Section: Miscellaneous

Original Research Article

A CLINICO-EPIDEMIOLOGICAL STUDY OF PATIENTS WITH HEMORRHOIDS IN A TERTIARY CARE HOSPITAL

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Received : 05/05/2025
Received in revised form : 18/06/2025
Accepted : 12/07/2025

Keywords:
Hemorrhoids, Risk factors, Medical management, Surgical procedures.

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DOI: 10.47009/jamp.2025.7.4.135

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2025; 7 (4); 721-726

ABSTRACT

Background: Hemorrhoids are symptomatic venous plexus enlargement in the anal canal. **Materials and Methods:** In this research, a total of 120 individuals with hemorrhoids over the age of 18 years were being assessed by a thorough history, clinical examination, and routine investigations and data were collected using a prepared semi-structured proforma. Information regarding socio-demographic variables, including sex, age, types and degrees of hemorrhoids, the age of patients at the time of diagnosis, other pertinent risk factors, and comorbidities associated with hemorrhoids, as well as clinical manifestations, management practices, and outcomes of management, was documented by the principal investigators. **Result:** Out of the 120 cases,77 (64.2%) were males, 29 (24.2%) were skilled workers and 103(85.8%) were from urban areas. Among the cases, 70 were vegetarians. Only 38 (31.7%) had history of constipation. Majority of cases had internal hemorrhoids 96 (80%) and were of third degree 51(42.5%) variety. As many as 54 (45%) presented with hemorrhoids in 3 o' clock position. The most common presentation was rectal bleeding 110 (91.7%) followed by anal pain 62 (51.7%). Among conservative procedures, majority of cases 51 (82.3%) received warm sitz bath. Closed hemorrhoidectomy was the most common surgical procedure done in 46 (79.5%) cases. The outcome of management was recovery in 116 (96.7%) cases and recurrence reported in 4 (3.3%) cases. **Conclusion:** Hemorrhoids are a prevalent condition seen in individuals under 40 years of age, particularly those experiencing stress. A suitable diet, rich in sufficient fiber and low in spices, is crucial for the prevention of this condition. Therefore, it is imperative to provide accurate information and raise awareness about the disease among these patients, enabling them to modify their lifestyle to adopt appropriate precautions, prevent avoidable complications, and seek timely medical advice and surgical intervention.

INTRODUCTION

Hemorrhoids, often referred to as piles, result from the swelling of blood vessels in or around the anus and rectum. The hemorrhoidal veins are situated in the lowest section of the rectum and the anus. Occasionally, these veins become swollen, causing their walls to stretch, thin, and become irritated during the passage of stool or bowel movements.[1] This condition is a prevalent issue affecting adults, with a prevalence rate between 11 to 17%.[2,3] It is a widespread condition that impacts both men and women, although it occurs more frequently in men.[4] The clinical presentation varies according to the grade and type of hemorrhoids, ranging from asymptomatic cases to discomfort, pain, bleeding, and prolapse.[5] Although the causes are multifactorial, several predisposing risk factors contribute to the development of haemorrhoids, including a low-fiber diet, constipation, a high Body Mass Index, pregnancy, and a sedentary lifestyle.[6] Various medical and surgical interventions are available for treating haemorrhoids; however, despite being a common condition, many patients delay seeking active medical and surgical treatment for various reasons, such as financial constraints, lack of awareness, stigma associated with consulting a doctor for a physical examination of intimate areas, perceived self-efficacy, and social implications.[7] While there are studies addressing the epidemiology of patients with hemorrhoids, our study adds to the existing literature by exploring the various epidemiological factors associated with this condition.

ISSN (O): 2687-5365; ISSN (P): 2753-6556

Aim and Objectives: To evaluate the demographic and clinical characteristics of patients suffering from hemorrhoids, as well as to examine the results of different management approaches for cases of hemorrhoids.

MATERIALS AND METHODS

The research was a hospital-based observational study conducted at a single centre, which received approval from the local ethics committee and adhered to the principles outlined in the Declaration of Helsinki. Written informed consent was acquired from all patients participating in the study. A total of 120 patients, all over the age of 18 and diagnosed with hemorrhoids as confirmed by their medical history, clinical examination, and proctoscopy, were included. The study spanned 2 years. Exclusion criteria included patients unwilling to participate and those with hemorrhoids accompanied by additional bowel pathologies such as inflammatory bowel disease and fistula in ano. A comprehensive history, clinical examination, and routine investigations were performed on every patient included in the study, and data were collected using a prepared semi-structured proforma. Information regarding socio-demographic variables, including sex, age, types and degrees of hemorrhoids, the age of patients at the time of diagnosis, other pertinent risk factors, and comorbidities associated with hemorrhoids, as well as clinical manifestations, management practices, and outcomes of management, was documented by the principal investigators.

