

A comparison of fistulotomy and fistulectomy for the treatment of ano fistula

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ABSTRACT:

Objective: Fistula in ano is one of the commonest benign anorectal condition encountered during the day today practice. There are different treatment modalities available for the management of anal fistula. These include fistulotomy, fistulectomy, LIFT, seton placement, advancement flaps and use of biological agents like fibrin glue. In this prospective randomized clinical study, we have studied the outcomes after fistulotomy and fistulectomy in patients with simple low-lying fistula.

Method: This was a prospective study carried out at Guru Gobind Singh Medical College and Hospital, Faridkot within a year. A total of 84 patients with simple low-lying fistula were randomized into two groups of fistulotomy and fistulectomy (42 patients each). The intraoperative and postoperative findings noted, and the results are compared. The results are analyzed using statistical tests like students t-test and chi square test.

Results: The mean duration of surgery in fistulotomy group was 28.6min and that of fistulectomy group was 31.7 min. The difference in duration of surgery is statistically not significant ($p>0.05$). The median duration of wound healing was shorter in the fistulotomy group (12 days) compared to the fistulectomy group (21 days) and the difference is statistically highly significant ($p<0.001$). The incidence of incontinence in fistulotomy group observed in 5 cases compared to single case in fistulectomy group. This difference is again statistically significant. Recurrence observed in one case from both the groups each within 6 months post-op period.

Conclusion: The results of fistulotomy and fistulectomy are comparable with respect to duration of surgery, postoperative pain and recurrence rate. The postoperative wound healing is faster in fistulotomy; while incontinence is also higher in fistulotomy group

Keywords: *Fistula in ano, Fistulectomy, Fistulotomy*

INTRODUCTION:

Fistula in ano is one of the commonest benign anorectal conditions encountered during the day today practice of a general surgeon or colo-proctologist. The fistulas may be simple or complex and are mainly caused by chronic infection arising in anal glands that communicate with anal crypts [1]. These anal glands lie between the internal and external anal sphincters. The anal fistulas are classified according to Park's classification (according to their relationship to the anal sphincters) as intersphincteric fistulae (45%), trans-sphincteric (40%), supra sphincteric and extra sphincteric fistulae [2]. The patients with fistula in ano present with intermittent purulent or feculent discharge associated with pain. There is often a previous episode of acute anorectal sepsis. Though fistula is a clinical diagnosis, MR fistulogram is considered as gold standard investigation.

There are different treatment modalities available for the management of anal fistula. These include fistulotomy, fistulectomy, ligation of intersphincteric fistula tract (LIFT), seton placement, advancement flaps and use of biological agents like fibrin glue [3]. These different modalities have different advantages and disadvantages like faster healing in fistulotomy versus less postoperative incontinence in fistulectomy. So, in this prospective randomised clinical study we have studied the outcomes after fistulotomy and fistulectomy in patients with simple low-lying fistula.

METHODS:

Study Design: This was a prospective study carried out at Guru Gobind Singh Medical College and Hospital, Faridkot within a year.

Methodology: The simple fistula is defined as the fistula with one external and one internal opening along with a palpable tract. The 42 patients from group A had undergone fistulotomy with marsupialization and 42 patients from group B had undergone fistulectomy procedure as a treatment modality for their low-lying anal fistula. The patients

are matched according to their age, sex, and other physical factors. The intraoperative and postoperative findings like duration of surgery, healing of the wound, postoperative incontinence, pain, and recurrence were noted during the intraoperative and postoperative period. The patients were asked to follow up for up to 6 months after surgery to check for recurrence and anal incontinence.

Sample Size: A total of 84 patients suffering from simple fistula in ano.

Exclusion criteria: The patients with recurrent fistula, complex fistula, and fistula secondary to other diseases like tuberculosis, Crohn’s disease, and immunocompromised status are excluded from the study population.

Statistical analysis: The results were compared using student’s t-test and chi-square test and analyzed.

RESULTS:

A total of 84 patients with simple fistula were posted for surgery after randomisation. Out of the 84 patients 54 (64.3%) were males and 30 (35.7%) were females. The fistulotomy group have slight male preponderance compared to fistulectomy group (30 males in fistulotomy group and 24 males in fistulectomy group). The mean age was 37.21±12.2 years in the fistulotomy group and 39.52±10.3 years in the fistulectomy group (p=0.66) (Table 1).

Table 1: Demographic Variables of the Patients.

Criteria	Fistulotomy	Fistulectomy	Total
Male	30	24	54 (64.3%)
Female	12	18	30 (35.7%)
Average age	37.21±12.2 years	39.52±10.3 years	

The mean duration of surgery in fistulotomy group was 28.6 min with a range from 21 minutes to 40 min. The mean duration of surgery in fistulectomy group was 31.7 minutes with range 21 to 42 minutes, this difference in duration of surgery is statistically not significant (p>0.05).

The median duration of wound healing was shorter in the fistulotomy group 12 days (Interquartile range: 10-18 days) compared to the fistulectomy group 21 days (Interquartile range [IQR]: 14-35 days) and the difference is statistically highly significant (p<0.001).

