

# Clinical Profile of Haemorrhoid Cases Admitted in Various Tertiary Care Hospitals in an Urban Area of Southern India

NITIN JOSEPH<sup>1</sup>, DAMODAR SANDEEP PAI<sup>2</sup>, SHARIQUE AHMED<sup>3</sup>, VAISHAKH BENGRODI VISHNU<sup>4</sup>, MOHAMMED SHAMEER<sup>5</sup>, SYED WAQUAS AHMED<sup>6</sup>

## ABSTRACT

**Introduction:** Clinical presentation of haemorrhoids is varied resembling number of anorectal diseases.

**Aim:** To assess risk factors, clinical profile and management practices of haemorrhoid cases.

**Materials and Methods:** This retrospective record based study was done at a government and private tertiary care hospital in Mangalore. Data from medical records of 220 haemorrhoid cases, over the past 10 years were collected and analysed. Chi-square test was used to test association.

**Results:** Out of the 220 cases, 196 (89.1%) were males, 87.3% were unskilled workers and 123 (55.9%) were from urban areas. Among the cases, 96.5% were non-vegetarians, 150 (68.2%) gave history of frequent lifting of heavy weights, 69 (31.4%) had positive history of prolonged standing and 68 (30.9%) had history of constipation. Majority of cases had internal haemorrhoids 177 (80.5%) and were of third degree 92 (41.8%) variety. As many

as 99 (45%) presented with haemorrhoids in 3 o' clock position. The most common presentation was rectal bleeding 175 (79.5%) followed by anal pain 55 (25%). Rectal bleeding was present among most cases (80.8%) with internal haemorrhoids while majority of cases (28.2%) with external haemorrhoids complained of anal pain. Proctoscopy was the most common investigative procedure performed in 75% cases. Among conservative procedures, majority of cases 79 (35.9%) received warm sitz bath. Ferguson haemorrhoidectomy (closed haemorrhoidectomy) was the most common surgical procedure done in 83.8% cases. The outcome of management was recovery in 214 (97.3%) cases and recurrence reported in 6 (2.7%) cases.

**Conclusion:** The high risk groups identified in this study such as non-vegetarians and those with history of frequent lifting of heavy weights need to be made aware of the risk of developing haemorrhoids. Suitable changes in their lifestyles will be useful in prevention of haemorrhoids. Information on its common clinical presentation would be useful in screening activities.

**Keywords:** Investigations, Medical management, Risk factors, Surgical procedures, Vascular disorders

## INTRODUCTION

Haemorrhoids are abnormal engorgement of arteriovenous plexus in anal cushions lining the anal canal. As per the theory of sliding anal canal lining, weakening of supporting tissues of anal cushions lead to blood vessel descent.

Even though a common condition in clinical practice; its true prevalence is unknown due to the embarrassment involved in seeking treatment among the affected. Haemorrhoids is estimated to affect about a third of the population [1]. More than half of men and women above 50 years of age are at risk of developing haemorrhoid symptoms during their lifetime [2].

The clinical presentation in this condition is nonspecific and may resemble a number of anorectal diseases [3]. The surgeon therefore needs to rely on thorough history and clinical examination to confirm the diagnosis.

Risk of developing haemorrhoids can be reduced by changes in dietary habits and life style, which would intervene in its pathogenesis. Understanding of current treatment practices in the settings would help in improvement of curative methods.

Previous studies done in India have not comprehensively researched this morbidity. It has either been done only on risk factors or clinical presentation of haemorrhoids [4,5] or has focused on a specific type of haemorrhoid [6]. The sample size of haemorrhoid cases studied were also not sufficient in some of these studies [4,6].

Therefore this study was done to comprehensively assess the risk factors, clinical profile and management practices among cases

of haemorrhoids admitted in various tertiary care hospitals in Mangalore, a coastal city of southern India.

## MATERIALS AND METHODS

This hospital record based, retrospective study, was conducted in a government and private tertiary care hospital in Mangalore. The study was conducted in April 2015. Ethical clearance was obtained from the institutional ethics clearance committee. Permission was taken from the medical superintendents of the respective hospitals. Medical records of all confirmed cases of haemorrhoids admitted in these hospitals from April 2005 to March 2015 (past 10 years) were examined. Data was collected and entered in a semi-structured proforma.

