Original Research Article

DOI: http://dx.doi.org/10.18203/2349-2902.isj20183411

Clinical presentation and outcome of fistula in ano cases

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Received: 28 July 2018 Accepted: 03 August 2018

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ABSTRACT

Background: Fistula-in-ano is an abnormal communication between the anal canal or rectum and the perianal skin, which causes a chronic inflammatory response. The most common cause is nearly always by a previous anorectal abscess. The chief complaint of anorectal fistula is intermittent or constant drainage or discharge. There is usually a history of previous pain, swelling and recurrent abscess that ruptured spontaneously or was surgically drained. There may be a pink or red elevation exuding pus, or it may have healed. Digital rectal examination remains the main stay of diagnosis in anorectal fistula cases.

Methods: The present cross sectional observational prospective study was conducted in 50 patients who presented with their complaints to the Surgery Outpatient Department and who were admitted under the Department of Surgery, Dr. B.R.A.M. Hospital, Raipur (C.G.), India during study period was from March 2015 to September 2016. Detailed clinical history and examination of the patient was recorded. All investigations relevant to the study were done in all the patients. Appropriate surgical management were performed. Postoperative findings were noted.

Results: 36% patients are in the age group of 41-50. 82% are male patients and 18% patients are female patient. 76% Patients had single opening. 74% Patients had perianal discharge while 66% patients presented with perianal pain. 40% patients had h/o perianal abscess. Most common mode of presentation was discharge. 76% patients had posterior opening while 24% patients had anterior opening. Fistulectomy and fistulotomy were performed in 39 subjects (78%) and 7 subjects (14 %) respectively.

Conclusions: Anal fistula is a common disease which is devastating to the patients and imposes challenges to the surgeon. Early diagnosis and appropriate management are the key to success.

Keywords: Fistula-in-ano, Fistulectomy, Peri-anal disorder

INTRODUCTION

Throughout the surgical history fistula-in-ano has been a troublesome pathology to both patient and physician. The prevalence of non-specific anal fistulae has been estimated to be 8.6 to 10/100,000 of the population per year, with a male to female ratio of 1.8:1.

Fistula-in-ano is an abnormal communication between the anal canal or rectum and the perianal skin, which causes a chronic inflammatory response. The most common cause is nearly always by a previous anorectal abscess. There is usually a history of recurrent abscess that ruptured spontaneously or was surgically drained.^{2,3} The occurrence of such abscess is mostly secondary to infection of an anal gland (Cryptoglandular hypothesis of Eisenhammer).⁴

Tuberculosis, lymphogranuloma inguinale, inflammatory bowel disease like Crohn's or ulcerating proctocolitis can also lead to development of anal fistula. Fistulae have been reported following external injury or probing an abscess or low anal fistula.⁵ A fistula may develop in chronic anal fissure. A colloid carcinoma of the rectum

can manifest itself through an anal fistula.⁶ Occasionally ingested foreign bodies, such as fish or chicken bones may penetrate the rectum. Impalement injury after falling astride a sharp object or as a result of a road traffic accident may result in a high anorectal fistula. The chief complaint of anorectal fistula is intermittent or constant drainage or discharge. There is usually a history of previous pain, swelling and recurrent abscess that ruptured spontaneously or was surgically drained. There may be a pink or red elevation exuding pus, or it may have healed. In Crohn's disease or tuberculosis, the margins may be violaceous and the discharge watery.^{7,8}

Digital rectal examination remains the main stay of diagnosis in anorectal fistula cases.⁴ Commonly done investigations in fistula-inano are Sigmoidoscopy, Colonoscopy, Fistulography, Endo anal/ endorectal ultrasound, Magnetic Resonance Imaging (MRI), Computerized Tomography Scan (CT scan), A barium enema/small bowel series, Fistuloscopy.⁹ But thorough physical examination is most needed.

Fistula-in-ano one of common peri-anal disorder and there is scarcity of studies on its incidence, prevalence, etiopathogenesis, clinical features especially in this part of the country. Hence the study was planned to assess the different modes of clinical presentations and outcome of fistula in ano cases.

METHODS

The present cross sectional observational prospective study was conducted in 50 patients who presented with their complaints to the surgery outpatient department and who were admitted under the department of surgery, Dr. B.R.A.M. Hospital, Raipur (C.G.), India during study period was from March 2015 to September 2016. These patients met the inclusion criteria for this clinical study. Determine the sample size the following formula was used:

 $n = Z^2 pq/d^2$

Where

- n = desired sample size
- Z = the standard normal deviation usually set at 1. 96 at 5 % level which corresponds to 9 5 % confidence level
- P = proportion of population
- O =1-n
- D = degree of accuracy level considered at 5 %

So, putting these values 1n formula n=5 0

Inclusion criteria

All patient of above 16-year-old with following complaints:

- Identification of the specific ano rectal lesion, i.e. the external opening
- History of perianal discharge/discharge from the external opening-persistent seropurulent/fecal matter causing pruritus and discomfort in the perianal region
- Past history of perianal abscess and treatment for the perineal abscess which was inadequate or a recurrent attack of perianal abscess
- Recurrent fistula after previous fistula surgery
- Fistula secondary to introduction of a foreign body; probing of an abscess or a low fistula
- Patients who will give the consent to be included in this clinical study and for further treatment modalities.

