

# Comparative Assessment of Surgical and Therapeutic Treatment of Fistula: A Hospital Based Study

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## ABSTRACT

**Background:** The recent use of anti-TNFs has been shown to significantly improve the course of perianal fistulae. Treatment should be determined according to the type and severity of the fistula. However, treatment is related to symptoms, and asymptomatic perianal fistulas should not be treated. Hence, the present study was planned to comparatively assess surgical and therapeutic treatment of fistula.

**Materials & Methods:** The present study was planned in the department of general surgery, Dhanwantri Hospital, Barmer, Rajasthan (India) and included comparative evolution of efficacy of surgical and therapeutic treatment in patients with entero-urinary fistulas. A total of 40 patients who underwent treatment for entero-urinary fistulas, were included in the present study.

**Results:** A total of 40 patients were included in the study. 20 patients underwent surgical treatment for the fistula and 20 patients underwent therapeutic treatment for the fistula. Mean age of the patients in group A was 32.18 years and in group B was 35.86 years. Number of male patients in group A was 12 and in group B was 11. Mean BMI of patients in group A was 22.98 kg/m<sup>2</sup> and in group B was 23.18 kg/m<sup>2</sup>. We observed

that sustained remission was attained in 17 patients in group A whereas 12 patients in group B. Post-operative infection was seen in 2 patients of each group.

**Conclusion:** The surgery for the treatment of fistulas is a standard treatment of choice. In 60% subjects, therapeutic treatment was also effective in attaining sustained remission of fistula. Hence, therapeutic treatment can be tried in patients having complications to surgery to avoid surgery.


**Key words:** Anal Fistula, Therapeutic Treatment, Anti-TNFs.

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## INTRODUCTION

The fistulae are common and debilitating; they are characterized by severe pain and discharge. They arise following infection, or as a primary event from an abscess in the abdomen, fistulating into the vagina or perianal skin.<sup>1,2</sup> The term 'cryptoglandular' is given to abscesses arising from the anal glands. For many years, the treatment of choice was to lay open the fistula; however, this risks causing incontinence with potentially devastating consequences. Alternative surgical treatments include setons, fibrin glue, collagen plugs and flaps to cover the internal fistula opening.<sup>3</sup> These have achieved varying degrees of success, as will be discussed. The recent use of anti-TNFs has been shown to significantly improve the course of perianal fistulae. Treatment should be determined according to the type and severity of the fistula. However, treatment is related to symptoms, and asymptomatic perianal fistulas should not be treated.<sup>4</sup> Furthermore, for treatment of luminal fistula, a multidisciplinary approach including a dedicated gastroenterologist, surgeon and radiologist is advisable. For symptomatic fistulas, antibiotic treatment is recommended before treatment with immunomodulators and/or anti-TNFs.<sup>5,6</sup> Hence, the present study was planned to comparatively assess surgical and therapeutic treatment of fistula.

## MATERIALS & METHODS

The present study was planned in the department of general surgery, Dhanwantri Hospital, Barmer, Rajasthan (India) and included comparative evolution of efficacy of surgical and therapeutic treatment in patients with entero-urinary fistulas. Ethical approval was taken from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. A total of 40 patients who underwent treatment for entero-urinary fistulas, were included in the present study.

All the patients were broadly divided into two study groups as follows:

- Group A – 20 patients who underwent surgical treatment for entero-urinary fistulas,
- Group B – 20 patients who underwent therapeutic treatment for enter-urinary fistulas.

The outcomes of both the therapies for each patient were recorded. The remission of the fistula was defined as the permanent absence of urinary tract symptoms (including recurrent urinary tract infections) with a radiological confirmation of fistula closure.

The statistical analysis of the data was done using SPSS version 20.0 for windows. The Student's t-test and Chi-square test were used to check the significance of the data. A p-value less than 0.05 was defined as statistically significant.

## RESULTS

A total of 40 patients were included in the study. 20 patients underwent surgical treatment for the fistula and 20 patients underwent therapeutic treatment for the fistula.