Information on socio-demographic variables, types and degrees of haemorrhoids, age at diagnosis, risk factors, clinical manifestations, associated co-morbidities, methods used for diagnosis, management practices, and outcome of management was noted down by the investigators.

The data was entered and analysed using Statistical Package for Social Sciences software package (SPSS Inc., Chicago, IL, USA) version 16. Data was presented in categories and percentages. Statistical tests like Chi-square were used to test association. A p-value less than 0.05 was taken as statistically significant.

## RESULTS

Out of the 220 cases, 158 (71.8%) were admitted at the government hospital and 62 (28.2%) at the private hospital. Mean age of cases was 48.0±12.8 years and age at diagnosis was 45.7±12.5 years.

Characteristics	Number (%)
<b>Age (years)</b>	
20-30	22(10.0)
31-40	39(17.7)
41-50	68(30.9)
51-60	50(22.7)
61-70	33(15.0)
71-80	8(3.7)
<b>Age at diagnosis (years)</b>	
20-30	27(12.3)
31-40	51(23.2)
41-50	62(28.2)
51-60	54(24.5)
61-70	22(10.0)
71-80	4(1.8)
<b>Gender</b>	
Males	196(89.1)
Females	24(10.9)
<b>Religion</b>	
Hindu	179(81.4)
Muslim	20(9.1)
Christian	20(9.1)
Jain	1(0.4)
<b>Occupation (n=173)</b>	
Unskilled	151(87.3)
Semi-skilled	4(2.3)
Skilled	11(6.3)
Semi-professional	1(0.6)
House wife	4(2.3)
Student	2(1.2)
<b>Socio economic status (n=7)</b>	
Below poverty line	6(85.7)
Above poverty line	1(14.3)
<b>Place of residence</b>	
Urban	123(55.9)
Rural	97(44.1)
Total	220(100.0)

**[Table/Fig-1]:** Socio demographic distribution.

Out of the 220 cases, 196 (89.1%) were males and 123 (55.9%) were from urban areas [Table/Fig-1].

Among the cases, 96.5% were non-vegetarians, 150 (68.2%) gave history of frequent lifting of heavy weights, 69 (31.4%) had positive history of prolonged standing and 68 (30.9%) had history of constipation [Table/Fig-2].

In this study majority of cases were of internal haemorrhoids 177 (80.5%) and of third degree variety 92 (41.8%). As many as 99 (45%) presented with haemorrhoids in the 3 o'clock position [Table/Fig-3].

History of usage of laxatives, low fibre intake and pelvic floor surgery was reported in one case each. Overall thrombosed haemorrhoid vein was seen in 16 cases. Among them, 14 were non vegetarians, four each were smokers and alcoholics, eight had fibrosed vein, eight had anal abscess, three had constipation while all 16 reported straining at the time of defecation, and one was on laxative treatment.

The most common presentation among cases was rectal bleeding 175 (79.5%) [Table/Fig-4].

Rectal bleeding was present among 143 (80.8%) out of 177 cases of internal haemorrhoids, 30 (76.9%) out of 39 cases of external

Risk factors	Number (%)
<b>Family history</b>	
Present	5(2.3)
Absent	215(97.7)
<b>Type of diet (n=200)</b>	
Vegetarian	7(3.5)
Non-vegetarian	193(96.5)
<b>Substance usage* (n=48)</b>	
Smoking	25(52.1)
Alcoholism	40(83.3)
Tobacco chewing	6(12.5)
<b>Type of work*</b>	
Prolonged sitting	16(7.3)
Prolonged standing	69(31.4)
Lack of physical activity	1(0.4)
Frequent lifting of heavy weights	150(68.2)
<b>History of constipation</b>	
Present	68(30.9)
Absent	152(69.1)
<b>History of chronic diarrhoea</b>	
Present	2(0.9)
Absent	218(99.1)
Total	220(100.0)

