CLINICAL STUDY OF FISTULA IN ANO

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ABSTRACT

BACKGROUND

Fistula in ano is one of the common problem faced in today's world. Fistula in ano is track lined by granulation tissue that connect deeply in the anal canal or rectum and superficially on the skin around the anus. It usually results from cryptoglandular infection causing abscess, which burst spontaneously or was drained inadequately. The study is conducted to find most common aetiological factor and to evaluate various surgical technique and their outcome.

The aim of the study is to-

1. Study the incidence of various aetiologies of fistula in ano.
2. Study the clinical presentation of fistula in ano.
3. Evaluate different modalities of surgical approach and their outcome.

MATERIALS AND METHODS

This prospective study was conducted at Late Lakhiram Agrawal Memorial Government Medical College, Raigarh, during the study period of July 2015 to July 2016. All the 50 cases were included in this study who were above 15 year of age diagnosed with fistula in ano on the basis of clinical examination who underwent surgical procedure.

RESULTS

In present study of 50 cases, 60% of cases were in the age group of 31-50 years. Male:female ratio was 9:1. 80% of cases belong to low socioeconomic status. The most common mode of presentation was discharging sinus in 96% of cases. 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 are 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 sphincterectomy 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. Secondary infection in one case and postoperative bleeding in two cases.

CONCLUSION

The disease is common in the middle-aged group of 31-50 years with male predominance. Low socioeconomic status is one of the risk factor may be due to illiteracy and poor hygiene. Previously, burst abscess or inadequately drained perianal abscess is the main aetiological factor found. Low type and posterior type of perianal fistula is common with discharging sinus as a commonest mode of presentation. Fistulectomy is the commonest suitable procedure for low type of fistula with less postoperative complication.

KEYWORDS

Fistula in Ano, Sphincterectomy, Fistulectomy.

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BACKGROUND

Fistula in ano is track lined by granulation tissue that connect deeply in the anal canal or rectum and superficially on the skin around the anus. It usually results from cryptoglandular infection causing abscess, which burst spontaneously or was drained inadequately.[1]

Fistula in ano is one of the commonest problem faced in today's world. The prevalence of nonspecific anal fistulae has been estimated to be 8.6 to 10/1,00,000 of the population per year with male-to-female ratio of 1.8:1.[2] It is

considered next to haemorrhoids in importance among all anorectal abnormalities. It is prevalent all over the world and its incidence in London hospital study was reported to be 10% of all indoor patients and 4% of all new outpatients.[3] Similar study in India reported anal fistula to constitute 1.6% of all surgical admission.[4]

Tuberculosis, lymphogranuloma inguinale, inflammatory disease like Crohn's disease can also lead to development of anal fistula. Fistula have been reported following external injury or probing abscess or low anal fistula.[5]

These are classified into two groups according to whether internal opening is below or above the anorectal ring. Low level fistula open into the anal canal below the anorectal ring. High level open into the anal canal at or above the anorectal ring in intersphincteric plane.[6]

According to Park,[6] fistula can be classified into following types-

- Intersphincteric.
- Transsphincteric.
- Suprasphincteric.

Studies have revealed that low type fistulae (low intersphincteric and low transsphincteric) are the commonest anal fistula accounting for 90% of the cases.[7,8] Two third are posterior and one third of anterior type.

Commonly, the principal symptom is a persistent seropurulent discharge that irritates the skin in neighbourhood and causes discomfort (Bailey and Love). There is usually history of previous pain, swelling and recurrent abscess that ruptured spontaneously or was surgically drained. There may be pink or red elevation exuding pus or it may have healed. In Crohn's and tuberculosis, the margin maybe undermined and discharge is watery.[9]

Diagnosis is mostly done by physical examination with good light source, proctoscopy and digital rectal examination. Most common done investigation is fistulography, but thorough physical examination is very important.

Surgical treatment requires hospitalisation, regular postoperative care and is associated with a significant risk of recurrence (0.7-26.5%) and a high risk of impair incontinence (5-40%).[3] Cure in this condition is difficult owing to two reasons- Firstly, the site of infection makes the patient reluctant to subject themselves to examination. Secondly, a significant percent of these diseases persist or recur when appropriate surgery is not done or when postoperative care is inadequate.