Table 1 shows demographic data of the patients. Mean age of the patients in group A was 32.18 years and in group B was 35.86

years. Number of male patients in group A was 12 and in group B was 11. Mean BMI of patients in group A was 22.98 kg/m<sup>2</sup> and in group B was 23.18 kg/m<sup>2</sup>. Number of smoking patients in group A was 4 and in group B was 6. Table 2 shows post-operative outcomes in group A and B. We observed that sustained remission was attained in 17 patients in group A whereas 12 patients in group B. Post-operative infection was seen in 2 patients of each group.

Recurrence of fistula was seen in 1 patient in group A whereas 6 patients in group B. The results were statistically significant ( $p < 0.05$ ) [Fig 1].

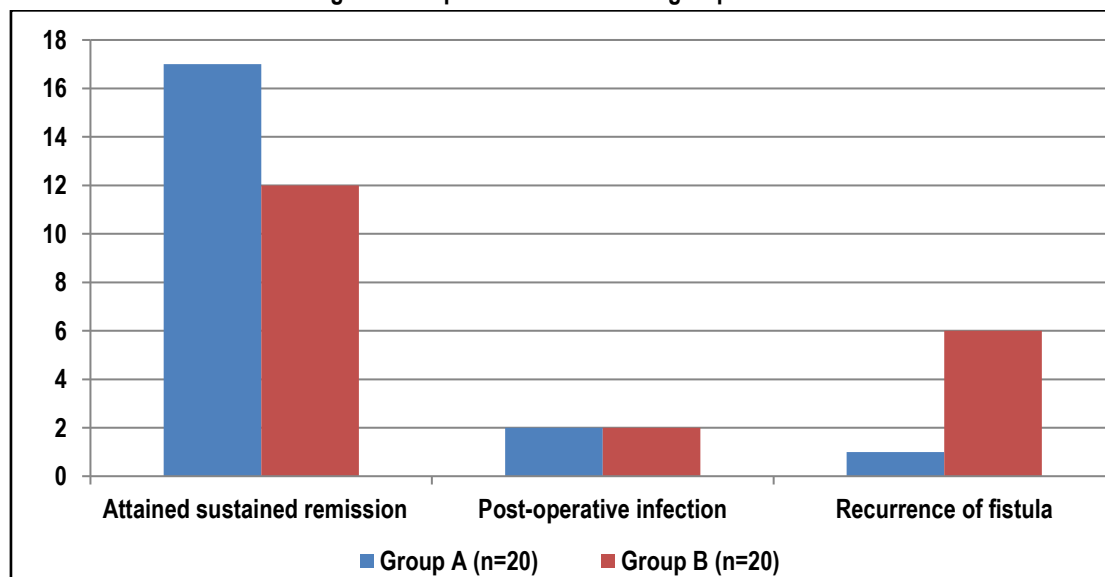
**Table 1: Demographic data of the patients**

Characteristic parameters	Group A (n=20)	Group B (n=20)	p-value
Mean age at diagnosis (years)	32.18	35.86	0.31
No. of male patients (n)	12	11	0.12
Mean BMI (kg/m <sup>2</sup> )	22.98	23.18	0.38
No. of smoking patients	4	6	0.001

**Table 2: Post-operative outcomes in group A and B**

No. of patients	Group A (n=20)	Group B (n=20)	p-value
Attained sustained remission	17	12	0.003
Post-operative infection	2	2	
Recurrence of fistula	1	6	

**Fig 1: Post-operative outcomes in group A and B**



## DISCUSSION

In the present study we compared surgical and therapeutic treatment of fistula. We observed that surgical treatment of fistula is significantly more efficacious to therapeutic treatment for treating a fistula. The results were statistically significant. The results were compared with previous studies and results were consistent with previous studies. Charalampopoulos A et al reported their outcomes after surgical treatment of anal abscess and fistula-in-ano in children older than 2 years. Ninety-eight (98) children were operated on for anal abscess (46 patients; 47%) and/or fistula-in-ano (52 patients; 53%). Incision and drainage of the abscess was performed as outpatients. In patients with fistulas, fistulotomy was the main treatment approach. All patients