**[Table/Fig-2]:** Distribution of risk factors in haemorrhoids.

\*Multiple responses

Characteristics	Number(%)
<b>Type of haemorrhoid</b>	
Internal haemorrhoid	177(80.5)
External haemorrhoid	39(17.7)
Both	4(1.8)
<b>Type of internal haemorrhoid (n=25)</b>	
Vascular	20(80.0)
Mucosal	5(20.0)
<b>Position of vein involved*</b>	
3 o'clock	99(45.0)
6 o'clock	9(4.1)
7 o'clock	67(30.4)
9 o'clock	1(0.4)
10 o'clock	6(2.7)
11 o'clock	55(25.0)
<b>Degree of haemorrhoids</b>	
First degree	20(9.1)
Second degree	75(34.1)
Third degree	92(41.8)
Fourth degree	33(15.0)
Total	220(100.0)

**[Table/Fig-3]:** Characteristics of haemorrhoid amongst cases.

\*Multiple responses

haemorrhoids and in 2 out of 4 cases of mixed presentation ( $\chi^2=2.48$ ,  $p=0.289$ ) [Table/Fig-5].

The next common complaint was anal pain 55 (25%). It was present among 11 (28.2%) out of 39 cases of external haemorrhoids, 43 (24.3%) out of 177 cases of internal haemorrhoids and in 1 out of 4 cases with mixed presentation ( $\chi^2=0.261$ ,  $p=0.878$ ) [Table/Fig-5].

Method used for diagnosis was stated for 92 cases. Among them proctoscopy was the most common investigative procedure done in 75% cases. Other investigative procedures were done in 45 cases in which colonoscopy 36 (80%) was the most common procedure. Majority of cases 79 (35.9%) received warm sitz bath among

Characteristics	Number (%)
<b>Symptoms (n=220)</b>	
Rectal bleeding	175(79.5)
Anal pain	55(25.0)
Painful bowel movements	34(15.4)
Anal lump	19(8.6)
Rectal pain	6(2.7)
Mucous discharge	5(2.2)
Anal irritation	3(1.4)
Rectal discomfort	2(0.9)
Peri-anal soiling	2(0.9)
Pruritis ani	1(0.4)
<b>Signs (n=220)</b>	
Pallor	32(14.5)
Swelling around anus	2(0.9)
Weight loss	1(0.4)
Skin tag	1(0.4)
<b>Complications (n=26)</b>	
Thrombosed vein	16(61.5)
Anal fissure	6(23.1)
Ulceration	2(7.7)
Strangulation	1(3.8)
Rectal fissure	1(3.8)

**[Table/Fig-4]:** Clinical presentation in haemorrhoids among cases.

Clinical symptoms			
Type of haemorrhoids	Rectal bleeding present	Rectal bleeding absent	Total
Internal haemorrhoids	143(80.8)	34(19.2)	177
External haemorrhoids	30(76.9)	9(23.1)	39
Mixed haemorrhoids	2(50)	2(50)	4
			$\chi^2=2.48, p=0.289$
Total	175	45	220
	Anal pain present	Anal pain absent	Total
Internal haemorrhoids	43(24.3)	134(75.7)	177
External haemorrhoids	11(28.2)	28(71.8)	39
Mixed haemorrhoids	1(25)	3(75)	4
			$\chi^2=0.261, p=0.878$
Total	55	165	220

**[Table/Fig-5]:** Association between common clinical symptoms with type of haemorrhoids among cases.

conservative procedures. Surgical procedures were indicated in 111 cases. Among them, Ferguson haemorrhoidectomy (closed haemorrhoidectomy) was the most common surgical procedure, which was done in 93 (83.8%) cases [Table/Fig-6].

The outcome of management was recovery in 214 (97.3%) cases and recurrence reported in 6 (2.7%) cases.

## DISCUSSION

In this study majority of cases were diagnosed between 41-50 years. This was similar to the findings of previous studies where majority of cases were between 45 and 49 years [7] or  $\geq 40$  years [5]. However, majority of cases were reported between 20-39 years in a study done in Mysore, India [4], between 20-49 years in a study done in Taiwan [8] and between 51-70 years in a study done in Bhubaneswar, India [6].

