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Clinical Profile Of Fissure In Ano Among Females Attending Surgical Outpatient Department: A Cross Sectional Study

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Abstract Background:
The Most Common Disorders Of The Gastrointestinal System Are Anorectal Disorders Such As Fissure In Ano And Haemorrhoids. This Study Was Conducted With An Aim To Study The Clinical Profile Of Patients With Fissure In Ano.
Methods:
A Cross Sectional Study Was Conducted At Omandurar Government Medical College Hospital During January To June 2020. A Total Of 77 Female Patients With Complaints Of Anorectal Disorders Were Recruited. The Diagnosis Was Made Through History, Physical Examination And Proctoscopy. The Patient Information Was Collected Through A Structured Case Report Form. Treatment And Outcome Were Considered As Primary Outcome Variable. Descriptive Analysis And Chi Square Tests Were Done Using SPSS Version 22.
Results:
Among The 77 Study Participants, The Mean Age Was 37.94±13.44 Years. The Most Common Presenting Complaints Were Constipation 36 (46.75%), And Bleeding Per Rectum 16 (20.78%). Majority 77.92% Of The Participants Had Past History Of Constipation. Hypertension And Diabetes Were The Associated Comorbidities Among 16 (20.78%) And 12 (15.58%) Respectively. Local Examination Revealed 87.01% Had Single Fissure In Ano. The Proportion Of Difference Between Associated Pile Mass Between Treatment And Outcome Was Statistically Significant (P Value <0.001).
Conclusion:
The Anorectal Disorders Occur Most Commonly In The Third And Fourth Decade Of Life Among Females. The Constipation And Bleeding Per Rectum Are The Most Common Presenting Symptoms And Surgical Management Has A Better Clinical Outcome.

Key Words: *Fissure In Ano, Epidemiology, Constipation, Female*

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I. Introduction:

A linear or oval tear in the anal mucosa below the dentate line is termed as anal fissure or fissure in ano[1]. It was first described by Lockhart-Mummery in 1934[2]. Anal fissures can be both an acute and chronic condition. The acute fissure is often caused due to trauma to the mucosa by hard stool. Acute fissure is often associated with anal pain, spasm and bleeding during defecation[3]. Chronic fissures are one that is present for more than six to eight weeks. Chronic anal fissure is often associated with sentinel pile mass, hypertrophied anal papilla and exposed fibres of internal sphincter[4].

Fissure in ano often results in increased pressure inside the anal canal. Previous studies have showed that the resting pressure of internal sphincter is high in people with fissure in ano compared to the general population[5–7]. This hyper tonicity is responsible for the pain and spasm experienced by the patients. The most common location

of fissure in ano is the posterior midline. This has been attributed to the elliptical arrangement of the external sphincter in posterior aspect which causes lack of support posteriorly[8].

The prevalence of fissure in ano in general population may be much higher than what is seen in the routine practice. This is attributed to the poor health seeking behaviour and stigma associated with the anorectal disorders. Several studies has shown that there is a wide regional variation in the presentation and prevalence of anal fissure. A study by Mapel et al [9], has shown that the annual incidence of fissure in ano was 0.11% and females were most commonly affected. Due to lack of study on the pattern of the disease in this study area, this cross sectional study was planned with an aim to assess the clinical profile of patients with fissure in ano.

II. Materials and Methods:

A cross sectional study was conducted at Omandurar medical college hospital from Jan to June 2020. Institutional ethical committee clearance was obtained for the conduct of the study. Informed written consent was obtained from all participants and data confidentiality was maintained. Females attending the surgical outpatient department were considered as the reference population and those with complaints of anorectal disorders were recruited for the study. Complete history taking with clinical examination was done. Information was collected in a case report format. Digital examination and proctoscopy were done after getting consent. Patient with history suggestive of fissure in ano were recruited and those with other anorectal disorders were excluded from the study. Based on the clinical diagnosis and the consultant opinion and patient preference either medical management or surgical management was done. In conservative management dietry changes and antibiotics and laxatives were given.In surgical management, after preoperative assessment and anaesthetic clearance Lateral sphincterotomy was performed.

Sample size calculation:

Sample size was calculated assuming the proportion of anal fissures as 17.81% as per the study by R ChaudhaRy **e**t al[10].The other parameters considered for sample size calculation were 9% absolute precision and 95% confidence level. The following formula was used for sample size as per the study by Daniel WW et al[11]. The required sample size as per the above-mentioned calculation was 70. To account for a non-participation rate of a about 10%, another 7, subjects will be added to the sample size. Hence the final required sample size would be 77.

