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Research Article

Clinical Presentation and Management of Fistula in Ano-A Prospective Observational Study

Md. Shahidul Islam[1*], Erfanul Huq Siddiqui[2], Sheikh Forhad[3], A. K. Al Miraj[4]

[1]Medical Officer, Department of Colorectal Surgery, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh
[2]Medical Officer, Department of Orthopaedic Surgery, Bangabandhu Sheikh Mujib Medical University Dhaka, Bangladesh
[3]Medical Officer, Department of Orthopaedic Surgery, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh
[4]Research Assistant, Department of Vascular Surgery, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

***Corresponding author**
Md. Shahidul Islam

Abstract: ***Background:*** Fistula in ano is an abnormal communication, lined by granulation tissue between the anal canal and the skin, which causes chronic inflammatory response. Most commonly these fistulae develop following an anal abscess secondary to infection of an anal gland. It is the most common cause of seropurulent discharge in perianal region. To determine the etiology, clinical presentation, efficacy of different surgical approach, early and late post-operative complications, and recurrence rate in cases of fistula in Ano. ***Methods:*** Prospective Observational Study was conducted in Department of General Surgery, Bangabandhu Sheikh Mujib Medical University, with Sample size of 60 cases randomly selected. ***Results:*** Total 60 patients included in our study. Maximum 38.3% patients are from age group 18-29 years and minimum 6.7% patients are from age group > 60 years. The distribution of patients according to gender show 73.3% patients are male and 26.7% patients are female. Most common etiological factor is perianal sepsis following Crypto glandular infection, with pain as most prevalent symptom. Simple fistula is more common, and in complex fistula most prevalent type is high transsphincteric fistula. Most common procedure done is fistulotomy. Most common complication is recurrence. Most number of complications was seen in fistulotomy. Maximum recurrence is seen after fistulotomy. ***Conclusion:*** Most common cause is crypto glandular infection, most common feature is pain, Fistulectomy is more efficacious, and complications are maximum with fistulotomy, highest recurrence seen after fistulotomy.
Keywords: Fistula, pain, fistulotomy, Fistulectomy, recurrence.

INTRODUCTION

Fistula in ano is an abnormal communication, lined by granulation tissue between the anal canal and the skin, which causes chronic inflammatory response [1]. Most commonly these fistulae develop following an anal abscess secondary to infection of an anal gland. It is the most common cause of seropurulent discharge in perianal region [2]. Fistula-in-ano is a chronic inflammatory process whereby there is an abnormal communication between the perianal skin and the rectum or the anal canal and is due to a previous anorectal abscess in nearly all the cases. History usually shows of recurrent abscess that was either surgically drained or ruptured spontaneously [2, 3]. The prevalence of nonspecific 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 [4]. Goodsalls rule predicts that if a transverse anal line is drawn transversely through the anus, an external opening anterior to this transverse anal line will have a radial tract to open in the dentate line, whereas an external opening posterior to the transverse anal line will have a curved fistulous tract to open in the posterior midline. The exception to this rule is an anterior fistula with its external opening lying more from the anal verge will have a curved path like a posterior fistula to have its internal opening in the posterior midline [5]. The tract formed by this process is the fistula. Surgery for fistula in ano is considered essential for decompression of acute abscesses and to prevent spread of infection. Fistula may present with pain, discharge (either bloody or purulent), pruritis, bleeding PR, diarrhoea, skin excoriation and systemic manifestation if the abscess becomes infected [6] Two classifications are in common use. The standard classification is subcutaneous, low anal, high anal, sub mucus and pelvirectal. Fistulography involves injection of iv contrast via the internal opening followed by anteroposterior, lateral and oblique radiographic images to outline course of tract. False negative and false positive rates noted about 64 and 8% of cases [7]. Endorectal USG with a 7 or 10 MHz transducer helps in defining muscular anatomy differentiating intersphincteric from trans sphincteric type [8]. Water filled transducer helps to evaluate rectal wall for supra sphincteric extension. Addition of hydrogen peroxide via the external opening helps to outline entire fistula course [9, 10]. MRI scans show 80-