Exclusion criteria

- Patients who present with fistulas which are specific to certain conditions. K/c/o Chrohn's disease, active abdominal tuberculosis and carcinoma of the rectum, previous radiation therapy
- Patients who will not give their consent to be included in this study.

Detailed clinical history and examination of the patient was recorded. All Investigations relevant to the study were done in all the patients. Appropriate surgical management were performed. Postoperative findings were noted. Data was compiled in MS Excel and checked for its completeness and correctness. Then it was analysed using online statistical calculator.

RESULTS

In this series 36% patients are in the age group of 41-50. 26% are below 30 years 24% patients are in the age group of 31-40. 8% patients are in the age group of 51-60.6% patients are above 60 years.

Seventeen subjects (34%) in the present study belonged to high socioeconomic group while 33 subjects (66%) were from low socioeconomic group. In this study 82% are male patients and 18% patients are female patient (Table 1 and 2).

Table 1: Age and gender distribution.

A ===	Gender			
Age	Female		Male	
group	Frequency	%	Frequency	%
≤30	2	22.20	11	26.80
31-40	4	44.40	8	19.50
41-50	2	22.20	16	39
51-60	1	11.10	3	7.30
>60	0	0	3	7.30
	9	100	41	100

Table 2: Socioeconomic status in study subjects.

Socioeconomic status	Frequency	Percent
High	17	34
Low	33	66
Total	50	100

76% patients had single opening while 14% patients had 2 external opening and rest 10% patient had multiple external opening (Table 3).

Table 3: No. of opening in study subjects.

No of opening	Frequency	Percent
1	38	76
2	7	14
Multiple	5	10
Total	50	100

74% patients had perianal discharge while 66% patients presented with perianal pain. 40% patients had h/o perianal abscess. Most common mode of presentation was Discharge. While least common was perianal irritation in 10% subjects. Past history of perianal abscess was present in 5 subjects (10%) (Table 4).

Table 4: Modes of clinical presentation.

Modes of clinical presentation	Frequency	Percentage
Discharge	37	74
Pain	33	66
Swelling	10	20
Perianal irritation	5	10
Past h/o perianal abscess	20	40

76% patients had posterior opening while 24% patients had anterior opening. So posterior situation was more common (Table 5).

Table 5: Situation of external opening.

24
76
7

Table 6: Level of external fistula.

Level of fistula	Frequency	Percentage
High	7	14
Low	43	86

In this study 88% patients had low type of fistula i.e. internal opening below the anorectal ring, while 12% had high type of fistula. So low type fistula is more common (Table 6). Fistulectomy was performed in 39 subejects (78%), fistulotomy was performed in 7 subjects (14 %),

fistulectomy with primary closure was performed in 1 subject (2%), while seton placement was done in 2 persons (4%) (Table 7).

Table 7: Types of surgical treatment done in study subjects.

Types of surgical treatment	No. of patients	Percentage
Fistulectomy	39	78
Fistulotomy	7	14
Fistulectomy with primary closure	1	2
Seton placement	2	4
Curettage of fistulous tract	1	2

Table 8: Follow up of fistula in ano.

Follow up of fistula in ano	Frequency	Percentage
Complete healing	45	90
Recurrence	5	10

90% patients were completely cured after the surgery while 10% patient had recurrence (Table 8).

DISCUSSION

In this study, mean age of the study subjects was 40±12 years. In a study by Sidhdharth R et al, nearly similar findings were noted. Sainio P also in their study in decade of 80's of twentieth century reported mean age of subjects with fistulae to be 38.5 years. Hamadani A et al have shown more than two-fold increased risk of recurrence in patients <40 years versus those with age ≥40 years. In another study by Kumar V et al, maximum 74 subjects were found to be present in age group 31-60 years. 13

In this study 41 subjects (82%) were found to be male and 9 subjects (18%) were female. Male to female ratio was 4.56. In study by Sidhdhartha R et al, gender incidence for anal fistula was found to be higher in male subjects with 76% of subjects being male and rest 24 % being female. Male female ratio was found to be 3.1 which is lower than in our study. In a study by Kumar V et al the female subjects were further less with only 8% subjects being female and gender ratio being 11.5:1. There is a more male dominance in reported series. Kim JW et al reported the male: female of 4.6:1 in Korea. Most patients with an anal fistula present in the third or fourth decade of life and anal fistulas were uncommon after the age of 60 years. Is

74% Patients had perianal discharge while 78% patients presented with perianal pain. 40% patients had history of perianal abscess. Most common mode of presentation was discharge. While least common was perianal irritation in 10% subjects. Past history of perianal abscess

was present in 20subjects (40%). In a study by Siddhartha R et al 72% patients pain around the anal region, discharging wound was the presenting complaint in 70%, of the patients.