Statistical Methods:

Rx and outcome was considered as primary outcome variable. Position of fissure was considered as primary explanatory variable. Associated pile mass and age group were considered as other explanatory variables. Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency, and proportion for categorical variables. Data was also represented using appropriate diagrams like bar diagram and pie diagram Categorical outcomes were compared between study groups using Chi square test. P value < 0.05 was considered statistically significant. IBM SPSS version 22 was used for statistical analysis[12].

III. Results:

A total of 77 subjects were included in the final analysis.

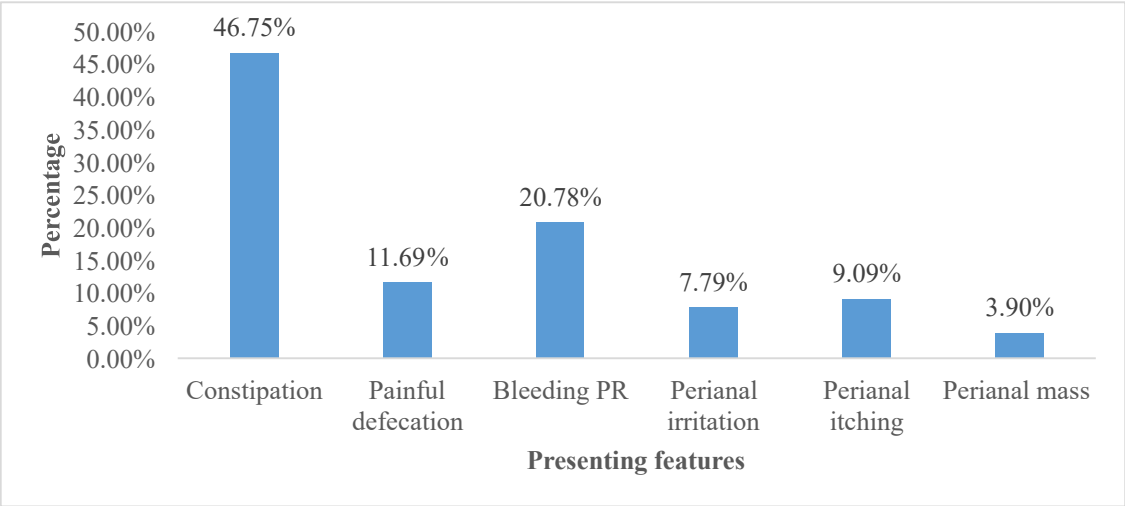
Table 1 Summary of baseline parameters (N=77)

Baseline parameters	**summary**
Age (mean ± SD) (in years)	37.94±13.44 (34.93, 40.94)
Young age	38 (49.35%)
Middle age	32 (41.56%)
Old age	7 (9.09%)
Past history	
History of Constipation	60 (77.92%)
History of Bleeding PR	35 (45.45%)
Associated comorbidities	
Hypertension (HTN)	16 (20.78%)

Diabetic Mellitus (DM)	12 (15.58%)
Local examination findings	
Single Fissure	67 (87.01%)
Multiple Fissures	10 (12.99%)
Associated pile mass	17 (22.08%)

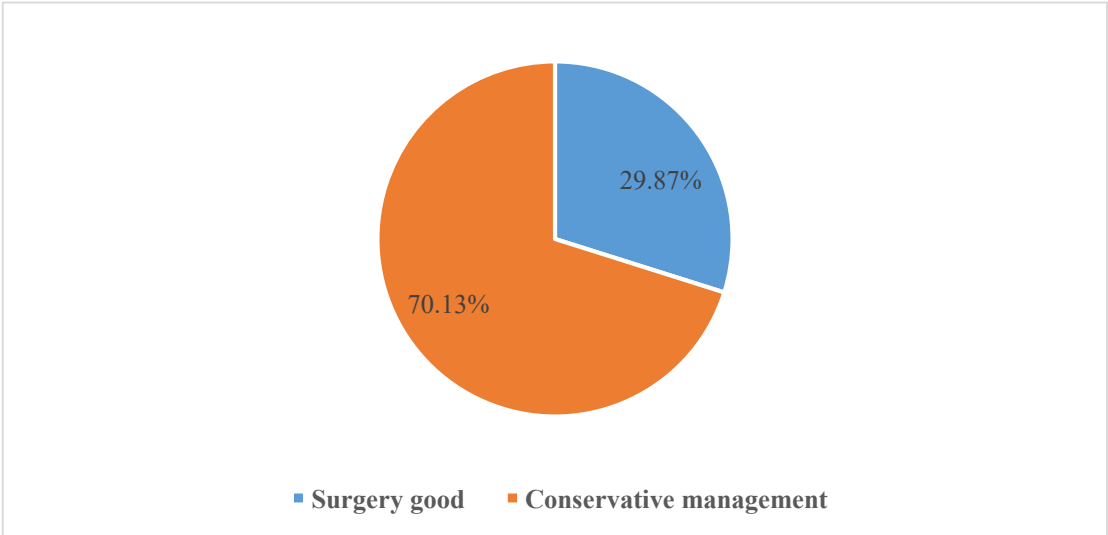
The mean age was 37.94±13.44 in the study population. Among the study population, 60 (77.92%) population had history of constipation and 35 (45.45%) had history of bleeding per rectum. Most common comorbidities were 16 (20.78%) hypertension and 12 (15.58%) diabetic mellitus. Among the study population, 67 (87.01%) had single fissure and 10 (12.09%) had multiple fissures. (Table 1)

