



SURGICAL MANAGEMENT AND CLINICAL OUTCOME IN 20 PATIENTS PRESENTING WITH FISTULA-IN-ANO: A RETROSPECTIVE STUDY

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ABSTRACT

Fistula-in-ano is a common anorectal disease that is distressing for patients and challenging for surgeons. This retrospective study describes the clinical presentation, risk factors, surgical management, and short-term outcomes of 20 patients with fistula-in-ano treated in the Department of General Surgery of a SVP hospital in Ahmedabad, India. Patients older than 15 years who gave informed consent were evaluated clinically and radiologically, underwent surgery chosen according to age, presentation, fistula level, and affordability, and were followed for 3 months. Perianal discharge (85%) and pain (75%) were the most common complaints. Most patients were men (80%; male-to-female ratio 4:1), and patients aged 31–40 years formed the largest group (40%). A single external opening was present in 90% of patients, a posterior opening in 70%, and a low-level fistula in 80%. Fistulectomy, alone or with seton placement or lateral sphincterotomy, was performed in 90% of patients and fistulotomy in 10%. At 3 months, 90% of patients were completely cured and 10% had recurrence; no anal incontinence or infection occurred. Findings were broadly similar to those of an earlier published series. We conclude that early diagnosis and appropriate surgical management are the key to a good outcome in these patients, improving their lifestyles and reducing complications.

KEYWORDS : Fistula-in-ano, Anorectal Abscess, Fistulectomy, Surgical Outcome

INTRODUCTION

Fistula-in-ano is a chronic abnormal communication, usually lined to some degree by granulation tissue, running from the anorectal lumen (internal opening) to an external opening on the perineal or buttock skin or, rarely in women, the vagina (O'Connell et al., 2023; Townsend et al., 2022). It usually follows a pre-existing anorectal abscess that has burst spontaneously (Parks, 1961). It may also accompany Crohn's disease, tuberculosis (TB), lymphogranuloma venereum (LGV), actinomycosis, rectal duplication, foreign bodies, or malignancy, which very rarely arises within a longstanding fistula; these should be suspected when clinical findings are unusual. Non-specific fistulae are, for unknown reasons, more common in men. The overall incidence in India is about 9 cases per 100,000 population per year, with the third to fifth decades most affected. Earlier series have described its clinical features and surgical outcomes (Kumar et al., 2015; Sainio & Husa, 1985; Siddharth et al., 2015).

Patients present with seropurulent discharge, skin irritation, and one or more external openings with surrounding induration; multiple openings suggest TB, ulcerative colitis, LGV, hidradenitis suppurativa, or actinomycosis. Acute disease causes new pain and swelling that worsen with movement and defecation, often with malaise and fever. Chronic disease follows a pattern of pain, spontaneous purulent discharge, and temporary relief; incomplete drainage allows the abscess cavity to re-accumulate and the internal opening to bleed from granulation tissue.

Digital rectal examination remains the mainstay of diagnosis. Endoanal or endorectal ultrasonography (USG), magnetic resonance (MR) fistulography, computed tomography (CT), and barium enema or small-bowel series help distinguish high from low fistulas and show whether the tract involves the sphincters, but thorough physical examination matters most. Patients with minimal symptoms, especially with compromised sphincters, may be managed conservatively. Eradicating sepsis requires surgery, balanced against preservation of continence: fistulotomy lays the fistula open from termination to source, whereas fistulectomy better defines the level at which the tract crosses the sphincters and any secondary extensions.

Classification of Fistula-in-Ano

Goodsall's rule predicts tract anatomy. Fistulas with an

external opening in the anterior half of the anus are direct. Those opening in the posterior half have a curved tract, may be horseshoe type, and open in the posterior midline, sometimes with multiple external openings joined to a single internal opening. Per-rectal examination usually shows an indurated internal opening in the posterior midline, and most fistulas lie in the posterior half. The anatomical (Parks) and American Gastroenterological Association (AGA) classifications are shown in Figures 1 and 2.

Figure 1 Parks' Classification of Anal Fistula Tracts

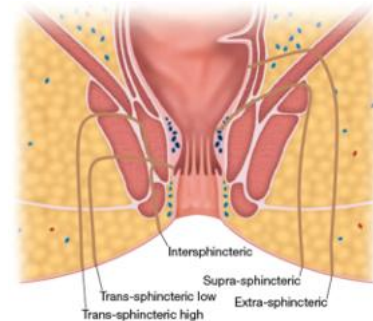


Figure 80.29 Coronal section of pelvis showing Parks' classification of anal fistula tracts.

Note. Coronal section of the pelvis. Reproduced from O'Connell et al. (2023).

Figure 2 American Gastroenterological Association Classification of Anal Fistula

TABLE 80.2 American Gastroenterology Association classification of anal fistula.	
Simple fistula	
• Low (superficial or low inter- or low trans-sphincteric tract)	
• Single external opening	
Complex fistula	
• High (high inter- or trans-sphincteric tract)	
• Extra- or suprasphincteric tract	
• Presence of abscess or collection	
• Ano-vaginal fistula	
• Anal stricture	

Note. Reproduced from O'Connell et al. (2023).

This study therefore aimed to (a) study the clinical presentations of fistula-in-ano, (b) study its risk factors, (c) assess the management protocol adopted at our institution,

and (d) understand the surgical complications of fistula-in-ano.

MATERIALS AND METHODS

Study Design and Setting

This retrospective study included 20 patients with fistula-in-ano admitted through casualty or the outpatient department (OPD) of the Department of General Surgery at a SVP hospital in Ahmedabad, India.