The postoperative pain assessed using the visual analogue scale with score of 0-10. The average pain score for both the groups after 24 hours of surgery was 3.8 for fistulotomy group and 3.5 for fistulectomy group. This difference is also statistically not significant. The incidence of incontinence in fistulotomy group observed in 5 cases compared to single case in fistulectomy group. This difference is again statistically significant. Recurrence observed in one case from both the groups each within 6 months post-op period (Table 2).

Table 2: Comparison of intraoperative and postoperative outcomes in fistulotomy and fistulectomy group.

Criteria	Fistulotomy	Fistulectomy	P-Value
Mean duration of surgery	28.6 min.	31.7 min.	p>0.05
Duration of wound healing	12 days	21 days	p<0.001
Postoperative pain using VA	3.8	3.5	p>0.05
Incidence of anal incontinence	5 cases (11.9%)	1 case (2.38%)	p<0.05
Recurrence	1 case (2.38%)	1 case (2.38%)	

DISCUSSION:

Fistula in ano is one of the common clinical entity that require some kind of surgical intervention for cure. Though variety of treatment modalities are available for management of anal fistula; there is lack of consensus for the gold standard therapy. As the different modalities have their own different merits and demerits, we decided to carry out this prospective randomised clinical study to compare the two important and very commonly used surgeries for fistula i.e. fistulotomy and fistulectomy. The important parameters to study in any procedure related with management of anal fistula are the recurrence rate and incidence of incontinence.

In the present study, the mean duration of surgery is comparable in both the groups and there is no statistically significant difference between both the groups. Although fistulectomy generally takes longer duration, in the present study we have included only simple fistulas; because of this reason probably the average time require for surgery is comparable in both the groups. This results are in accordance with results of Jain et al. [4].

The average time required for postoperative wound healing is significantly less in fistulotomy group and the difference is statistically highly significant. The majority of other studies have similar results [4-6]. The reason behind earlier wound healing might related with marsupialisation of the fistulotomy tract. The postoperative pain score calculated using visual analogue score from 0-10. 0 means no pain at all while score of 10 suggests unbearable pain. The difference in pain score is not significant.

Recurrence observed in one patient from both the groups each. These recurrent fistula patients are tackled with revision surgery. The less recurrence rate is because we included patients having simple fistula only as a study population. Incidence of anal incontinence is quiet higher in fistulotomy group compared with fistulectomy group (5 versus 1). This difference is statistically significant. Other studies like Kronborg et al, Murtaza et al have slightly opposite results in this regard [7,8].

The incidence of anal incontinence is higher in our study is because in fistulotomy we cut the sphincter fibers along the fistula tract and majority of the patients in present study have intersphincteric and transsphincteric fistula tract compared to the subcutaneous tract which are common in other studies. The important limitation of the present study is the limited sample size.

The second important limitation is we have studied only two treatment modalities. The other treatment modalities like LIFT, VAAFT, use of fibrin glue or flaps are not at all considered in the present study. The evaluation of these newer treatment modalities is actually the need of the hour. Still it's an attempt to put front the facts we observed about fistula surgeries and to initiate a study with larger sample size with inclusion of all modalities for all types of anal fistulae.

CONCLUSION:

According to the present study the results of fistulotomy and fistulectomy are comparable with respect to duration of surgery, postoperative pain and recurrence rate. Postoperative wound healing is faster in fistulotomy; at the same time incidence of anal incontinence is also higher in fistulotomy group compared to fistulectomy. A large size study is required to establish the standard line of treatment for fistula in ano.

CONFLICT OF INTEREST:

The authors state that they have no conflicts of interest.

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REFERENCES:

1. Anne L, James F. Benign disorders of the Anorectum. In: Michael Z, Stanley A, eds. Maingot's Abdominal Operations. 12th edition, McGraw Hill Medical; 2013.
2. Parks AG, Gordon PH, Hardcastle JD. A classification of fistula-in-ano. Br J Surg. 1976;63(1):1-12.
3. Karen N. The anus and anal canal. In: Williams N, O'connel P, McCaskie A editors. Bailey and Love short practice of surgery. 27th edition, Boca Raton FL:CRC Press; 2018;2.
4. Jain BK, Vaibhaw K, Garg PK, Gupta S, Mohanty D. Comparison of a fistulectomy and a fistulotomy with marsupialization in the management of a simple anal fistula: a randomized, controlled pilot trial. J Korean Soc Coloproctol. 2012;28:78-82.
5. Chalya PL, Mabula JB. Fistulectomy versus fistulotomy with marsupialisation in the treatment of low fistula-in- ano: a prospective randomized controlled trial. Tanzan J Health Res. 2013;15(3):193-8.
6. Wang Q, He Y, Shen J. The best surgical strategy for anal fistula based on a network meta-analysis. Oncotarget. 2017;8(58):99075-99084.
7. Kronborg O. To lay open or excise a fistula-in-ano: a randomized trial. Br J Surg. 1985;72 (12):970.
8. Murtaza G, Shaikh FA, Chawla T. Fistulotomy versus fistulectomy for simple fistula in ano: a retrospective cohort study. J Pak Med Assoc Vol. 2017;67(3):339-42