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Corresponding Author

Santosh Kumar Sonker,
Department of General Surgery,
Pt. JNM Medical College Raipur
Chhattisgarh, Jail Road, Raipur Pin
493001, India
Santosh.drsonkar@gmail.com

Author Designation

¹Professor
²Assistant professor
³Doctor

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Outcome of Fistulotomy and Fistulectomy with or Without Seton Technique in Management of Fistula in Ano

¹Santosh Kumar Sonker, ²Saumitra Dube and ³Anil Kumar Gupta

¹⁻³Department Of General Surgery, Pt. JNM Medical College Raipur Chhattisgarh, Jail Road 493001, India

ABSTRACT

Fistula-in-ano is a common anorectal condition requiring surgical intervention. Various surgical techniques, including fistulotomy, fistulectomy and the use of seton, are employed for its management. The choice of procedure depends on factors such as the complexity of the fistula, its location and the patient's overall health. This study compares the outcomes of fistulotomy and fistulectomy with or without the seton technique in the management of fistula-in-ano. The aim of the study is to evaluate the outcomes of surgical interventions for fistula-in-ano, with a focus on hospital stay. Prospective analytical study and observational study was conducted 18 Month Department of Surgery, Dr. B.R.A.M Hospital, Raipur (C.G.). 40 patients were included in this study. The majority of cases were classed as low variety, accounting for 75% of the total cases. Anterior and posterior simple fistulas were also prevalent, accounting for 10 and 30% of cases, respectively. Posterior complicated and multiple tract fistulas were each seen in 15% of patients each. Horseshoe fistula was seen in 5% of cases. Rest cases were of high variety fistulas accounting for 25% of total cases, 20 patients who had fistulotomy had 17.5% intersphincteric fistulas, 0% suprasphincteric fistulas and 32.5% transsphincteric fistulas. Fistulectomy was conducted in 10% of suprasphincteric fistulas and 20% of intersphincteric fistulas but no transsphincteric fistulas were treated with this treatment. Both fistulotomy and fistulectomy are effective in managing fistula-in-ano. While fistulotomy offers quicker recovery, fistulectomy may provide a more definitive solution with fewer recurrences. The seton technique is a useful adjunct in complex cases, balancing recurrence risk with preservation of continence. Tailoring the choice of procedure to individual patient profiles is crucial for optimizing outcomes.

INTRODUCTION

Fistula-in-ano is a serious problem in surgical practice, frequently requiring treatments with varied degrees of invasiveness and morbidity^[1,2]. This illness, which frequently presents with symptoms such as perianal discharge, itching and abscess formation, emphasizes the significance of good therapeutic measures. Among the different therapeutic options available, surgical intervention remains the cornerstone, intending to resolve the fistulous tract and relieve accompanying symptoms^[3,4].

Despite the incidence of fistula-in-ano, the best surgical procedure is still debated, with many approaches used depending on surgeon choice and patient factors. Fistulotomy and fistulectomy, with or without adjuvant procedures such as the seton method, are the most common therapies^[4-9]. However, the comparative efficacy and morbidity profiles of these treatments require further exploration to inform clinical decision-making and improve patient outcomes.

Given the complexities of fistula-in-ano and the risk of recurrence and postoperative complications, there is an urgent need to thoroughly analyze the outcomes of various surgical methods. Understanding the relative efficacy and safety profiles of fistulotomy and fistulectomy, with or without the seton technique, is critical for refining treatment algorithms and improving patient outcomes.

As a result, the study intends to close a significant gap in the literature by conducting a thorough evaluation of the outcomes and morbidity associated with various surgical treatments. The purpose of using a randomized prospective research design is to offer strong data that can improve clinical practice and help surgeons choose the best treatment option for their patients.

The study's significance stems from its ability to shed light on the comparative benefits and drawbacks of fistulotomy and fistulectomy, with or without the seton technique, in the treatment of fistula-in-ano. The goal of meticulously analyzing surgical outcomes and postoperative morbidity is to provide significant insights that can alter treatment paradigms and enhance patient outcomes.

Furthermore, the study intends to add to the current body of knowledge on fistula-in-ano care by giving evidence-based surgical recommendations. By carefully analyzing the efficacy and safety of various surgical techniques, the goal is to provide doctors with the information they need to provide best care to patients with this difficult condition.

MATERIALS AND METHODS

Type of study: Prospective analytical study.