Statistical Analysis: Quantitative data is represented using the Mean and Standard Deviation. The comparison between the study groups is conducted using an unpaired t-test based on the results of the normality test. Qualitative data is displayed through a frequency and percentage table. The association among the study groups is evaluated using the Fisher test, Student's t-test, and Chi-Square test. A 'p' value of less than 0.05 is considered significant. Suitable statistical software, including but not limited to MS Excel and SPSS version 20, was utilized for statistical analysis. Graphical representation will be carried out in MS Excel 2010.

RESULTS

According to the demographic data presented in Table 1, it was determined that among the 120 patients included in the study, the average age was 36 years, with the majority falling within the age group of 21 to 30 years. In terms of gender distribution, our study revealed that male patients outnumber female patients with a ratio of 1.79:1. Most patients reported a duration of hemorrhoids of less than one year. Regarding religious affiliation, the majority of patients identified as Hindu (45.83%), followed by Muslim patients (41.66%). The disease was found to be more prevalent among skilled (24.2%) and semi-professional individuals (18.3%). In terms of socio-economic status, the condition was more common in the upper middle class (40.8%), with a significant majority residing in urban areas (85.8%). Concerning risk factors, as indicated in Table 2, it was noted that only 10 patients had a positive family history of hemorrhoids, with the majority being vegetarians (58.33%). Smoking was identified as the most prevalent substance abuse among our patients, followed by alcohol consumption. Additionally, 31.7% of patients had a history of constipation, and diabetes (31.7%) was the most common comorbidity, followed by hypertension (19.2%). Table 3 illustrates that the most common symptoms reported by patients included rectal bleeding (91.7%) and anal pain (51.7%). As detailed in Table 4, the majority of patients were diagnosed with internal hemorrhoids (80%), followed by external hemorrhoids (16.7%), with the vascular type predominating among internal hemorrhoid patients (81.2%). The 3 o'clock position was identified as the most common site of vein involvement, with a significant number of our patients suffering from third-degree hemorrhoids (42.5%). In terms of management, as outlined in Table 5, the majority of patients underwent conservative treatment (51.7%), with sitz baths being the most common method (82.3%). Approximately 58 patients underwent surgical intervention, with closed hemorrhoidectomy (46 patients, 79.5%) being the most frequently performed procedure. Regarding outcomes, 116 patients achieved recovery, with 4 experiencing recurrences.

Table 1: Socio-demographic distribution.

Variables	Number	Percentage
Age (years)		
18-20	15	12.5%
21-30	35	29.2%
31-40	27	22.5%
41-50	22	18.3%
51-60	10	8.3%
61-70	9	7.5%
71-80	2	1.7%
Total	120	100%
Mean ± SD	36.53± 14.77	
Sex		
Male	77	64.2%
Female	43	35.8%
Total	120	100
M: F	1.79:1	

ISSN (O): 2687-5365; ISSN (P): 2753-6556

Duration of symptoms		
<1 year	85	70.8%
1-5 years	20	16.7%
>5 years	15	12.5%
Total	120	100
Religion		
Hindu	55	45.83%
Muslim	50	41.66%
Christian	10	8.33%
Jain	5	4.166%
Total	120	100%
Occupation		
Skilled	29	24.2%
Semi-professional	22	18.3%
Unskilled	20	16.7%
Student	17	14.2%
Semi-skilled	10	8.3%
Total	120	100%
Socioeconomic status		
Lower	24	20%
Lower middle	17	14.2%
Upper lower	20	16.7%
Upper middle	49	40.8%
Upper	10	8.3%
Total	120	100
Residence		
Urban	103	85.8%
Rural	17	14.2%
Total	120	100

Table 2: Allocation of risk factors.

