

A Study of Techniques in the Management of Simple Fistula in Ano

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Abstract: Fistula in Ano is a simple anorectal condition, however, has the potential to cause high morbidity. The usual line of surgical treatment for simple fistula in ano includes fistulotomy with marsupialization and fistulectomy. The present study was aimed to determine the overall outcomes after treatment of patients with fistulotomy with marsupialization and fistulectomy and compare the results in terms of post-operative complications and recurrences. Methods: The study involved 70 patients diagnosed with simple fistula in ano. Patients with morbid medical conditions and those diagnosed with complex fistulas were excluded from the study. The Clinical examination included perineal inspection, palpation, digital rectal examination and proctoscopic evaluation. The patients were then randomly divided into two groups. The group I patients underwent fistulectomy and the group II underwent fistulotomy with marsupialization. The patients were operated under general or regional anesthesia. The anorectal examination was done to verify the findings of the clinical examination. The patency of the tract was checked using the probe to the external opening. Seventy patients diagnosed with simple anal fistula were involved in the study. The mean distance of external fistula opening in group I was 2.6 ± 0.54 cms and the mean distance in group II was 2.5 ± 1.05 . The duration of symptoms in group I and group II was 7.60 ± 2.9 and 8.85 ± 3.2 weeks respectively. The mean duration of surgery in group I was 12.5 ± 2.2 , was 9.95 ± 1.25 in group II. Post-operative healing of the wounds was earlier in group II 4.06 ± 0.95 as compared to group I 5.15 ± 2.5 . The mean VAS score was calculated on the 3rd postoperative day in both the group of patients. In group I the mean VAS score was 2.25 and the mean VAS score in Group II was 2.25. No patient in the study developed the wound infection and none had other complications. Conclusions: Within the limitations of the present study it can be concluded that fistulotomy with marsupialization and fistulectomy are equally effective in terms of the outcomes of treatment of simple fistula in ano. Although fistulectomy requires longer post-operative healing and the mean VAS scores were higher in the fistulectomy group then compared to fistulotomy group. No recurrence and occurrences of complications were noted in both the groups.

Keywords: simple fistula in ano, Fistulotomy with marsupialization, Fistulectomy.

INTRODUCTION

Fistula-In-Ano (FIA) is a common surgical condition reported since the time immemorial but little systematic evidence exists on its management [1]. The simple anal fistula is the one that had one internal opening, one external opening and a completely palpable tract and no palpable abnormality in the upper anal canal or lower rectum. A complex FIA is defined as a fistula whose treatment poses an increased risk of change incontinence, multiple external openings, indurations felt above the puborectalis, on probing from external opening tract travel towards the levator ani instead of anus, when tract involve greater than 30% to 50% of the sphincter mechanism and is anterior in woman or the patient has a history pre-existing incontinence, Crohn's disease or local irradiation [2].

Fistula-in-Ano is a common surgical problem in the Indian community. Common surgical options for a simple FIA include a fistulotomy and fistulectomy [3]. The fistulectomy operation involves complete excision of the fistulous tract, thereby eliminating the risk of missing secondary tracts and providing complete tissue for histopathological examination. A fistulotomy lays open the fistulous tract, thus leaving smaller unepithelialized wound, which hastens the wound healing [4]. Both fistulectomy and fistulotomy leave a raw unepithelialized endo and peri-anal tissue to heal over, which may require hospitalization for irrigation and dressing, risk of bleeding and recurrent sepsis [1, 5]. Marsupialization of fistula is a technique that reduces wound size, shortens healing time and improves continence by minimizing anal deformity without

increasing hospital time [6]. The aim of the present study was to evaluate the two methods Fistulectomy and fistulotomy with marsupialization for the treatment of simple fistula in ano.

MATERIALS AND METHODS

This cross-sectional study was conducted in the Department of General Surgery, Prathima Institute of Medical Sciences, Naganoor, Karimnagar. The study involved 70 patients diagnosed with simple fistula in ano. The simple anal fistula is the one that had one internal opening, one external opening and a completely palpable tract and no palpable abnormality in the upper anal canal or lower rectum. Patients with morbid medical conditions and those diagnosed with complex fistulas were excluded from the study. Institutional Ethical committee permission was obtained for the study. Written consent was obtained from all the participants of the study. All the included patients underwent detailed clinical examination and investigations. The Clinical examination included perineal inspection, palpation, digital rectal examination and proctoscopic evaluation. The distance of the external opening from the border of the anus was measured. The patients were then randomly divided into two groups. The group I patients underwent fistulectomy and the group II underwent fistulotomy with marsupialization. The patients were operated under general or regional anesthesia. The anorectal examination was done to verify the findings of the clinical examination. The patency of the tract was checked using the probe to the external opening.