Surgical procedure done for fistula are fistulotomy, fistulectomy, use of seton and endorectal advancement flap. The main objective of surgical treatment is to remove complete tract without disturbing anal continence.

This prospective study was conducted to study its aetiopathogenesis, associated risk factor, clinical features and various approaches of surgical treatment.

MATERIALS AND METHODS

This prospective clinical study was conducted at Department of Surgery, Kirodimal Government Hospital attached to Late Lakhiram Agrawal Memorial Government Medical College, Raigarh (Chhattisgarh), during the period from July 2015 to July 2016.

All the cases are aged above 15 years old who were diagnosed and admitted for fistula in ano for surgery were included in this study.

Inclusion Criteria

All the patient of age above 15 years old diagnosed as fistula in ano of both sex who were admitted for surgery.

Exclusion Criteria

All the patients below age 15 years old-

All fistula due to perineal injuries.

All congenital fistula.

Those who were unfit or refused for surgery.

Detail clinical history was obtained from each patient. Clinical examination including proctoscopy and digital rectal examination was done. Fistulogram was done in selected patient. All routine investigation, chest x-ray, ECG was done before surgery. Informed written consent was taken from each.

Patient were treated with either fistulectomy, fistulotomy or seton tightening. The follow up of the patient was done for three months.

Data related to preoperative period, line of management along with postoperative outcome was collected from each and analysed.

OBSERVATION AND RESULTS

Age in Years	Male	Female	Total
21-30	3	0	3
31-40	13	1	14
41-50	14	2	16
51-60	6	1	7
61-70	5	1	6
>70	4	0	4
Total	**45**	**5**	**50**

Table 1. Distribution of Cases According to Age and Sex

In our study, age of patient varies from 22 years old to 76 years. Maximum number of patients were found in the age group of 31-50 years old, i.e. 30 patients out of 50 (60%). There were 45 male patients out of 50 (90%) and female patients were 5 in number (10%). Male-to-female ratio is 9:1.

Associated Condition	Number of Associated Cases	Number Association
History of burst opened or surgically-drained abscess	35 (70%)	15 (30%)
Low socioeconomic status	40 (80%)	10 (20%)
Diabetes mellitus	4 (8%)	46 (92%)
Pulmonary tuberculosis	1 (2%)	49 (98%)
HIV	1 (2%)	49 (98%)
Anal fissure	2 (4%)	48 (96%)

Table 2. Distribution of Cases Associated with Comorbid Condition

Among the many associated condition, commonest condition was h/o of burst or surgically-drained abscess, which was present in 35 (70%) patients. Most of the patients belong to low socioeconomic status. Out of 50, 40 patients (80%) belong to low socioeconomic status. It could be due to many reason as most of the patient visiting to this hospital are from low socioeconomic status and also may be due to poor hygiene.

Symptoms	Number of Patients	Percentage
Perianal discharge	48	96%
Pain	20	40%
Swelling	10	20%
External opening	50	100%
Pruritus/perianal irritation	35	70%
Per rectal bleeding	2	4%

Table 3. Mode of Presentation

In our study, the most common presentation was perianal discharge, which was present in 48 patients (96%), followed by pruritus, which was present in 35 (70%) patients. External opening was present in all patients (100%). Pain was associated in 20 patients (40%). History of per rectal bleeding was present only in two patients, these two patients had fissure with fistula.

Description of External Opening Around the Anal Axis	Number of Patients	Percentage
Anterior	10	20%
Posterior	40	80%
Single opening	45	90%
More than one opening	5	10%

Table 4. Description of External Opening Around the Anal Axis

Out of 50 cases, 40 patients (80%) had posterior external opening and 10 patients (20%) had anterior external opening. 45 patients (90%) had single external opening.

Level of Fistula	Number of Patients	Percentage
High level	4	8%
Low level	46	92%

Table 5. Level of Fistula

Most common type of fistula was of low type, it was present in 46 (92%) of patients.

