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Original Research Article

Clinical study of fistula in ano in patients attending surgical OPDs of a tertiary care teaching hospital, Central India

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ABSTRACT

Background: A fistula-in-ano is an abnormal hollow tract or cavity that is lined with granulation tissue and that 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.
Methods: All cases of clinically diagnosed fistulae-in-ano admitted in various surgical units in Index Medical College Hospital, Indore during the study period January 1, 2015 to December 31, 2017. A Preformed set of questionnaires will be prepared and tested and the same proforma will be used for the study of selected clinically diagnosed cases of Fistula-in-ano. Clinical history was obtained in all the patients. Clinical examination including per rectal and proctoscopic was done in required patients.
Results: Total 44 cases of fistula in ano were selected randomly using closed envelope method and studied in detail the following results were obtained. In this present series, 56.81% of patients were in the age group of 31-60 years followed by 34.09% of patients were in the age group of 11-30 years. Only 9.09% of patients were in the age group above 60 years. About major clinical features were noted perianal discharge, pain, swelling and peri anal irritation were 75%, 65.91%, 43.18% and 11.36% respectively.
Conclusions: Early diagnosis and appropriate management is the key to success. Fistula-in-ano forms a good majority of treatable benign lesions of rectum and anal canal. 90%or so of these cases are end results of cryptoglandular infections.

Keywords: Anal fistula, Clinical Features, Fistula in ano, Surgery OPD

INTRODUCTION

An anal fistula, also known as fistula-in-ano, is a small channel that connects the rectum to the outer skin of the buttocks. When a fistula forms, it can cause complications for the sufferer, such as irritation, infection, and draining pus and faecal material. Fistula-in-ano is one of the commonly encountered surgical problems with prevalence of 1.2 to 2.8/10,000.[1] The classification of fistula-in-ano, as described by Parks et al. is based on the location of its tract in relation to anal sphincter muscle: intersphincteric, transsphincteric, suprasphincteric, or extrasphincteric.[2] The term complex fistula is modification of the Park's classification, which falls in any one of these conditions, that is, the track crosses >30% to 50% of the external sphincter, anterior in females, multiple tracks, recurrent, or the patient has preexisting incontinence, local irradiation, or Crohn's disease. Due to the involvement of the anal

sphincter, the treatment of complex fistula poses a high risk for impairment of continence.[3,4] The true prevalence of fistula-in-ano is unknown. The incidence of a fistula-in-ano developing from an anal abscess ranges from 26% to 38%.[5,6] One study showed that the prevalence of fistula-in-ano is 8.6 cases per 100,000 population. In men, the prevalence is 12.3 cases per 100,000 population, and in women, it is 5.6 cases per 100,000 population. The male-to-female ratio is 1.8:1. The mean patient age is 38.3 years.[7] Cryptoglandular infection is responsible for causing almost 90 % of all anal fistulas. The abscess represents the acute inflammatory event, whereas the fistula is representative of the chronic process. Symptoms generally affect quality of life significantly, and they range from minor discomfort and drainage with resultant hygienic problems to sepsis.[8]

Patients often provide a reliable history of previous pain, swelling, and spontaneous or planned surgical drainage of an anorectal abscess. Signs and symptoms of fistula-in-ano, in order of prevalence, include the following: Perianal discharge, Pain, Swelling, Bleeding, Diarrhea, Skin excoriation, and External opening. Digital rectal examination (DRE) may reveal a fibrous tract or cord beneath the skin. It also helps to delineate any further acute inflammation that is not yet drained. Lateral or posterior induration suggests deep postanal or ischiorectal extension.[9]

There are many options to treat fistula in ano; new options are being added each year. Fistulotomy or fistulectomy involves division of the underlying sphincter tissue and is generally recommended for low fistulas. However, sphincter-preserving treatment may be advocated for patients with low preoperative voluntary contraction pressure or those who have undergone multiple drainage surgeries.[10] Fistulectomy with primary sphincter reconstruction can improve both anal continence and manometric values in incontinent patients, without compromising them in fully continent ones.[11,12]

There are multiple techniques available for the repair of complex anal fistulas. The best technique is not known, and the available evidence suffers from a lack of high-quality data, with very few large randomized studies. The technique of choice will depend on appropriate delineation of the anatomy, surgeon preference, and familiarity with the different techniques.[13]

Objectives

- To study the incidence of various etiologies of fistulae occurring in the ano-rectal region.
- To study the different modes of clinical presentations of these fistulae-in-ano.
- To study the efficacy of different modalities of surgical approach with reference to persistence / recurrence of fistulae and sphincteric incontinence following surgery.

METHODS

All cases of clinically diagnosed fistulae-in-ano admitted in various surgical units in Index Medical College Hospital, Indore during the study period January 1, 2015 to December 31, 2017. A Preformed set of questionnaires will be prepared and tested and the same proforma will be used for the study of selected clinically diagnosed cases of Fistula-in-ano. Clinical history was obtained in all the patients. Clinical examination including per rectal and proctoscopic was done in required patients. All the patients were processed by routine blood investigations, ECG, Chest X-Ray, urine for albumin, sugar, microscopy etc., prior to surgery. Fistulogram was done in selected cases. Patients were treated with fistulectomy or fistulotomy for fistulae. The follow up of the patients will be done for a period of three months.

