 9: Fissure-in-Ano. In *Principles and Practice of Surgery for the Colon, Rectum, and Anus*. 3<sup>rd</sup> ed. CRC Press; 2007: 191-214.
  7. Gupta PJ. Radiosurgical fistulotomy: an alternative to conventional procedure in fistula in ano. *Current Surg*. 2003;60(5):524-8.
  8. Shahbaz CM, Ghazanfar A, Goraya AR. Comparative study of Fistulectomy and Fistulotomy with Primary Repair for low Fistula-in-Ano. *Annals King Edward Med Uni*. 2002;8(2).
  9. Vasilevisky, Gordon, Results of treatment for fistula-in-ano. *Dis Col Rectum*. 1984;27:543-97.
  10. Damar S, Vohra A, Patel H, Kumar P, Balat J. A comparative study between primary closure method and open method of fistulectomy for fistula-in-ano. *Int J Res Med*. 2013;2(1):33-7.
  11. Parkash S, Lakshmiratan V, Gajendran V. Fistula in ano: treatment by fistulectomy, primary closure and reconstitution. *Aus NZ J Surg*. 1985;55(1):23-7.

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