Type of Surgery	Number of Patients	Percentage	Type of Fistula
Fistulectomy	40	80%	Low type
Fistulotomy	4	8%	Low type
Fistulectomy with lateral sphincterectomy	2	4%	Low type fistula with anal fissure
Seton tightening	2	4%	High level type
Partial fistulectomy + seton placement	2	4%	High level type
Total	**50**	**100%**	

Table 6. Surgical Treatment

The most common surgical approach done was fistulectomy. Only fistulectomy was done in 80% of patients. Fistulectomy with sphincterectomy was done in 2 patients. These 2 patients had associated anal fissure. Fistulectomy with seton placement was done in 2 patients of high level of fistula type. Fistulotomy was done in 4 patients (8%), these were of low fistula type and seton tightening was done in 2 patients (4%), these were of high fistula type.

Time	Number of Patients	Percentage
1-2 weeks	1	2%
3-4 weeks	20	40%
5-6 weeks	16	32%
7-8 weeks	9	18%
>8 weeks	4	8%
	50	**100%**

Table 7. Complete Healing Period

Patients were followed up for 3 months. Healing period and postoperative complications were documented. Most of the cases healed in 3-6 weeks, delayed healing >8 weeks was noted in 5 patients, these 3 patients had high type of fistula and 2 patients was suffering from diabetes mellitus.

Complications	Number of Patients	Percentage
Bleeding	2	4%
Secondary wound infection	1	2%
Recurrence	2	4%
Anal incontinence	0	0

Table 8. Postoperative Complication

Postoperative complication noted were minimal. Recurrence was noted in two patients. In these two patients, fistulotomy was done. Bleeding was present in two patients, this may be due to inadequate haemostasis. Wound infection was noted in one patient who had diabetes mellitus.

DISCUSSION

In our study, fistula in ano was common in the age group of 30-50 years with male predominance with ratio of 9:1. In other studies, also most patient with anal fistula are present in third and fourth decade with male predominance.[10] Kim JW et al reported male-to-female ratio of 4.6:1. Khurana et al[11] have also reported male predominance.

So, it can be said that the incidence of perianal abscess and subsequent formation of anal fistula is higher in males compared to females.[12]

In our study, the disease was common in low socioeconomic status, 80% of patients belong to low socioeconomic status, this may be due to the fact most of patient visiting to our hospital belongs to low socioeconomic status and also due to poor hygiene, ignorance and illiteracy. Raj Siddharth et al "clinical study of fistula in ano also show the similar result."[13] 70% of patient in his study belongs to low socioeconomic status.

Most common associated factor in our study was h/o burst or surgically-drained abscess, which was present in 70% of patient (Bailey and Love textbook also states the same). In Virendra Kumar HM et al, "clinicopathological study of fistula in ano."[14] 44% of patient had previous h/o burst or surgically-drained abscess.

In our study, the most common presentation was perianal discharge, which was present in 48 patients (96%) followed by pruritus, which was present in 35 (70%) patients. External opening was present in all patients (100%). Pain was associated in 20 patients (40%). Vasilevsky and Gordon[15] also recorded a history of discharge, anal pain, recurrent perianal swelling, bleeding and pruritus.

In our study, most of the patients had anal fistula of posterior type (80%) and of low level type (90%). In Virendra Kumar HM et al study,[14] posterior type of fistula was common (66%) rather than anterior type and low type of anal fistula was present in 74%. The study done by Marks and Ritchie also have almost similar results. Deshpande et al study have also shown high incidence of low type of fistula 26/43 with posterior opening. This may be due to more number of anal glands found posteriorly than anteriorly.

In our study, maximum patients had single external opening (90%). In Virendra Kumar et al[14] study also show maximum number of patients with single external opening.

In our study, fistulectomy was the most common procedure done. It was done in 80% of patients and was found to be treatment of choice for low anal fistula with no recurrence. Only one patient who underwent fistulectomy had postoperative bleeding. Other procedure in low anal fistula was fistulotomy, which was done in 4 (8%) patients, of which one patient had recurrence. Seton tightening was done in two patients of high fistula type and also partial fistulectomy combined with seton placement was done in two patients of high fistula type.

Traditionally, fistulectomy and fistulotomy were commonly used in the low fistula in ano (Kronberg 1985). In a randomised clinical trial by Kronberg, the recurrence rate following fistulotomy and fistulectomy were reported to be 12.5% and 9.5%, respectively.[16] In our study, there was no recurrence with procedure fistulectomy. One patient of fistulotomy had recurrence. In Virendra Kumar et al study, also fistulectomy was the most common surgical procedure done.