Risk factors	Number (%)	Percentage
Family history		
Present	10	8.3%
Absent	110	91.7%
Total	120	100%
Dietary preferences		
Vegetarian	70	58.33%
Non-vegetarian	50	41.66%
Total	120	120%
Substance abuse		
Smoking	67	55.8%
Alcoholism	50	41.7%
Tobacco chewing	20	16.7%
History of constipation		
Present	38	31.7%
Absent	82	68.3%
Total	120	100%
Comorbidities		
Diabetes Mellitus	38	31.7%
Hypertension	23	19.2%
Ischemic heart disease	6	5%

Table 3: Distribution of patients according to Symptoms

Symptoms	Number	Percentage
Rectal bleeding	110	91.7%
Anal Pain	62	51.7%
Painful bowel movements	28	23.3%
Prolapse	24	20%
Itching	19	15.8%
Discharge	10	8.3%

Table 4: Characteristics of hemorrhoids amongst cases.

Variables	Number	Percentage
Type of hemorrhoid		
Internal hemorrhoid	96	80%
External hemorrhoid	20	16.7%
Both	4	3.3%
Total	120	100
Type of internal hemorrhoid		
Vascular	78	81.2%

ISSN (O): 2687-5365; ISSN (P): 2753-6556

Mucosal	18	18.8%
Total	96	80%
Position of the vein involved		
3 o' clock	54	45%
6 o' clock	5	4.2%
7 o' clock	36	30%
9 o' clock	1	0.8%
10 o' clock	3	2.4%
11 o' clock	30	25%
Degree of hemorrhoids		
First degree	11	9.2%
Second degree	42	35%
Third degree	51	42.5%
Fourth degree	16	13.3%
Total	120	100%

Table 5: Management of hemorrhoids amongst cases

Type of management	**Number**				**Percentage**			
Conservative	62				51.7%			
Surgical	58				48.3%			
Total	120				100%			
Type of conservative management								
Warm sitz bath	51				82.3%			
Manual anal dilatation	7				11.3%			
Soap water enema	3				4.8%			
Sclerotherapy	1				1.6%			
Total	62				51.7%			
Type of Surgical Management								
Closed haemorrhoidectomy	46				79.5%			
Open haemorrhoidectomy	6				10.3%			
Clamp and cautery haemorrhoidectomy	2				3.4%			
Ligature and excision technique	2				3.4%			
Band ligation	1				1.7%			
Electrocautery	1				1.7%			
Total	58				48.3%			
Outcome								
Recovered	116				96.7%			
Recurrences	4				3.3%			
Total	120				48.3%			
Association of the Type of hemorrhoids and outcome in patients								
Outcome	**Internal**		**External**		**Mixed**		**Total**	**P value**
	N	**%**	**N**	**%**	**N**	**%**		
Recovered	94	78.3%	18	15%	4	3.3%	116	>0.05
Recurrence	2	1.7%	2	1.7%	0	-	4	
Total	96	80%	20	16.7%	4	3.3%	120	

DISCUSSION

The majority of patients (29.2%) belonged to the age group of 21-30 years, followed by 22.5% from the age group of 31-40 years, 18.3% from the age group of 41-50 years, 12.5% from the age group of 18-20 years, 8.3% from the age group of 51-60 years, 7.5% from the age group of 61-70 years, and 1.7% from the age group of 71-80 years. The average age of the patients was 36.53 ± 14.77 years. Among the participants, 77 (64.2%) were male, while female patients made up 35.8% of the study group. The male-to-female ratio was 1.79:1. It was noted that 103 (85.8%) patients lived in urban areas, whereas 17 (14.2%) resided in rural areas. Regarding occupation, 29 (24.2%) patients were skilled workers, while 22 (18.3%) patients were semi-professionals. Additionally, there were 20 (16.7%) unskilled patients, 17 (14.2%) students, and 10 (8.3%) semi-skilled workers. This aligns with the findings of Joseph N et al, Shinde PR et al, Pande PK et al, and Ravindranath GG et al.[8-11]

The majority of patients were classified as upper middle class (40.8%), followed by lower class (20%), upper lower class (16.7%), lower middle class (14.2%), and upper class (8.3%). These findings are comparable to the research conducted by Shinde PR et al and Pande PK et al.[9,10]

In our study, it was found that 10 (8.3%) patients had a family history of hemorrhoids, which is consistent with the study by Pande PK et al.[10]

In the current study, 67 (55.8%) patients were identified as smokers, while 50 (41.7%) patients reported alcohol consumption. Furthermore, 20 (16.7%) patients had a habit of chewing tobacco. A history of constipation was noted in 38 (31.7%) patients, while 82 (68.3%) patients had no such history. These results are consistent with the studies conducted by Joseph N et al, Peery AF et al, and Poskus T et al.[8,12,13]