90% concordance with operative findings when primary tract course and secondary extensions observed [11, 12]. MRI is investigation of choice for complex fistula and recurrent fistula. CT scan is used in perirectal inflammatory disease. Better in delineating fluid pockets that require drainage than for small fistulas [13]. Barium study is indicated only in multiple fistulas or recurrent disease – to rule out inflammatory bowel disease. Various treatment options include Fistulotomy, Fistulectomy, Seton and LIFT. The objective of this study is to study the different types of anal fistulas and to compare the efficacy of different treatment modalities.

MATERIALS AND METHODS

A Prospective Observational Study was carried out at Department of General Surgery, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh from Sep 2014 to Aug 2015. Total 60 cases included in our study. After admission detailed history was taken to establish proper diagnosis. Thorough physical examination was done in each case. Baseline investigations, as routinely required were done followed by imaging studies. After proper evaluation and preparation, patients who required surgical management were taken up for surgery. Meticulous techniques were practiced.

Statistical analysis: The clinical manifestations of fistula locations, position, and type of surgery, as well as post-operative results, were classified by percentage. The statistical analysis was carried out in SPSS software 21.

RESULTS

Table 1: Distribution of patients according to age in years

Age group in years	Number	Percentage
18 - 29	23	38.3%
30 - 39	20	33.4%
40 - 49	7	11.6%
50 - 59	6	10%
> 60	4	6.7%

Maximum 38.3% patients are from age group 18-29 years and minimum 6.7% patients are from age group > 60 years.

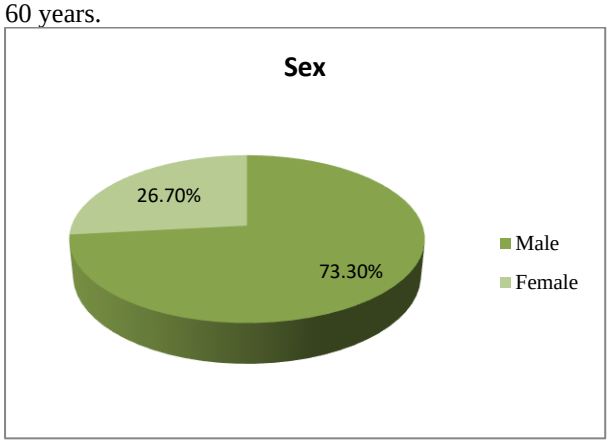

Fig 1: Distribution of Patients according to gender

The distribution of patients according to gender show 73.3% patients are male and 26.7% patients are female.

Table 2: Etiology/predisposing factors of fistula in Ano

Etiology/Predisposing factors	Number	Percentage
Perianal Sepsis/Crypto glandular infection	37	61.7%
Tuberculosis	4	6.6%
Malignancy	00	00%
Fissure in ano	5	8.4%
Crohn's Disease	00	00%
No previous significant history	12	20%
Trauma in perianal region	2	3.3%
Total	60	100%

In present study most common etiological factor is perianal sepsis following Crypto glandular infection 61.7% while no previous significant history is found in 20% cases.