Design of study: Analytical observational study.

Place of study: Department of Surgery, Dr. B.R.A.M Hospital, Raipur (C.G.).

Duration of study: 18 Month

Study population: Patients admitted in the Surgery Department with a diagnosis of fistula in ano.

Sample size: This study included around 40 individuals admitted to Dr.B.R.A.M Hospital, Raipur (C.G.) with a diagnosis of fistula in ano.

Source of data: Data for this prospective study was collected from the patients admitted through the Surgery department at Dr. B.R.A.M Hospital, Raipur (C.G.).

Inclusion criteria:

- Patients aged over 18 years, of both sexes and deemed fit for surgery were included
- Patients admitted to the surgery department with a diagnosis of fistula in ano
- Patients with recurrent fistula were also eligible for inclusion

Exclusion criteria:

- Patients who were unwilling to participate in the study were excluded
- Cases of traumatic fistula were excluded from the study

RESULT AND ANALYSIS

Table 1 shows the symptoms and indicators of fistula-in-ano in patients. Out of the 40 patients in the study, 18 (45%) felt pain or perineal discomfort and 28 (70%) had discharge from the external orifice. Around 16 patients (40%) were identified to have other comorbidities while bleeding per rectum was documented in 3 patients (7.5%).

Table 1: Table distribution with all parameters

	No. of patients	Total patients (%)
Symptom/sign		
Pain or perineal discomfort	18	45
Discharge from external opening	28	70
Bleeding per rectum	3	7.50
Other comorbidities	16	40
Types		
Low variety (total)	30	75
Anterior	4	10
Posterior simple	12	30
Posterior complex	6	15
Multiple tract	6	15
Horse shoe	2	5
High variety	10	25
Type of fistula		
Transsphincteric	18	45
Intersphincteric	15	37.50
Suprasphincteric	7	17.50
Type of operation		
Fistulotomy	20	50
Fistulectomy	12	30
Fistulectomy with seton placement	8	20

Table 2: Distribution of procedures according to type of fistula in patients with

fistula-in-ano (40 Patients)

Procedure/type of fistula	No. of patients	Percentage
Fistulotomy		
Transsphincteric	13	32.50
Intersphincteric	7	17.50
Suprasphincteric	0	0.00
Fistulectomy		
Transsphincteric	0	0.00
Intersphincteric	8	20.00
Suprasphincteric	4	10.00
Fistulectomy with Seton		
Transsphincteric	5	12.50
Intersphincteric	0	0.00
Suprasphincteric	3	7.50

Table 3: Duration of hospital stay

Stay in hospital	No. of patients	Percentage
3 days	12	30
4-6 days	20	50
Above 6 days	8	20

Table 1 shows the distribution of the various forms of fistula-in-ano observed in the study group of 40 patients. The majority of cases were classed as low variety, accounting for 75% of the total cases. Anterior and posterior simple fistulas were also prevalent, accounting for 10 and 30% of cases, respectively. Posterior complicated and multiple tract fistulas were each seen in 15% of patients each. Horseshoe fistula was seen in 5% of cases. Rest cases were of high variety fistulas accounting for 25% of total cases.

Table 2 shows the types of fistulas discovered with MRI fistulogram in the research group of 40 individuals with fistula-in-ano. Transsphincteric was the most common kind, occurring in 45% of patients, followed by intersphincteric in 37.5% of cases. Suprasphincteric fistulas were less common, affecting 17.5% of patients

Table 2 shows the therapy techniques used to manage fistula-in-ano in the 40-patient study group. Fistulotomy was the most prevalent procedure, occurring in 50% of cases, followed by fistulectomy in 30%. Fistulectomy with seton placement was used in 20% of patients

Table 3 shows the distribution of surgical operations performed on 40 individuals with fistula-in-ano based on their fistula type. The 20 patients who had fistulotomy had 17.5% intersphincteric fistulas, 0% suprasphincteric fistulas and 32.5% transsphincteric fistulas. Fistulectomy was conducted in 10% of suprasphincteric fistulas and 20% of intersphincteric fistulas but no transsphincteric fistulas were treated with this treatment. In addition, 12.5% of patients with transsphincteric fistulas and 7.5% with suprasphincteric fistulas underwent fistulectomy with seton placement.

Table 3 depicts the length of hospital stay among 40 patients receiving therapy for fistula-in-ano. Twelve (30%) of them were discharged within three days, while the bulk, 20 (50%), remained in the hospital for four to six days. Eight (20%) individuals required a hospital stay of more than six days.