Inclusion Criteria

The patients who are clinically diagnosed as fistula-in-ano in all ages and both sex who are subjected to relevant investigation and undergo surgery where be included

Exclusion Criteria

- All fistulas and sinuses occurring in the midline
- All fistulas due to perineal injuries
- All congenital fistulas
- Cases unfit and refused for surgery

RESULTS

Total 44 cases of fistula in ano were selected randomly using closed envelope method and studied in detail the following results were obtained.

In this present series, 56.81% of patients were in the age group of 31-60 years followed by 34.09% of patients were in the age group of 11-30 years. Only 9.09% of patients were in the age group above 60 years. None of the patients was found to be less than 10 years (Table 1). About 81.81% of patients were males and another 18.18% of patients were females so the ratio is 4.5:1. Majority of the study subjects were from upper lower (45.45%) and lower (29.55%) socioeconomic classes. This disparity due to the fact that majority of the patients to attend the hospital are from a lower socioeconomic class.

About major clinical features were noted perianal discharge, pain, swelling and peri anal irritation were 75%, 65.91%, 43.18% and 11.36% respectively (Table 1). About 6.82% had complained of bleeding. All most all cases had external opening. Fistula in ano with a single external opening was commonest in occurrence. The predominant history was that of a previous/recurrent perianal abscess (75%) that had either ruptured spontaneously or had been surgically drained (Table 1).

Table 1: Demographic and clinical characteristics of study participants.

Characteristics	No. of patients	%
Males	36	81.81
Females	8	18.18
Age in years		
≤10	0	0
11-30	15	34.09
31-60	25	56.81
>60	4	9.09
Socioeconomic class		
Upper	0	0
Upper middle	2	4.55
Lower middle	09	20.45
Upper lower	20	45.45
Lower	13	29.55
Clinical features		
Perianal discharge	33	75
Pain	29	65.91
Swelling	19	43.18
Bleeding	3	6.82
Diarrhea	2	4.55
Constipation	5	11.36
Perianal irritation	11	25
H/o past anal abscess		
Yes	33	75
No	11	25

In this study 35 (79.55%) of patients were presented with posterior opening and 9 (20.45%) of patients with anterior opening. So, posterior openings were more common finding in the present case series (Table 2).

Table 2: Intra-operative findings of fistula-in-ano.

Intra-operative findings of fistula-in-ano	Anterior opening	Posterior opening	Total
Direct tract	6	13	19
Indirect tract	3	22	25
Total	9 (20.45%)	35 (79.55%)	44

Table 3: Co-morbid condition or diseases with fistula-in-ano subjects.

Co-morbid condition	Number	Percentage
Diabetes	13	29.55
Hypertension	10	22.73
Cardiac Disease	5	11.36
Psoariasis	1	2.27
Dyslipidaemia	4	9.09
Hyperthyroidism	2	4.55

Many patients of fistula-in-ano were having associated diseases like diabetes (29.55%), hypertension (22.73%) and cardiac diseases (11.36%) (Table 3).

Table 4: Predisposing factors leading to fistula in ano (n = 44).

Predisposing factor	Number	%
Trauma	1	2.27
History of smoking and alcohol intake	7	15.91
Crohn's disease	2	4.55
Tuberculosis	1	2.27
Fissure-in-ano	3	6.82
Perianal sepsis	23	52.27
Malignancy	0	0
Anorectal surgery	3	6.82
Excessive intake of spicy/greasy food	11	25
Prolonged sitting on the toilet for defecation	17	38.64
No previous significant history	7	15.91

Perianal sepsis (52.27%), prolonged sitting on the toilet for defecation (38.64%), and history of smoking and alcohol intake (15.91%) were the major risk factors. History of excessive intake of spicy/greasy food habits were also observed in 25% cases. One of the patients had a history of perineal injury due to a road traffic accident (Table 4).

DISCUSSION

In this present series, 56.81% of patients were in the age group of 31-60 years followed by 34.09% of patients were in the age group of 11-30 years. Only 9.09% of patients were in the age group above 60 years. None of the patients was found to be less than 10 years. About 81.81% of patients were males and another 18.18% of patients were females so the ratio is 4.5:1. Majority of the study subjects were from upper lower (45.45%) and lower (29.55%) socioeconomic classes. This disparity due to the fact that majority of the patients to attend the hospital are from a lower socioeconomic class.