were healthy without risk factors for anal sepsis. In patients with anal abscess treated with incision and drainage, low recurrence (13%) or fistula formation rates were observed. Most anal fistulas were simple entities. Significant involvement of the anal sphincter was found in 3 (6%) of 52 patients. An abscess cavity between the anal canal and the perianal skin was found in 4 (8%) of 52 patients, and an enlarged cryptic gland was found in 5 (10%) of 52 cases. Fistulotomy was performed in all patients with additional seton placement in 3 (6%) of 52 and a cryptotomy in 5 (10%) of 52 patients. Anal abscesses in children are easily treated by incision and drainage with low recurrence of perianal sepsis. Fistulas can be treated successfully in most patients with a fistulotomy, whereas complex fistulas are uncommon.<sup>7</sup> García-Aguilar J et al

attempted to identify factors that affect patient's lifestyles and may contribute to their satisfaction. A questionnaire was mailed to 624 patients surgically treated for cryptoglandular fistula-in-ano at the University of Minnesota during a five-year period. Three hundred seventy-five patients returned their questionnaires. Patients who were followed up for a minimum of one year were included in this retrospective study. Associations between postoperative complications and patient satisfaction were identified by chi-squared tests and multiple logistic regression. Attributable fractions for patient dissatisfaction were calculated using study population dissatisfaction rates. Patient satisfaction was strongly associated with fistula recurrence, difficulty holding gas, soiling of undergarment, and accidental bowel movements. Effects of incontinence on patient quality of life were also significantly associated with patient satisfaction as was the number of lifestyle activities affected by incontinence. Patients with fistula recurrence reported a higher dissatisfaction rate (61 percent) than did patients with anal incontinence (24 percent), but the attributable fraction of dissatisfaction for incontinence (84 percent) was greater than that for fistula recurrence (33 percent). Patient satisfaction was not significantly associated with age, gender, history of previous fistula surgery, type of fistula, surgical procedure, time since surgery, or operating surgeon. Patient satisfaction after surgical treatment for fistula-in-ano is associated with recurrence of the fistula, the development of anal incontinence, and with the effects of anal incontinence on patient lifestyle.<sup>8</sup> Davies M et al reviewed the outcome of surgical management of fistula-in-ano in a specialist colorectal unit. One hundred and four consecutive patients underwent surgery for anal fistulae between 1st January 2000 and December 2004. Data was analysed in two main groups, according to the aetiology, cryptoglandular (n = 86) and Crohn's disease (n = 18). Follow-up data was available on 91 patients. In the cryptoglandular group, 62 patients had an inter-sphincteric tract, of which 48 underwent a single-stage fistulotomy. Of those patients with a trans-sphincteric tract, six patients underwent a single-stage fistulotomy, 13 had a seton and staged fistulotomy. Follow-up data revealed that two fistulae recurred. The median number of procedures in this group was 1 (range 1-3). There was a significant difference in the inpatient stay depending of Park's classification (p = 0.001). In the Crohn's group, three patients with an inter-sphincteric tract underwent a single-stage fistulotomy, two patients with a trans-sphincteric tract had single-stage fistulotomy, and five required a loose seton and staged fistulotomy. Eight patients had multiple fistulae which required long-term setons. Four patients from this group eventually required proctectomy. In the Crohn's group, there was a significantly increased complexity of surgery and higher recurrence. This was reflected in an increased inpatient length of stay and a greater reliance on imaging. The median number of procedures in this group was 3 (range 1-5). They concluded that the majority of cryptoglandular fistula-in-ano were treated by primary fistulotomy or staged fistulotomy with a loose seton. This was associated with a low recurrence rate and low rates of faecal incontinence.<sup>9</sup>

## CONCLUSION

Within the limitations of the study we conclude that the surgery for the treatment of fistulas is a standard treatment of choice. In 60%

subjects, therapeutic treatment was also effective in attaining sustained remission of fistula. Hence, therapeutic treatment can be tried in patients having complications to surgery to avoid surgery.

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