Participants

Eligible patients were older than 15 years with an identifiable external opening and at least one of the following: persistent seropurulent or faecal perianal discharge causing pruritus and discomfort; inadequately treated or recurrent perianal abscess; recurrent fistula after previous fistula surgery; or fistula secondary to a foreign body, probing of an abscess, or a low fistula. All consented to inclusion and further treatment. Patients with fistulas specific to other conditions (known Crohn's disease, active abdominal TB, carcinoma of the rectum, or previous radiation therapy), those who declined consent, and those managed conservatively were excluded.

Procedure and Follow-Up

Detailed history and examination were recorded, and all relevant investigations were performed. After informed written consent, patients underwent surgery, the procedure being chosen according to age, presentation, fistula level, and affordability. Patients were monitored postoperatively and followed for 3 months after discharge. Data were analyzed descriptively as frequencies and percentages.

RESULTS

Clinical Presentation

Discharge was the most common presentation (85%), followed by pain (75%), swelling (45%), and itching (25%; Table 1). A past history of perianal abscess was found in 13 cases (85%).

Table 1 Clinical Presentation of Patients

Presentation	Frequency (n)	Percentage (%)
Discharge	17	85
Pain	15	75
Swelling	9	45
Itching	5	25

Note. Patients could report more than one complaint, so percentages do not sum to 100.

Age and Sex Distribution

Most patients were aged 31–40 years (40%), followed by 41–50 years (25%) and under 30 years (20%); only 5% were older than 60 years (Table 2). Men constituted 80% ($n = 16$) and women 20% ($n = 4$), a male-to-female ratio of 4:1. The mean age was 40 years.

Table 2 Age and Sex Distribution of Patients

Age group (years)	Frequency	Percentage (%)	Male	Female
<30	4	20	3	1
31–40	8	40	6	2
41–50	5	25	4	1
51–60	2	10	2	—
>60	1	5	1	—
Total	20	100	16	4

Note. Dashes indicate no patients.

Characteristics of the Fistula

A single external opening was present in 90% of patients and multiple openings in 10%; 70% had a posterior and 30% an anterior opening. After perianal USG and MR fistulography, 80% had a low fistula, with the internal opening below the anorectal ring, and 20% a high fistula (Table 3).

Table 3 Characteristics of the Fistula Tract

Characteristic	Frequency	Percentage (%)
Number of external openings		
One	18	90
Two or multiple	2	10
Position of external opening		
Anterior	6	30
Posterior	14	70
Level of fistula		
High	4	20
Low	16	80

Note. Each characteristic totals $N = 20$ (100%).

Surgical Management

Fistulectomy alone was performed in 10 patients (50%), fistulectomy with seton placement in 7 (35%), and fistulectomy with lateral sphincterotomy in 1 (5%), so 90% underwent fistulectomy; fistulotomy was performed in 2 (10%; Table 4).

Table 4 Surgical Procedures Performed

Procedure	Frequency	Percentage (%)
Fistulotomy	2	10
Fistulectomy	10	50
Fistulectomy + seton placement	7	35
Fistulectomy + lateral sphincterotomy	1	5
Total	20	100

Follow-Up Outcomes

The complications assessed were recurrence, anal incontinence, and infection. At 3 months, 90% of patients were completely cured and 10% had recurrence; no patient had anal incontinence or infection (Table 5).

Table 5 Outcomes at 3-Month Follow-Up

Outcome	Frequency	Percentage (%)
Healing	18	90
Recurrence	2	10
Anal incontinence	—	—
Infection	—	—
Total	20	100

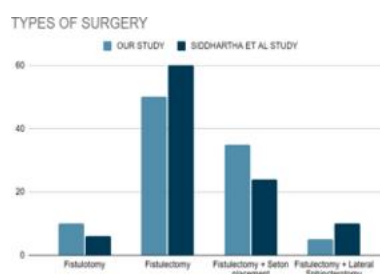
Note. Dashes indicate no cases.

DISCUSSION

This study of 20 patients examined the clinical presentation, investigation, and management of anal fistula. The male-to-female ratio was 4:1, and most patients were in the fourth or fifth decade of life (30–50 years). Perianal discharge was the most common presentation, and perianal pain was seen in three-fourths of patients. Past abscess was the most common cause of fistula formation. Siddharth et al. (2015) noted nearly similar findings, with anal-region pain in 72% and a discharging wound in 70% of patients.

Posterior openings predominated in both our study (70% vs. 30% anterior) and that of Siddharth et al. (80% vs. 20%), in keeping with Goodsall's rule. Low-level fistulas were likewise more common in our study (80% low, 20% high) and in theirs (88% low, 12% high).

Figure 3 Types of Surgery: Present Study Versus Siddharth et al. (2015)



Note. Values are percentages of patients. The chart label "Siddhartha et al." refers to Siddharth et al. (2015).

After early diagnosis and investigation, fistulectomy was the preferred treatment in 90% of our patients, accompanied by seton placement in 35% and lateral sphincterotomy in 5% (Figure 3). Siddharth et al. performed fistulectomy in 84% of patients, fistulotomy in 6%, and fistulectomy with fissurectomy and sphincterotomy in 10%. Healing was achieved in 90% of our operated patients; recurrence was 10% here and 6% in their series.

Limitations

The sample was small ($N = 20$), and because follow-up lasted only 3 months, some subjects were probably lost to follow-up.

CONCLUSION

Anal fistula is a common disease, devastating for patients and also challenging for surgeons. On the basis of our study and observations, we conclude that early diagnosis and appropriate surgical management are the key to a good outcome in these patients. They not only improve the lifestyles of patients but also reduce complications. In the surgical management of fistulae, if one is too aggressive with fistulotomy, cure may be achieved at the cost of incontinence. On the other hand, being too conservative while striving to maintain continence will result in recurrence or persistence of the fistula.

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