In study by Sushma R revealed 60% of cases were in the age group of 31-50 years with 80% of cases belong to low socioeconomic status. The most common mode of presentation was discharging sinus in 96% of cases.[14] About 70% of patient had past history of burst abscess or surgical drainage of abscess. 90% of cases have single external opening. 80% of cases had posterior external opening. Most of the fistula was of low anal type, which was 92% and rest of the patient had an internal opening situated above the anorectal ring. The most common surgical approach done was fistulectomy. Only fistulectomy was done in 80% of patients. Fistulectomy with sphincterotomy was done in two patients. These two patients had associated anal fissure. Fistulectomy with seton placement was done in two patients of high level of fistula type. Fistulotomy was done in four patients (8%), these were of low fistula type and seton tightening was done in two patients (4%), these were of high fistula type. Complete healing period range from 2 weeks to 8 weeks.

Maximum patients (72%) got healed in 3-6 weeks. The postoperative complication was very minimal. Recurrence of fistula was observed in two cases.[14]

Fistulography technique involves injection of contrast via the internal opening, which is followed by anteroposterior, lateral, and oblique radiographic images to outline the course of the fistula tract. Fistulography is relatively well tolerated but it can be painful when injecting the contrast material into the fistulous tract. It requires the ability to visualize the internal opening. Questions have been raised about its accuracy, which has been reported to range from 16% to 48%. Because of these limitations, fistulography is generally reserved for cases in which there is a concern about a fistulous connection between the rectum and adjacent organs such as the bladder, where it may be slightly more useful than a careful examination under anaesthesia.[15]

In the present case series, we have observed perianal sepsis (52.27%), prolonged sitting on the toilet for defecation (38.64%), and history of smoking and alcohol intake (15.91%) were the major risk factors. History of excessive intake of spicy/greasy food habits were also observed in 25% cases. One of the patients had a history of perineal injury due to a road traffic accident. Wang D et al showed results which indicate that lifestyle factors and certain medical conditions increase an individual's risk of developing anal fistula. Independent risk factors for fistula-in-ano: body mass index of >25.0 kg/m^2, high daily salt intake, history of diabetes, hyperlipidemia, dermatosis, anorectal surgery, history of smoking and alcohol intake, sedentary lifestyle, excessive intake of spicy/greasy food, very infrequent participation in sports and prolonged sitting on the toilet for defecation.[16] Study by Alexander N et al revealed that fistula-in-ano is a disease of the young and the middle-aged rather than the elderly. 90% of present study group was below the age of 60. They also found that there is a definite male preponderance to developing fistula-in-ano with 82.5% of patients being male. The predominant history was that of a previous/recurrent perianal abscess (77.5%) that had either ruptured spontaneously or had been surgically drained.[17]

Sangwan YP et al showed thirty (6.5 percent) patients developed recurrent fistulas: 16 (53.3 percent) because of missed internal openings at initial surgery, six (20 percent) attributed to missed secondary tracks, five (16.7 percent) because of premature fistulotomy wound closure, and three (10 percent) because of miscellaneous factors. Four-hundred sixty-one patients with anal fistulas classified as simple fistulas-in-ano (uncomplicated transsphincteric, low and high blind track intersphincteric) were studied retrospectively.[18]

Cirocco and Reilly (216 cases) showed in their study that Goodsall's rule was proved to be accurate in 90% cases of posterior openings and as low as 49% in regard to anterior openings.[19] Barwood et al (107 cases) showed in their study that Goodsall's rule was proved to be accurate in 91% cases of posterior openings and as low as 69% in regard to anterior openings.[20]

Study by Tated SP et al Commonest age of presentation was between 30-40 years. Males were more commonly affected. Swelling in perineal region was commonest mode of presentation. Fistula with only one opening was around 85.18%. Anteriorly situated fistula was around 14.81%. Low level fistula was more common. Majority of patients i.e. 74.07% underwent fistulectomy. 9.87% patients underwent fistulotomy. 16.04% patients underwent setonthresd placement. Three Patients developed recurrence.[21]

Sagar Kumar Gupta et al found that 100% of patients of anal fistula presented with perineal discharge.[22] Zuhair Bashir Kamal in his study found that 94.73% patients presented with discharge.[23] About 43.42% patients presented with a history of perineal abscess, 60% patients also had swelling in peri-anal region and 5% patients suffered from pain.

In study conducted by Uraiqat A et al 99% patient presented with discharge, 86.04% patients presented with a past history of abscess in peri-anal region, 45% patients had swelling and 5% patients have pain in perineal region.[24] In present study Many patients of fistula-in-ano were having associated diseases like diabetes (29.55%), hypertension (22.73%) and cardiac diseases (11.36%), perianal sepsis (52.27%), prolonged sitting on the toilet for defecation (38.64%), and history of smoking and alcohol intake (15.91%) were the major risk factors.

Drainage of anal abscess with fistulotomy can be safely performed in cases of subcutaneous, intersphincteral, or low transsphincteral fistulae with a minimal recurrence rate. However, drainage alone and posterior treatment of the fistula track is recommended for high transsphincteral or suprasphincteral fistulae.[25]

CONCLUSION

Fistula-in-ano is a difficult problem that physicians have struggled with for centuries. 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. It has been said that more surgeons' reputations have been impunged because of the consequences of fistula operations than from any other operative procedure.

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