The proportion of males outnumbered the proportion of females in this study as also reported in several other studies [4,5,8-11]. The reason for this could be that women hesitate more than men to

Characteristics	Number (%)
<b>Methods used for diagnosis (n=92)</b>	
Digital rectal examination	17(18.5)
Proctoscopy	69(75.0)
Per rectal examination	4(4.3)
Endoscopy	2(2.2)
<b>Other investigations (n=45)</b>	
Colonoscopy	36(80.0)
Sigmoidoscopy	7(15.6)
Barium enema X ray	1(2.2)
Biopsy	1(2.2)
<b>Conservative procedures (n=220)</b>	
Warm sitz bath	79(35.9)
Manual anal dilatation (Lord's procedure)	24(10.9)
Soap water enema	10(4.5)
Sclerotherapy (Mitchell technique)	1(0.4)
<b>Medications (n=220)</b>	
Antibiotics	49(22.2)
Xylocaine gel application	3(1.4)
Glycerol trinitrate gel	2(0.9)
Suppositories	2(0.9)
Cap Dafflon	2(0.9)
Pain killers	1(0.4)
Vitamin K injection	1(0.4)
Calcium Dobesilate gel	1(0.4)
<b>Surgical procedures (n=111)</b>	
Closed haemorrhoidectomy	93(83.8)
Open haemorrhoidectomy	12(10.8)
Clamp and cautery haemorrhoidectomy	2(1.8)
Ligature and excision technique	2(1.8)
LASER haemorrhoidectomy	1(0.9)
Electro cautery	1(0.9)

**[Table/Fig-6]:** Management in cases of haemorrhoids.

discuss anorectal problems and also tend to avoid anal examination for the diagnosis of haemorrhoids.

Among the cases, majority were unskilled workers, similar to the findings of the study done in Mysore, India [4]. This may be due to their occupationally related heavy physical activity and prolonged standing habits which predisposes them to develop haemorrhoids [12].

More than half of the cases in this study were from urban areas similar to 58% cases reported from urban areas in a French study [11].

The present study reported majority of cases (41.8%) with third degree haemorrhoids as also reported in a Pakistani study where 84.2% cases were of third degree variety [10].

History of constipation was reported by about one third of cases in the present study in comparison to other studies where it was present among 35.5% [13], 56% [6] and 60% cases [4]. In another study done in USA, constipation was associated with an increased prevalence of haemorrhoids [9]. A multivariate analysis identified constipation and straining during delivery for more than 20 minutes as significant predictors of haemorrhoids [14]. This is explained by the fact that constipation increases the intra-abdominal pressure. This might induce obstruction in venous return and later engorgement of haemorrhoidal plexus [1]. Passage of hard stools increases shearing force on anal cushions which also predisposes to haemorrhoids.

Risk factor like frequent lifting of heavy weights was reported in 68.2% cases in this study. Such physical strain resembles the strain in defaecation. It induces sphincter spasm causing temporary rise in

anal vein pressure followed by stretching and rupture of endothelial lining leading to prolapse [15].

Consumption of alcohol in this study was reported by 83.3% of haemorrhoid cases as also was reported as a risk factor in other studies [7,11].

The three most common position of haemorrhoids in this study was left lateral (3 o'clock) followed by right posterior (7 o'clock) and right anterior (11 o'clock) which was similar to the observations made in a study done in Bhubaneswar, India [6]. The latter study reported 90%, 72% and 60% cases in these positions respectively which was higher than our observations [6].

Rectal bleeding was the most common symptom observed among cases in the present study as also reported in studies done elsewhere [4,10,16]. Proportion of patients with bleeding was reported from 56.5% [7], 76.2% [8], 82% [6], 85% [4] to 100% [16] in previous studies compared to 79.5% in this study. As observed in the present study, majority of haemorrhoidal symptoms, particularly painless rectal bleeding in association with bowel movement, occur from enlarged internal haemorrhoids [17]. As these haemorrhoids prolapse through the anal canal, the tissue can become traumatised and friable, leading to bleeding [17].

