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Retrospective and prospective study of clinical profile of fistula in ano

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Abstract

Fistula-in-ano connects anal canal to perianal skin producing persistent seropurulent discharge which may be quite discomforting to the patients. The condition has variable clinical presentations, histopathology, management options and postoperative complications, to which a clinician must be well versed with. This study was conducted over a period of five years in a tertiary care hospital. Detailed history, clinical examination, postoperative assessment, histopathology and magnetic resonance imaging findings were recorded. Significant observations were: previous surgery for anorectal abscess in 53.3%; single and multiple external openings in 80% and 20% respectively; 82.67% low fistulae and 17.33% high; 47.1% intersphincteric, 35.5% transsphincteric, 9.8% suprasphincteric & 7.6% extrasphincteric. Overall 77.78% underwent fistulectomy and post operatively, 9.3% developed discharge, 2.2% had wound bleeding and 0.4% developed incontinence. Histopathologically, 2.22% cases revealed tubercular origin. Hence, clinicoepidemiological and histopathological assessment of fistula in ano is not only essential to decide treatment modality but is also harbinger of complications and prognosis.

Keywords: Fistula in ano, low fistula, high fistula, fistulectomy

Introduction

Fistula-in-ano is an abnormal hollow tract or cavity that is lined with granulation tissue and connects a primary opening inside the anal canal to a secondary opening in the perianal skin; secondary tracts may be multiple and can extend from the same primary opening.

It is considered one of the commonest causes for persistent seropurulent discharge that irritates the skin in the neighbourhood and causes discomfort. It is seen quite frequently and in fact virtually mirrors perianal and perirectal suppuration.

This condition rarely heals spontaneously and requires surgical therapy to achieve a cure. Surgical techniques like fistulectomy, fistulotomy, fistulectomy with seton tie and staged operations have rendered the postoperative period uneventful and short with a steep fall in recurrence rate.

Methods

This retrospective and prospective observational study was conducted on in-patient department cases diagnosed with fistula in ano over a period of five years in a tertiary care hospital. Ethics committee approval was obtained and written informed consent was taken from patients who agreed to participate in the study. Patients with fistula in ano presenting with persistent discharge from the external opening (seropurulent or faecal matter) causing pruritis and discomfort and patients presenting with recurrence after previous fistula surgery were included in the study; whereas patients who were known cases of ulcerative colitis, crohn's disease, carcinoma of rectum, active abdominal tuberculosis, recipients of radiation therapy and patients with perianal injuries were excluded from the study.

Detailed history of patients was noted and they were thoroughly examined. Digital rectal examination was performed for each patient. Magnetic resonance imaging findings were recorded. After appropriate surgical intervention, patients were further observed for any postoperative complications. Biopsy sample was sent for histopathological examination and the findings were noted.

Categorical data were assessed in the form of absolute numbers and percentages. Quantitative data was assessed by calculating range and measures of central tendency such as mean and standard deviation.

Results

In our study all patients presented with discharge from opening. Pain around anus was present in 73.3% (165) and swelling around anus in 45.3% (102) of the patients. Others presenting complaints were itching around anus in 17.3% (38), constipation in 13.3% (30), fever in 9.3% (21) and bleeding per rectum in 2.6% (6) of the patients (Table 1). 53.3% (120) of the patients had history of previous surgery for anorectal abscess (Table 2).

Out of 120 patients with history of surgery for anorectal abscess, 50% (60) had interval of 0-6 months while 22.5% (27) developed fistula between 7-12 months. 10% (12) had interval of 13-36 months & 17.5% (21) >36 months between previous surgery for anorectal abscess and fistula formation (Table 3).

It was observed that 80% (180) of the patients had single external opening and 20% (45) had multiple external openings (Table 4). 82.67% (186) of fistulae were low while 17.33% (39) were high (Table 5). 47.1% (106) of fistulae were found to be intersphincteric, 35.5% (80) transsphincteric, 9.8% (22) suprasphincteric & 7.6% (17) were extrasphincteric (Table 6).

In our study about 77.78% (175) patients were treated by fistulectomy alone followed by 17.33% (39) fistulectomy plus seton tie & 4.89% (11) underwent fistulotomy alone. On postoperative follow up, 9.3% (21) of the patients presented with discharge from wound. Bleeding from wound was present in 2.2% (5) and incontinence in 0.4% (1) of the patients in the postoperative period (Table 7).