So, for low anal type of fistula, fistulectomy is commonly done procedure with less rate of recurrence. For high type of fistula, seton tightening or partial fistulectomy combined with seton placement is common procedure.[17]

In our study, healing time in maximum patient range from three to six weeks, which was almost similar to Parks and Stitz study. High type of fistula had longer healing time >8 weeks. Park and Stitz also demonstrated that hospital stay and healing time was much longer in high type of fistula.[18]

CONCLUSION

From this study, we conclude that fistula in ano is common in the age group of third to fifth decade with male predominance. It is found to be common in low socioeconomic status group. Most common clinical presentation is discharging sinus with single and posterior external opening to be most common. Low type of anal fistula is more common than of high type.

We also conclude that previously burst/surgically-drained abscess is the common aetiological factor for fistula in ano. Fistulectomy is the commonest procedure performed in our study and found to be good procedure with less recurrence and postoperative complication for low type fistula than fistulotomy. Seton tightening or partial fistulectomy with seton application was done in high type of fistula.

The postoperative complications were minimal and healing period for most patients were in the range of 3-6 weeks. Healing period was found to be increased in high type of fistula, which was more than 8 weeks.

REFERENCES

[1] Williams NS. The anus and anal canal. In: Russell RCG, Williams NS, Bulstrode CJK, eds. Bailey & Love short practise of surgery. 24th edn. London: Arnold 2004:1242-1271.
[2] Deeba S, Aziz, Sains PS, et al. Fistula-in-ano: advance in treatment. Am J Surg 2008;196(1):95-99.
[3] Marks CG, Ritchie JK. Anal fistula at St Marks hospital. Br J Surg 1977;64(2):84-91.
[4] Raghavaiah NV. Anal fistula in India. Int Surg 1976;61(4):243-245.
[5] Gupta PJ. Radiofrequency fistulotomy: a better tool than conventional techniques in anal fistula. Indian J Surg 2006;68(1):48-52.

[6] Parks AG. Pathogenesis and treatment of fistula-in-ano. Br Med J 1998;1(5224):463-469.
[7] Batti Y, Fatima S, Shikh GS, et al. Fistulotomy versus fistulectomy in the treatment of low fistula in ano. Rawal Medical Journal 2011;36(4):284-286.
[8] Seow-Choen F, Nicholls RJ. Anal fistula. Br Journal of Surgery 1992;79(3):197-205.
[9] Panda UN. Current medical diagnosis and treatment. Jaypee Brother Publishers 2002.
[10] Isbister WH. Fistula in ano: a surgical audit. International Journal of Colorectal Disease 1995;10(2):94-96.
[11])Khurana C, Saronwala KC, Gupta SP. Primary skin grafting after fistulectomy in the treatment of fistula in ano. Am J Proctol 1972;23(2):139-152.
[12] Sainio P. Fistula-in-ano in a defined population. Incidence and epidemiological aspect. Ann Chir Gynaecol 1984;73(4):219-224.
[13] Siddharth R, Kumar AG, Sreedhar S, et al. Clinical study of fistula in ano. Journal of Evolution and Medical Dental Science 2015;4(86):15082-15087.
[14] Kumar VHM, Chetan PR, Naveen PR. A Clinico-pathalogical study of fistula-in-ano. Sch J App Med Sci 2015;3(3F):1471-1476.
[15] Vasilevsky CA, Gordon PH. The incidence of recurrent abscesses or fistula-in-ano following anorectal suppuration. Dis Colon Rectum 1984;27(2):126-130.
[16] Kronberg O. To lay open or excise fistula-in-ano: a randomized trial. Br J Surgery 1985;72(1):970.
[17] Babu AK, Naik MB, Babu MR, et al. Seton-as the gold standard treatment for high fistula in ano. Journal of Evidence Based Medicine and Healthcare 2015;2(11):1687-1693.
[18] Parks AG, Stitz RW. The treatment of high fistula-in-ano. Disease of the Colon and Rectum 1976;19(6):487-499.