Figure: 1 Bar chart of presenting features in the study population (N=77)



Among the study population, 36 (46.75%) had constipation, 9 (11.69%) had painful defecation, 16 (20.78%) had Bleeding PR. (Figure 1)

Figure: 2 Pie chart of type of management in the study population (N=77)



Among the study population, 23 (29.87%) had surgical treatment and 54 (70.13%) had conservative management. (Figure 2)

Table 2: Comparison of associated pile mass age group between Rx and outcome in case of position of Fistula (N=77)

Parameter	Rx And Outcome		Chi square	P value
	Surgery Good (N=15)	Conservative Better (N=52)		
Single Fissure				
Associated Pile Mass	9 (60%)	5 (9.62%)	17.880	<0.001
Young Age	4 (26.67%)	29 (55.77%)	4.977	0.083
Middle Age	10 (66.67%)	18 (34.62%)		
Old Age	1 (6.67%)	5 (9.62%)		
Parameter	**Surgery Good (N=8)**	**Conservative Better (N=2)**	**Chi square**	**P value**
Multiple Fissures				
Associated Pile Mass	3 (37.5%)	0 (0%)	*	*
Young Age	4 (50%)	1 (50%)	*	*
Middle Age	3 (37.5%)	1 (50%)		
Old Age	1 (12.5%)	0 (0%)		

Statistical test is not performed due to zero subjects in the cell

Among those who had associated pile mass 70.5% underwent surgery and 29.5% underwent conservative treatment and recovered well. The proportion of difference between Associated pile mass between Rx and outcome was statistically significant (P value <0.001). The difference in proportion of Age group between Rx and outcome was not statistically significant (P value 0.083). Among those who had multiple fissures more than 80% underwent surgery and recovered well.

IV. Discussion:

This cross sectional study was conducted among the females with anorectal complaints visiting the surgical outpatient department with an aim to assess the clinical profile of the patients with fissure in ano. The study findings reveal that the most common presenting complaints were constipation 36 (46.75%), and bleeding per rectum 16 (20.78%). Majority 77.92% of the participants had past history of constipation. Hypertension and diabetes were the associated comorbidities among 16 (20.78%) and 12 (15.58%) respectively. Local examination revealed 87.01% had single fissure in ano. The proportion of difference between Associated pile mass between treatment and outcome was statistically significant (P value <0.001).

The mean age of the participants was 37.94±13.44 years. This was similar to the study by Chaudhary et al where the most common age group was 18 to 40 years[10]. Among the study participants, 77.92% had history of constipation. The presence of fissure in ano can be attributed to constipation which causes passage of hard stools that can cause tear in the anal mucosa. In Chaudhary et al study 61.84% of the study population had history of constipation similar to the current study[10]. History of bleeding per rectum was present in 45.45% of the study participants which can be caused due to bleeding from the mucosal tear of the anal canal. This high prevalence of bleeding per rectum can be due to the fact that, patients seek medical attention only when the symptoms are unbearable or alarming like that of bleeding. Similar observations were made in other studies conducted among Indian population[13–15]. Local examination of the study participants revealed presence of single fissure in 87.01%. The most common presenting features in the current study were pain, constipation, painful defecation, bleeding per rectum and perianal itching, mass and irritation. Similar presenting symptoms were observed in other studies[16,17]. Among the participants, majority (70.13%) were managed conservatively. The proportion of difference between Associated pile mass between treatment and outcome was statistically significant (P value <0.001). The limitation of the current study being a single centre study generalizability to the general population may not be possible.

V. Conclusion:

The anorectal disorders occur most commonly in the third and fourth decade of life among females. The constipation and bleeding per rectum are the most common past histories that predispose to fissure in ano. Pain during defecation, bleeding per rectum, constipation, perianal itching, irritation and mass are the common presenting complaints. Surgical management has a better treatment outcome.

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