Histopathological examination revealed that 2.22% (5) of the fistulae were of tubercular origin and remaining 97.78% (220) had chronic non specific inflammatory pathology (Table 8).

Table 1: Presenting complaints

Complaints	Total	No. of affected Patients (%)
Discharge from opening	225	225(100)
Pain around anus	225	165(73.3)
Swelling around anus	225	102(45.3)
Itching around anus	225	38(17.3)
Constipation	225	30(13.3)
Fever	225	21(9.3)
Bleeding per rectum	225	6(2.6)

Table 2: Previous surgery for Anorectal abscess

Previous surgery	No. of patients (%)
Yes	120(53.3)
No	105(46.7)
Total	225(100)

Table 3: Interval between previous surgery for anorectal abscess and fistula formation

Interval (months)	No. Of Patients (%)
0-6	60(50)
7-12	27(22.5)
13-36	12(10)
>36	21(17.5)
Total	120(100)

Table 4: Number of external openings

No. of External Opening	No. of Patients (%)
Single	180 (80)
Multiple	45 (20)
Total	225 (100)

Table 5: Diagnosis based on digital rectal examination & MRI findings

Diagnosis	No. of Patients (%)
Low	186 (82.67)
High	39 (17.33)
Total	225 (100)

Table 6: Diagnosis based on MRI findings

Diagnosis	No. of patients (%)
Intersphincteric	106 (47.1)
Transsphincteric	80 (35.5)
Suprasphincteric	22 (9.8)
Extrasphincteric	17 (7.6)
Total	225 (100)

Table 7: Post operative complications

Complications	Total	No. of Affected patients (%)
Discharge from wound	225	21 (9.3)
Bleeding from wound	225	5 (2.2)
Incontinence	225	1 (0.4)

Table 8: Histopathological findings

HPE findings	No. of patients (%)
Non specific inflammation	220 (97.78)
Tubercular	5 (2.22)
Total	225 (100)

Discussion

Present study comprises a review of 225 patients of fistula in ano, admitted in various surgical wards of a tertiary care hospital over a period of five years.

In our study, out of 225 patients, 80% were males & 20% were females. Male to female ratio was 4:1. Whereas Philip H Gorden *et al.* (2002) [1] and Murtaza Akhtar *et al.* (2012) [2] in their studies observed a slightly higher M:F ratio of 5.66:1.

In the present study, maximum (40%) number of patients were encountered in 41- 50 years age group followed by 28%(31-40), 18.7% (>50), 12%(21-30years age group) respectively. Least (1.3%) number of cases were seen in 16-20 years age group. Majority of the patients 68% were of 31-50 years of age and

mean age of patients of fistula in ano was 41.8 years in present study. These findings were consistent with the findings of Corman ML *et al.* (2005) [3] who also reported maximum incidence (42%) in 41-50 years age group with mean age of 40.5 years. Hancock BD *et al.* (1992) [4] and Corman ML *et al.* (2005) [3] noted maximum incidence (58 & 65% respectively) in 31-50 year age group with mean age of 42.7 & 38.5 years respectively. In the present study, discharge from opening was most common presentation among the patients of fistula of ano followed by pain around anus (73.3%), swelling around anus (45.3%), itching around anus (17.3%) & constipation (13.3%). Fever (9.3%) and bleeding per rectum (2.6%) were the least frequent complaints of the patients. Memon AA *et al.* (2011) [5] and

Murtaza Akhtar *et al.* (2012) ^[2] also reported discharge from opening (90%), pain around anus (76.7%) & swelling around anus (53.3%) as the most frequent complaints of patients of fistula in ano. Corman ML *et al.* (2005) ^[3] also reported discharge from opening to be the chief complaint (93.8%) of patients with fistula in ano followed by pain around anus (79.8%) & swelling around anus (56.7%).

In our study, 53.3% of the patients had history of previous surgery for anorectal abscess where as 66.6% patients in the study by Cox SW *et al.* (1997) ^[6] and 77.7% cases in the study by Hammond TM *et al.* (2006) ^[7] were reported to have previous anorectal abscess surgery. Philip H Gordon *et al.* (2002) ^[1] also reported history of previous surgery for anorectal abscess in 73.3% of the patients of fistula in ano.