Anal pain was the next common complaint reported by one-fourth of patients and this symptom was reported among majority of cases of external haemorrhoids in this study. Anal pain was reported among 77.5% haemorrhoid cases in a study done in Mysore, India [4]. Pain in haemorrhoids is caused when thrombosis occurs, particularly in external haemorrhoids, and not usually otherwise [18]. It also occurs commonly in a strangulated grade IV internal haemorrhoids, anal fissures and in perianal abscesses [18].

Other symptoms like discharge was reported by 3.1% cases and itching by 0.7% haemorrhoid cases in a study done in Pakistan compared to 2.2% and 1.4% report respectively amongst cases in this study [13]. The Mysore, India based study [4], a French study [11] and the study done at Bhubaneswar, India [6] reported pruritus among 12.5%, 21% and 26% cases respectively which was higher than our observations.

The most common conservative procedure used in about one third cases in this study was sitz bath. These methods are recommended for the initial management of non-thrombosed haemorrhoids along with increased fibre intake and drugs [19]. However, such hydrotherapy based methods requires a high degree of patient's compliance [20].

Other conservative procedures like sclerotherapy were done only in one case which had second degree haemorrhoids. However, in a study done in Pakistan, most of the patients with haemorrhoids were treated with sclerotherapy and banding [10]. Sclerotherapy is usually reserved for grade I and II haemorrhoids. Here, chemical agents are injected to cause fibrosis which fixes the mucosa with underlying muscle. Similar to rubber band ligation, injection sclerotherapy may also be undertaken in the outpatient setting with minimum resources and its cost effectiveness is an added advantage. The reason for minimal usage of these method in this study could be due to the complications associated with it such as infection and fibrosis [21].

A randomized controlled trial reported sclerotherapy to be less tedious, quicker and more comfortable procedure compared to electro coagulation therapy for outpatient treatment of haemorrhoids [22].

Manual anal dilatation was used for management in 10.9% cases. It was done among 1 (5%) cases with first degree, 5 (6.7%) cases with second degree, 7 (7.6%) cases with third degree and 3 (9.1%) cases with fourth degree haemorrhoids. This procedure helps to maintain sphincter laxity and is indicated mostly for II and III degree haemorrhoids [23]. Even though this being an anesthetic procedure, the patient can be discharged on the same day. However due to frequent reports of incontinence, especially

when done in combination with open haemorrhoidectomy, it is now mostly abandoned [24]. In this study it was combined with open haemorrhoidectomy in two cases.

The lone case of strangulated haemorrhoid in the present study was managed using antibiotics and analgesics. Prolapsed and strangulated haemorrhoids are usually managed with warm soaks or ice packs, medications like analgesics and stool softeners, and with rest until recovery [19].

Venotonic agents like Daflon which is a Micronized Purified Flavonoid Fraction (MPFF) was used in treatment of two cases. This medication increases vascular tone, reduces venous capacity and capillary permeability and hence is beneficial in conditions of chronic venous insufficiency. It aids in lymphatic drainage and with its anti-inflammatory effects is useful in management of cases with oedema. MPFF has been found to relieve rectal pain, discomfort and secondary haemorrhage following haemorrhoidectomy [25].

In this study, calcium dobesilate gel was used in management of one case. It is useful as it reduces tissue oedema by reducing capillary permeability and improves blood viscosity by inhibiting platelet aggregation [26]. Along with fiber supplements it provides an effective symptom relief from acute bleeding [26].

Topical treatment such as glyceryl trinitrate ointment used in few cases in this study has been reported to show good relief for haemorrhoidal symptoms in patients with low-grade haemorrhoids [27]. In this study it was used in two cases with first degree haemorrhoids.

Closed haemorrhoidectomy (Ferguson's) was the most common surgical procedure which was done in 83.8% cases in this study followed by open haemorrhoidectomy (Milligan-Morgan method).

Haemorrhoidectomy is also indicated in acute complicated haemorrhoids such as thrombosis. In this study, 13 out of 16 cases with thrombosed haemorrhoids underwent haemorrhoidectomy.

Majority of patients with thrombosed external haemorrhoids benefit from surgical excision within 72 hours of the onset of symptoms [28]. In this study, three out of five cases with thrombosed external haemorrhoids underwent haemorrhoidectomy.