In brief surgical procedure for fistulectomy was a keyhole skin incision was made over the fistulous tract and was made over the fistulous tract and encircled the external opening. The incision was deepened through the subcutaneous tissue; the tract was removed

from the surrounding tissues. Towards the anal periphery fibers of anal sphincter overlying the tract were also divided [7]. Any associated secondary tracts if found were also removed. Operating time was calculated from the time of insertion of the probe to the closure of the postoperative wound. The surgical procedure for fistulotomy with marsupialization the tract was laid open over the probe and the tract was curetted and examined for secondary extensions. Wound edges were then sutured using 3-0 chromic catgut in an interrupted manner to marsupialize the wound from the distal the proximal site and a good Hemostasis was achieved. Suitable antibiotics and analgesics were given. All the patients were then followed up weekly intervals for 4-6 weeks. During each postoperative follow up the patient was assessed regarding the presence of pain, wound infection, incontinence. Signs and symptoms of wound infection were examined and the time taken for the healing of the wound was also noted.

RESULTS

Seventy patients diagnosed with simple anal fistula were involved in the study. They were equally distributed in two groups I and II of thirty-five patients each. The mean age of the patients in group I was 37.5 ± 2.5 and the male to female ratio were 4:1 the mean age in group II was 35.5 ± 3.5 and the male to female ratio was 1.69:1. The mean distance of external fistula opening in group I was 2.6 ± 0.54 cms and the mean distance in group II was 2.5 ± 1.05. The duration of symptoms in group I and group II was 7.60 ± 2.9 and 8.85 ± 3.2 weeks respectively. The mean duration of surgery in group I was 12.5 ± 2.2 and 9.95 ± 1.25 in group II. Post-operative healing of the wounds was earlier in group II 4.06 ± 0.95 as compared to group I 5.15 ± 2.5 shown in table 1.

Table-1: characteristics and profile of the patients involved in the study

Attribute	Group I (n=35)	Group II (n=35)
Age in Years	37.5 ± 2.5	35.5 ± 3.5
Male/Female	28/7	22/13
The distance of the opening from the anal periphery (cms)	2.6 ± 0.54	2.5 ± 1.05
Duration of symptoms (weeks)	7.60 ± 2.9	8.85 ± 3.2
Duration of surgery (minutes)	12.5 ± 2.2	9.95 ± 1.25
Post-operative healing of the wounds (weeks)	5.15 ± 2.5	4.06 ± 0.95

The common clinical symptom present with patients was Pain in 94.28% of group I and 91.43% of the group II followed by discharge in 85.71% group I

and 88.57% in group II similarly other minor symptoms included swelling, itching, and bleeding given in table 2.

Table-2: The pre-operative signs and symptoms involved in the study

Symptom	Group I (%)	Group II (%)
Pain	94.28	91.43
Discharge	85.71	88.57
Swelling	28.57	14.29
Itching	20.0	11.43
Bleeding	25.71	17.14

Only simple fistulas in ano were included in the study and all the complex fistula patients were excluded from the study. The common type of simple fistula was Intersphincteric in group I 22 (31.43%) and 28 (40.0%) of group II amounting total of 50 (71.43%)

of the patients operated. Similarly, the subcutaneous fistula was found in group I 7(10.0%) and group II 5 (7.1%) total of 12 (17.14%) and Transsphincteric was found in 8 (11.43%) of all the patients involved in the study.

Table-3: Types of simple fistula in ano in the study

Type	Group I (%)	Group II (%)	Total (%)
Subcutaneous	7 (10.0)	5 (7.1)	12 (17.14)
Intersphincteric	22 (31.43)	28 (40.0)	50 (71.43)
Transsphincteric	6 (8.57)	2 (2.86)	8 (11.43)
Total	35 (50.0)	35 (50.0)	70 (100)

The mean VAS score was calculated on the 3rd postoperative day in both the group of patients. In group I the mean VAS score was 2.90 and the mean VAS score in Group II was 2.25. No patient in the study developed the wound infection and none had other complications.