When interval between previous surgery for anorectal abscess and fistula formation was taken into account, in this study 50% patients had interval of 0-6 months while 22.5% developed fistula between 7-12 months. 10% had interval of 13-36 months & 17.5% more than 36 months between previous surgeries for anorectal abscess and fistula formation. In our study mean interval between previous surgery and fistula formation was 13.52 months whereas Cox SW *et al.* (1997) ^[6] and Hammond TM *et al.* (2006) ^[7] noted mean interval of 12.8 & 13.8 months respectively.

In our study, 80% of the patients had single external opening and 20% had multiple external openings while Choen *et al.* (1991) ^[8] observed single external opening in 82.67% & multiple external openings in 17.33% of the patients. Buchanan G *et al.* (2002) ^[9] observed single & multiple external openings in 89.78% & 10.12% respectively.

In this study, all the patients underwent digital rectal examination and magnetic resonance imaging which revealed that 82.67% of fistulae were low viz a viz 17.33% high. 47.1% of fistulae were intersphincteric, 35.5% transsphincteric, 9.8% suprasphincteric & 7.6% were extrasphincteric. Fishman Javitt MC *et al.* (1987) ^[10] reported that 80% of fistulae were low & 20% high. 52% of fistulae were intersphincteric followed by transsphincteric (33.3%), suprasphincteric (12%) & extrasphincteric 2.7%. MRI grading of perianal fistulae has been described as: Grade 1: simple linear intersphincteric fistula; Grade 2: intersphincteric fistula with abscess or secondary tract; Grade 3: trans sphincteric fistula; Grade 4: trans sphincteric fistula with abscess or secondary tract within the ischioanal fossa and Grade 5: supralelevator and translevator disease ^[9, 10].

In our study, 77.78% of the patients were treated by fistulectomy alone. 17.33% of the patients were treated by fistulectomy plus seton tie & 4.89% underwent fistulotomy. Hammond TM *et al.* (2006) ^[7] reported in their study that 68% of the patients were treated by fistulectomy followed by fistulotomy (21.3%) & fistulectomy plus seton tie in 10.7%. Menon AA *et al.* (2011) ^[5] reported fistulectomy being most commonly performed surgery followed by fistulectomy plus seton tie & fistulotomy.

In the present study, discharge from wound was the commonest postoperative complication encountered in 9.3% of the patients followed by bleeding from wound (2.2%) & incontinence (0.4%). McCourtney JS *et al.* (1995) ^[11] also reported discharge from wound to be the chief postoperative complication in 21.3% of patients followed by bleeding from wound (9.78%) & incontinence (1.3%). Ramanujam PS *et al.* (1993) ^[12] & Hammond TM *et al.* (2006) ^[7] both reported discharge from wound and bleeding from wound as the most frequent postoperative complications in their respective studies.

In our study, 52% of the patients stayed in the hospital for 4-6 days. The hospital stay was upto 3 days & more than 6 days for

14.7% & 33.3% of the patients respectively. Mean hospital stay for our study was 5.89 days. Memon AA *et al.* (2011) ^[5] also observed similar data in relation to hospital stay. Mean hospital stay was 6.0 days.

On histopathological examination, 2.22% of the fistulae were of tubercular origin and remaining 97.78% had chronic non specific inflammatory pathology on HPE. Histopathological diagnosis of fistula in ano rests on identification of large epithelioid cell granuloma with caseous necrosis and / or demonstration of acid fast bacilli in the biopsy specimen. Philip H Gordon *et al.* (2002) ^[1] observed tubercular pathology in 6.3% & non specific inflammatory pathology in 93.6% of the specimens. Cox SW *et al.* (1997) ^[6] reported tubercular & non specific inflammatory pathology in 10.22% & 89.78% respectively.

Conclusion

From the present study, it could be concluded that fistula in ano is not an uncommon disease affecting young adults of both sexes. All patients present with discharge from the opening. Digital rectal examination & magnetic resonance imaging are useful tools for its diagnosis. Fistulectomy is the most commonly performed surgery among various surgical modalities of treatment available till now with good results.

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