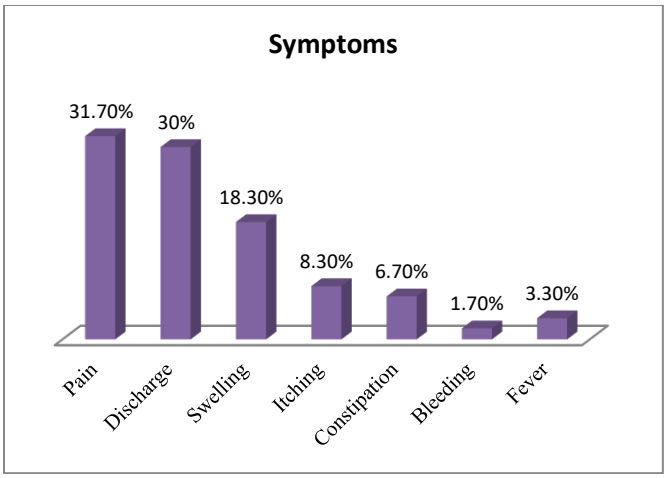

Fig 2: Clinical presentation of patients

Most prevalent symptom is pain in 31.7%. Bleeding is the rarest symptoms present in only 1.6% patient.

Table 3: Classification of Fistula

Type of fistula	Number of patients	Percentage
Simple fistula	46	76.6%
Complex fistula	14	23.4%

It is found that simple fistula is more common 76.6% cases than complex fistula 23.4% cases.

Table 4: Type of complex Fistula

Type of complex fistula	Number of patients	Percentage
High transsphincteric	8	57.2%
Suprasphinteric	00	00%
Extrasphincteric	00	00%
Multiple openings	4	28.6%
Recurrent	2	14.2%

Among complex fistula most common is high transsphincteric fistula 57.2% cases

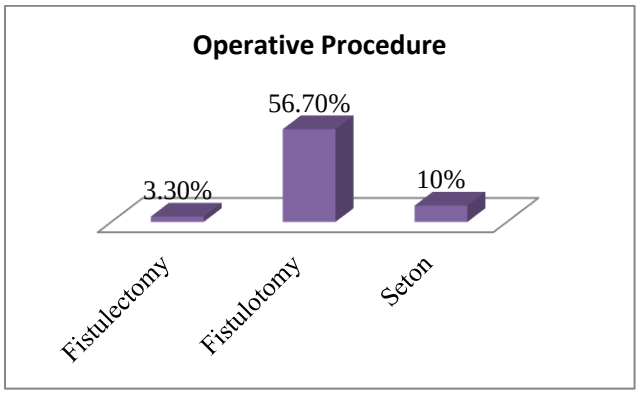

Fig 3: Distribution of patients according to operative procedures

In present study most common procedure done is fistulotomy 56.7% patients. Seton is done in only in 10% patients.

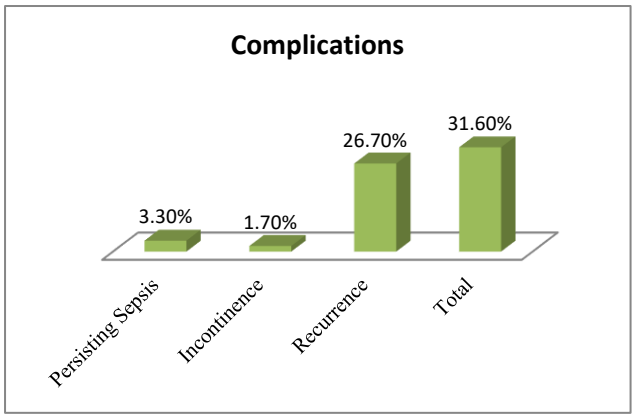

Fig 4: Postoperative complications

It is found that complications are seen in 19 (31.6%) cases out of 60 fistula in Ano surgeries, out of which most common complication is recurrence 26.7% cases.

Table 5: Analysis of complications with respect to procedure

Complications	Fistulectomy	Fistulotomy	Seton	Total
Persisting Sepsis	00	01	01	02
Incontinence	00	01	00	01
Recurrence	03	10	00	13
Total	03	12	01	16

The Chi-square statistic with Yates correction is 1.5415. The p –value is 0.21439. Not significant at $p < 0.05$

Table 6: Recurrence rate in various surgical procedures for Fistula in Ano

Surgical Procedures	Number of cases	Recurrence
Fistulectomy	20	4(20%)
Fistulotomy	34	12 (35.3%)
Seton	6	00 (00%)

The Chi-square statistic with Yates correction is 0.1758. The p – value is 0.674971. Not significant at $p < 0.05$ Maximum recurrence is seen after fistulotomy 35.3% cases, with no recurrence after Seton procedure. The difference was found to be statistically not significant as p value is greater than 0.05.