All the five cases with thrombosed external haemorrhoids developed recurrence as also supported by previous studies reporting high recurrence rate with this condition [29]. Also, in this condition, the optimal therapy, whether conservative or surgical, has been highly debated just as prophylaxis [30]. All these five cases with thrombosed external haemorrhoids were aged below 50 years in the present study, similar to that reported by Gebbensleben [30].

Haemorrhoidectomy has been found to more effective than manual and stapled haemorrhoidopexy in advance degree prolapse [31]. However, patients who underwent haemorrhoidectomy have experienced severe postoperative pain because of wide external wounds in the areas of sensitive anoderm [10].

Manual and stapled haemorrhoidopexy which carries less postoperative pain, minimal tissue dissection and a shorter convalescence than closed, open and semiclosed haemorrhoidectomy was not done in any case in this study [10,31]. However, these procedures are associated with long term risk of recurrent haemorrhoids [32].

Excisional haemorrhoidectomy, which was done in most cases in the present study, is reported to have the lowest recurrence rate compared to other treatment modalities for haemorrhoids [33]. In this study too, just two patient who underwent this procedure had recurrence of haemorrhoids.

Other surgical procedures like ligature haemorrhoidectomy were done in two cases. This procedure results in minimal blood loss, less postoperative pain, faster wound healing and convalescence therefore shorter hospitalization, compared to scissors or diathermy haemorrhoidectomy [34].

In this study, laser haemorrhoidectomy was done in one case which was a case of second degree haemorrhoids. This painless outpatient procedure is reserved mostly for grade I, II and some III haemorrhoids. Using carbon dioxide or NdYag LASER the haemorrhoid is vaporized or excised with greater precision. Rapid healing are the other benefits in this procedure [35].

Clamp and Cautery haemorrhoidectomy was done in two cases in this study: one being a case of 2<sup>nd</sup> degree and the other a case of 4<sup>th</sup> degree haemorrhoids. This method although being obsolete has the advantage in not having dissection of tissue planes [21].

The electric cautery or diathermy knives were used in the management of a case of third degree haemorrhoids in this study. It is an unsatisfactory substitute because the coagulating current may penetrate deeper into the tissues and also because it is not effective in arresting haemorrhage. This operative procedure is done for grade II, III and IV degree haemorrhoids only [21].

## LIMITATION

Information on certain characteristics was either not mentioned or were found missing in some medical records.

## CONCLUSION

The high risk groups identified in this study such as non-vegetarians and those with history of frequent lifting of heavy weights need to be made aware of the risk of developing haemorrhoids. Suitable changes in their lifestyles will be useful in prevention of haemorrhoids. The information on common clinical presentation would be useful for medical professionals in screening activities. More advanced surgical procedures need to be implemented at the settings.

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### PARTICULARS OF CONTRIBUTORS:

1. Associate Professor, Department of Community Medicine, Kasturba Medical College, Light House Hill Road, Manipal Academy of Higher Education, Mangalore, Karnataka, India.
2. MBBS Student, Department of Community Medicine, Kasturba Medical College, Light House Hill Road, Manipal Academy of Higher Education, Mangalore, Karnataka, India.
3. MBBS Student, Department of Community Medicine, Kasturba Medical College, Light House Hill Road, Manipal Academy of Higher Education, Mangalore, Karnataka, India.
4. MBBS Student, Department of Community Medicine, Kasturba Medical College, Light House Hill Road, Manipal Academy of Higher Education, Mangalore, Karnataka, India.
5. MBBS Student, Department of Community Medicine, Kasturba Medical College, Light House Hill Road, Manipal Academy of Higher Education, Mangalore, Karnataka, India.
6. MBBS Student, Department of Community Medicine, Kasturba Medical College, Light House Hill Road, Manipal Academy of Higher Education, Mangalore, Karnataka, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Nitin Joseph,  
Associate Professor, Department of Community Medicine, Kasturba Medical College, Light House Hill Road,  
Manipal Academy of Higher Education, Mangalore-575001, Karnataka, India.  
E-mail: drnitinjoseph@gmail.com

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