In our research, 38 patients (31.7%) were diagnosed with diabetes mellitus, and 23 patients (19.2%) had hypertension, while 6 patients (5%) were found to have ischemic heart disease. The predominant

ISSN (O): 2687-5365; ISSN (P): 2753-6556

symptom reported was rectal bleeding (91.7%), followed by anal pain (51.7%), painful bowel movements (23.3%), prolapse (20%), itching (15.8%), and discharge (8.3%). These findings align with the studies conducted by Shinde PR et al, Pande PK et al, and Ravindranath GG et al.[9-11]

The duration of symptoms in this study was less than 1 year for 85 patients (70.8%), while 20 patients (16.7%) experienced symptoms for 1-5 years, and 15 patients (12.5%) had symptoms for more than 5 years. Similar findings were reported by Pande PK et al in their research.[10]

Our study revealed that the majority of patients had internal hemorrhoids (80%), while 20 patients (16.7%) had external hemorrhoids, and 4 patients (3.3%) had mixed hemorrhoids. This observation is consistent with the research conducted by Joseph N et al.[8]

Additionally, it was noted in our study that 78 patients (81.2%) had vascular hemorrhoids, while 18 patients (18.8%) had mucosal hemorrhoids. These findings were similarly observed in the study by Joseph N et al.[8]

In this study, 54 patients (45%) presented with hemorrhoids located at the 3 o'clock position, while 5 patients (4.2%) and 36 patients (30%) had hemorrhoids at the 6 o'clock and 7 o'clock positions, respectively. One patient (0.8%) presented with hemorrhoids at the 9 o'clock position, while 3 patients (2.4%) and 30 patients (25%) had hemorrhoids at the 10 o'clock and 11 o'clock positions, respectively. Eleven patients (9.2%) were diagnosed with first-degree hemorrhoids, while 42 patients (35%) and 51 patients (42.5%) had second-degree and third-degree hemorrhoids, respectively. Sixteen patients (13.3%) were found to have fourth-degree hemorrhoids. These results are comparable to the studies conducted by Joseph N et al, Athar A et al, Shinde PR et al, Naveen S et al, and Riss S et al.[8,9,14-16]

In our research, conservative management was employed for the treatment of hemorrhoids in 62 patients, accounting for 51.7%, while surgical management was utilized for 58 patients, representing 48.3%. This finding aligns with the study conducted by Joseph N et al.[8]

The current study revealed that a significant majority of patients, specifically 82.3%, underwent warm sitz baths as part of conservative management. Additionally, 7 patients (11.3%) received manual anal dilatation, and 3 patients (4.8%) were administered soap water enemas. Furthermore, 1 patient (1.6%) underwent sclerotherapy. These results are consistent with the findings of Joseph N et al, Athar A et al, and Varma JS et al.[8,14,17]

Our study also indicated that the predominant type of surgical management was closed hemorrhoidectomy, which was performed on 79.5% of patients, followed by open hemorrhoidectomy at 10.3%, clamp and cautery hemorrhoidectomy at 3.4%, ligature and excision technique at 3.4%, band ligation at 1.7%, and electro cautery at 1.7%. This distribution is in agreement with the research conducted by Joseph N et al.[8]

In this study, a total of 116 patients, or 96.7%, achieved recovery, while 4 patients, representing 3.3%, experienced recurrence. Among these, 2 patients (1.7%) with internal hemorrhoids and 2 patients (1.7%) with external hemorrhoids had recurrences. The Chi-Square test indicated no significant association between the type of hemorrhoid and patient outcomes ($p>0.05$). These findings are consistent with the studies of Joseph N et al and MacRae HM et al.[8,18]

Limitation: It is a single-centric study with a limited sample size.

CONCLUSION

Hemorrhoids are a prevalent condition seen in individuals under 40 years of age, particularly those experiencing stress. A suitable diet, rich in sufficient fiber and low in spices, is crucial for the prevention of this condition. Therefore, it is imperative to provide accurate information and raise awareness about the disease among these patients, enabling them to modify their lifestyle to adopt appropriate precautions, prevent avoidable complications, and seek timely medical advice surgical intervention.

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ISSN (O): 2687-5365; ISSN (P): 2753-6556

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ISSN (O): 2687-5365; ISSN (P): 2753-6556