DISCUSSION

Fistula in ano is an abnormal communication lined by granulation tissue between anal canal & skin. Anal glands are the main source of infection, which are located at the sub epithelial layer of anal canal. Anal fistula can also result from tuberculosis, inflammatory bowel disease like ulcerating proctocolitis or Crohn's disease and lymphogranuloma inguinale. Fistula were also been documented to develop after an external perianal trauma, use of probe to determine fistula tract [14] and in chronic fissure-in-ano. Anal fistula can also be a manifestation of colloid carcinoma of the rectum [15]. In rare instances, reports have been documented of penetrating rectal trauma following foreign body ingestion like fish and or chicken bones. A high anal fistula can also be the result of a road traffic accident or piercing sharp injury after accidently falling over it. Maximum i.e. 38% patients are from age group 18-29 years, in contrast Corfitsen MT et al. [16] observed most common age group was 22 to 55 years. In present study, male patient is 74%, i.e. >50%, similar result were observed studies by Deen KI et al [17] 82.71%, Garcia-Aguilar J et al. [18] 82.5%, Del Pino A. et al [19] 80%. Most common etiological factor is perianal sepsis following Crypto glandular infection 62%, similar result was observed by Aguilar J et al. [18]. In present study most prevalent symptom is pain 32%, in contrast Corfitsen MT et al. [16] 97.53% presented with swelling in perineal region, GH RG et al. [20] 96% presented with perianal discharge. We found that simple fistula (76%) is more common, similar result observed by Aguilar J et al [18] 85%. In case of complex fistula, most numbers are of high transsphincteric i.e. 58.33%, similar result observed by Aguilar J et al. [18]. In present study most common procedure done is fistulotomy 56.6%, in contrast Corfitsen MT et al. [16] 73.3% patients were treated by Kronberg O et al. [21] Fistulectomy surgery had done in 68.3%. It is found that complications are seen in 31.6% cases of fistula in Ano surgery, out of which most common complication is recurrence 26.6%. Most number of complications are present in fistulotomy 43.3% cases, in contrast to present study Buchanan G et al. [22] recurrence seen in 25% cases of Fistulectomy and 10% in fistulotomy. Aguilar J. [18] fistulotomy has higher incidence of recurrence than Fistulectomy as more tissue is left behind. RCT by Guillaumin E, the recurrence rate following fistulotomy and Fistulectomy were reported to be 11.6% and 10.0% respectively [23]. In this study, it is found that maximum recurrence seen after fistulotomy 35.0%) cases, in contrast to present study, Williams JG et al [24], showed that there was 3.3% in Fistulotomy. Addition of hydrogen peroxide via the external opening helps to outline entire fistula course [25]. MRI scans show 80-90% concordance with operative findings when primary tract course and secondary extensions observed [26, 27]. MRI is investigation of choice for complex fistula and recurrent fistula. CT scan is used in perirectal inflammatory

disease. Better in delineating fluid pockets that require drainage than for small fistulas [28]. Barium study is indicated only in multiple fistulas or recurrent disease to rule out inflammatory bowel disease. Various treatment options include Fistulotomy, Fistulectomy, Seton and LIFT.

CONCLUSION

The most common pathogenic agent associated with Ano f is the most common chronic nonspecific inflammation due to coded gland infection in the case of pain as the most common expression. In our study, fist foramenectomy is more effective than seton and fistulotomy. Postoperative complications are the largest intravenous incision. The maximum recurrence rate is observed after f-hole incision without recurrence with seton.

Conflict of Interest

Not available

Financial Support

Not available

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