DISCUSSION

In my study, 18 patients (45%) felt pain or perineal discomfort and 28 patients (70%) had discharge from the external orifice. Around 16 patients (40%) were identified to have other comorbidities with bleeding per rectum documented in only 3 patients (7.5%). The clinical presentation of perianal fistula seen in this study is consistent with the traditional symptomatology documented in the literature, which includes common complaints like discharge, discomfort and pruritus. The study conducted by Ahsan also showed that the major clinical sign presented during hospitalization was perianal discharge (97%), followed by itching and discomfort (60%) similar to the current study where 45% of the patients experienced discomfort^[5]. These findings showcase the importance of identifying the hallmark symptoms during clinical assessments, as well as the requirement for a full diagnostic evaluation to characterize disease severity and guide treatment decisions as seen in prior studies. Khatan et al also reported similar observations in their study wherein 100% of the patients reported discharge as the major clinical sign while 73.3% of the patients complained of pain before the surgery (Fig. 1)^[6].

In my study, there is an increased prevalence of low variety fistulas, particularly posterior variations which accounted for 45% of the cases considered for this investigation. Ahsan et al also reported that 80% of the fistula cases were observed posteriorly^[7]. The study also depicted the types of fistula observed after MRI fistulograms to examine the anatomical extent of fistulas. In this study, transsphincteric was the most common kind, occurring in 45% of patients, followed by intersphincteric in 37.5% of cases, while suprasphincteric fistulas were less common, affecting only 17.5% of patients. This was similar to the report by Ahsan et al where 45% of the patients showed transsphincteric while 16% of the patients showed intersphincteric complex fistula^[7]. The study carried out by Vasilevsky and Gordon^[8] also reported a similar observation where transsphincteric complex fistula comprised the type seen in 52% of the cases and intersphincteric complex fistula was identified to be the second commonly seen type comprising 41% of the cases. These findings reveal that MRI can be the primary imaging mode for evaluating complex or recurring perianal fistulas (Fig. 2).

In my study fistulotomy was done in 50% cases whereas fistulectomy was done in 30% of the cases; rest 20% cases underwent fistulectomy with seton placement. However, the use of fistulectomy with seton placement particularly for cases with large intersphincteric fistulas was noted in this study and this represented a developing therapeutic strategy targeted at controlling difficult or recurring fistulas while decreasing the risk of incontinence or