DISCUSSION

In the present study, we found the common age group involved was 35-40 years and predominantly simple fistula-in-ano occurred more in male M: F ratio was 4:1. Chaudhry MS *et al*; study, peak incidence was 21-40 years; male to female ratio was 24:1 [8]. In Jivapaisarnpong P *et al*; study (33 patients), median age was 42 yrs, male to female ratio was 10:1 [9]. Sushil Damodar *et al*. [10] found male to female ratio was 4:1, healing time was 8 days. The mean distance of the fistula opening was found to be 2.6 cms. It is comparable to a similar study done by Bhupendra Kumar *et al*. [4] where they found the mean distance of opening of the anal verge to be 2.27 cms from the anal verge. The overall duration of surgery in Fistulectomy group I was 12.5 ± 2.2 minutes as compared to 9.95 ± 1.25 minutes in Fistulectomy with marsupialization. The reason could be because the fistulotomy with marsupialization tract is laid open do the dissection of the fistula tract is not required however suturing the edges requires some time. In the fistulectomy operation, the complete fistula tract is required to be dissected out carefully from the surrounding tissue along with any secondary extensions probably requiring more time. Some studies have shown that both the operations require same times and other like Ho *et al*. [6] found that long time is required in fistulotomy with marsupialization 10.0 ± 0.7 min versus 8.0 ± 0.5 min for fistulectomy. The average healing time in group I was 5.15 ± 2.5 weeks and 4.06 ± 0.95 in group II. Satyaprakash *et al*. [11] in a study found average healing time from 4-5 weeks. A study conducted by Kronborg [12] showed a median healing time of 5.85 weeks fistulectomy wounds in comparison to 4.55 weeks for fistulotomy wounds (P < 0.02). In a study conducted by Ho *et al*; [6] marsupialized wounds had significantly faster healing than non-marsupialized wounds (6.0 ± 0.4 weeks vs. 10.0 ± 0.5) weeks. There

were three cases of recurrences in his study but in this study, no case of recurrence was found. The postoperative wound size was measured after completion of surgery the wound size was smaller in group I 2.50 ± 1.5 cms and 2.97 ± 2.2 in group II. Pescatori *et al*. [5] the mean wound size was 1.17 ± 0.31 in patients who underwent either a laying open or an excision of the fistula in comparison to 0.81 ± 0.38 cm² in the case of marsupialized wounds. The most common symptom was pain 94% of the patients followed by discharge, swelling, and itching. M Fahim Ahsan *et al*; found perianal discharge 97 % followed by itching and discomfort 60%. Pain, bleeding P/R, and altered bowel habits were other presentations in some patients [13]. They also found that (45%) had transsphincteric complex fistula with secondary tract identified in 40% cases, 16 % cases with intrasphincteric, 36% cases with extra sphincteric, 3% case with horseshoe shaped and 5% with a combination of two. In the present study simple fistula was Intersphincteric in 71.43% of the patients. Similarly subcutaneous fistula was found 17.14% and Transsphincteric was found in 11.43% of patients. While in the study of 160 patients, Vasilevsky *et al*. reported 41% of cases of inter sphincteric, 52 transsphincteric and 1.3 % suprasphincteric [14]. The mean VAS score was calculated on the 3rd postoperative day because both groups had undergone different procedures and there could also be the difference in pain thresholds of the patients involved in the study. In group I the mean VAS score was 2.90 and the mean VAS score in Group II was 2.25. There was no significant difference in VAS scores indicating the procedures resulted in equal pain. The VAS scores were found to be < 1 after one week of operation. There were no cases of wound infection or recurrences in the present study.

CONCLUSION

Within the limitations of the present study, it can be concluded that fistulotomy with marsupialization and fistulectomy are equally effective in terms of the outcomes of treatment of simple fistula in ano. Although fistulectomy requires longer post-operative healing and the mean VAS scores were higher in the

fistulectomy group then compared to fistulotomy group. No recurrence and occurrences of complications were noted in both the groups.

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