Past history of perianal abscess obtained from 84% of cases author stressed that that discharging wound and pain, and past history of peri anal abscess are the commonest mode of presentation in the majority of patients. Same was the case with our study except for the history of perianal abscess was relatively less in the present study (40%). In a study by Kumar et al also discharge and external opening were the commonest complaint and were present in all subjects (100%). But the findings were included both as symptoms and signs so there is risk of interpreting them falsely raised as symptoms. Further discharge was found to be present in 50% subjects and pain in 52 % subjects. 8% subjects also reported bleeding per rectus. Is

Acute perianal fistulae typically present with new onset of pain and swelling in the affected area. The pain is aggravated by movement and defecation and sometimes even coughing or sneezing. Systemically, the pain is often accompanied by general malaise and fever. A clinical history may also reveal an antecedent bout of diarrhoea. In the scenario of an intersphincteric abscess, the pain can often persist undiagnosed. The pain is described as throbbing in character through day and night and cause extreme pain on defecation to the point of causing secondary faecal impaction. Occasionally, minor anal bleeding and/or purulent discharge may be observed. In the chronic scenario, the patient will often describe a history of pain followed by spontaneous purulent discharge and subsequent temporary relief. When drainage is incomplete, the abscess cavity may reaccumulate, and the internal opening may bleed from chronic granulation tissue. 15,16

76% Patients had single opening while 14% patients had 2 external opening and rest 10% patient had multiple external opening indicating that single opening is more common. Sidhdartha R et al observed that 76% of then had only one external opening while 12% had 2 external opening and another 12% had more than 2 openings. Here also fistula in ano with a single external opening is commonest in occurrence.¹⁰

76% patients had posterior opening while 24% patients had anterior opening. So posterior situation was more common. In a study by Siddhartha R et al 80% of patients posterior opening and 20% of patients anterior opening, so posterior situation was more common which in accordance with our findings. 10

In a study done by Marks and Ritchie, the site of internal opening is anterior, posterior and lateral and in a study by kumar et al anterior in 24%, posterior in 77% and lateral in 10%, is also in accordance with the present study. ^{13,17} In this study 88% patients had low type of fistula i.e.

internal opening below the anorectal ring, while 12 % had high type of fistula. So low type fistula is more common.

In study by Kumar et al fistula was found ot be high in ony 4 % subjects and low in 74%.¹⁷ In a study by Siddhartha R et al also 88% of patients had low level fistula and another 12% of high level fistulae. Patients had internal opening situated above the ano rectal ring. In a study titled fistula-in-ano. Clinical features and long-term results of surgery in 199 adults by Sainio P et al in year 1985, the clinical features and the long-term results of surgery for anal fistula were studied. Fistula distribution was subcutaneous (13%), intermuscular (14%), low anal (55%) or high anal (18%). In a study by Kumar V et al all 100% subjects had high type if fistulae. ^{10,11,13}

Fistulectomy was performed in 39 subjects (78%), fistulotomy was performed in 7 subjects (14%), fistulectomy with primary closure was performed in 1 subject (2%), while seton placement was done in 2 persons (4%).

While in study by Siddhartha R et al 84% of patients underwent Fistulectomy, another 6% of patients underwent Fistulotomy, another 10% underwent Fistulectomy with fissurectomy with sphinctrotomy. 10 Kumar et al fistulectomy was performed in 68% subjects, fistulotomy in 28% subjects and seton placement in 4% subjects. 13

In the present study 90% patients were completely cured after the surgery while 10% patient had recurrence. In a study by Raj Siddhartha et al 6% patients had recurrence while Kumar et al reported 2% recurrence. ^{10,13} In the surgical management of fistulae If one is too aggressive with fistulotomy, cure may be achieved at a cost of incontinence. On the other hand, being too conservative, while striving to maintain continence, will result in recurrence or persistence of the fistula.

CONCLUSION

Anal fistula is a common disease which is devastating to the patients and imposes challenges to the surgeon. On the basis of observations, we can conclude that early diagnosis and appropriate management is the key to success. It not only reduces the complications but also improve the quality of life among these patients.

ACKNOWLEDGEMENTS

The authors would like to thank all the faculty and technical staff members of the Department of Surgery, Pt. JNM Medical College, Raipur (C.G.) India, for their immense cooperation and support during the entire study.

Funding: No funding sources Conflict of interest: None declared Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Yadu S, Toppo A. Clinical presentation and outcome of fistula in ano cases. Int Surg J 2018;5:3006-10.