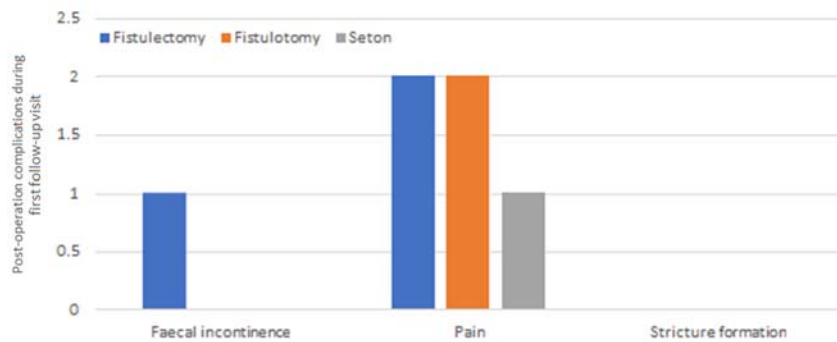


Fig. 1: Complications seen in patients' post-operation

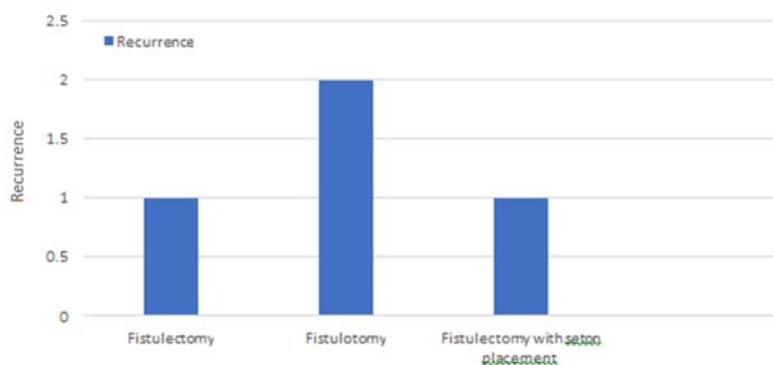


Fig. 2: Recurrence vs type of surgery

recurrence. Ahsan *et al.*^[7] also observed that 45% of the patient cohort opted for fistulotomy which was then followed by fistulectomy which comprised 36% of the cases. Use of fistulectomy with seton was also investigated by Masum *et al.*^[9] in complicated fistulas treated with 52% cases undergoing a two-stage operation with Seton application, whereas 47% had a single-stage fistulotomy. This contrasts the current study where only 20% of the patients were treated using fistulectomy with seton placement. One possible reason for this might be because traumatic fistulas were excluded in the current study thereby lowering the chances of complicated fistulas in the study cohort.

The observed length of hospital stays in my study, with 30% of patients released within three days, 50% staying for four to six days and 20% staying for more than six days, is consistent with prior findings in the literature. Previous research on fistula-in-ano therapies revealed comparable hospitalization patterns, which mirrors the typical postoperative recovery durations linked with various surgical methods^[10]. Hareesh *et al.*^[11] showed similar observations with 70.70% patients hospitalized for 4-6 days and only 17% of the cases hospitalized for more than a week. In the study conducted by Ramachandran, patients undergoing fistulectomy were hospitalized for 8-9 days while those who opted for

fistulotomy underwent hospitalization for 7-8 days. These observations are possibly due to the intrusive nature of these surgical procedures that require more careful postoperative care and monitoring for problems such as infection or incontinence, resulting in longer hospital stays. The use of seton placement, especially in difficult instances, may also lengthen the hospital stay since the healing process is maintained progressively

The current study found a low incidence of significant complications, with the majority of patients (95%) suffering no postoperative problems. It was noted that 1 case of fecal incontinence and 2 cases of pain was seen in the fistulectomy group in contrast to the fistulotomy group, which reported two cases of pain and stricture formation, with no fecal incontinence. For fistulectomy with seton placement, there was one case of pain and no stricture formation and fecal incontinence reported. This is consistent with data from previous studies, such as those by Hareesh *et al.*^[11] and other groups, who reported that 96% of the patients showed no complication after fistulotomy and fistulectomy procedures^[12]. The absence of recurrence in the majority of the patient population is very remarkable, with one case of recurrence (2.5%) in the fistulectomy group and two cases (5%) in the fistulotomy group and one case in the

Fistulectomy with seton placement group (2.5%). In the study by Ramachandran, recurrence was noted in 25% of fistulectomy treated patients followed by 10% each in patients treated using fistulotomy and fistulectomy with setons placement respectively. Poon et al also revealed that recurrence of fistula in ano was noted in only 2 patients undergoing fistulectomy and 1 patient undergoing fistulectomy with seton placement^[13].

CONCLUSION

This study investigates the clinicopathological aspects and therapy techniques for perianal fistula, emphasizing the prevalence of middle-aged male patients and the usual presentation of symptoms such as discharge and pain. This study's findings provide a comprehensive understanding of the clinicopathology and therapy of perianal fistula, validating several critical elements identified in prior studies while also contributing unique insights. The age and gender distribution of patients, with a noticeable prevalence of middle-aged males, is consistent with established demographic tendencies, implying that perianal fistula mostly affects this community. The clinical manifestations, which are mostly characterized by discharge and pain, highlight the importance of doing a complete clinical evaluation while identifying and managing this illness.

Diagnostic results emphasize the importance of modern imaging modalities, notably MRI, in precisely identifying the anatomical intricacies of perianal fistulas. The superiority of MRI in distinguishing fistula pathways and accompanying abscesses allows for more exact surgical planning and execution. The study emphasizes that, while traditional fistulograms can be useful, MRI is still the gold standard for evaluating recurrent and complex fistulas, offering a more thorough and trustworthy assessment that leads to better therapeutic outcomes.

This study's treatment findings reaffirm the efficacy of fistulotomy as a main intervention, with a considerable number of patients having satisfactory results and experiencing few postoperative sequelae. Fistulectomy with seton placement can also be used strategically to manage high intersphincteric fistulas, which is especially useful in difficult instances when continence is critical. The absence of fistula recurrence during the follow-up period supports these surgical methods. Overall, the study's findings improve clinical understanding of perianal fistula therapy by providing evidence-based recommendations for enhancing patient care and outcomes.

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