CAUSATIVE RISK FACTORS ASSOCIATED WITH GRADE II AND III HAEMORRHOIDS IN ADULT AGE GROUP – AN OBSERVATION STUDY

MUDDALA VARAPRASANNA RAO[1], **S. JEGANATH***[2]

Abstract

Hemorrhoids are normal vascular cushions surrounding the distal rectum and anal canal which helps to maintain anal continence(1,2). It commonly refers to the pathological changes and distal displacement of the haemorrhoidal tissue which affects nearly 40 % of adults(3,4). They are classified into four grades, grade I - they do not prolapse but only bulge into the anal canal, grade II - they prolapse during defecation and reduce spontaneously; grade III - they prolapse and require manual reduction in the size and grade IV - they prolapse and are irreducible(5). The factors that commonly assumed to increase the risk of haemorrhoids are constipation, low fiber diet/high protein rich foods, Obese, pregnancy and a sedentary life style(6). The symptoms includes anal bleeding, prolapse, itching, and/or perianal skin irritation which are known to cause discomfort, disability and effects the quality of life in haemorrhoid patients(7,8). There are 2 methods to manage haemorrhoids. First being the Non-invasive medical approach and second is the invasive medical approach (surgery) based on the grade of the disease(9-15). The most recent guidelines stated that the conservation treatment option is still considered as an effective first-line therapy prior to the surgery(11). The recurrence rate with conservative medical management is 10 to 50% over 5 years(16).

KeyWords: Haemorrhoids, medical approach, Age group.

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[1] Research Scholar, School of Pharmaceutical Sciences, Vels Institute of Science, Technology and Advanced Studies (VISTAS), Pallavaram, Chennai-600117, Indiaq

[2] Department of Pharmaceutics, School of Pharmaceutical Sciences, Vels Institute of Science, Technology and Advanced Studies (VISTAS), Pallavaram, Chennai-600117, India, jeganaths@gmail.com

Introduction

Hemorrhoids are normal vascular cushions surrounding the distal rectum and anal canal which helps to maintain anal continence(1,2). It commonly refers to the pathological changes and distal displacement of the haemorrhoidal tissue which affects nearly 40 % of adults(3,4). They are classified into four grades, grade I - they do not prolapse but only bulge into the anal canal, grade II - they prolapse during defecation and reduce spontaneously; grade III - they prolapse and require manual reduction in the size and grade IV - they prolapse and are irreducible(5). The factors that commonly assumed to increase the risk of haemorrhoids are constipation, low fiber diet/high protein rich foods, Obese, pregnancy and a sedentary life style(6). The symptoms includes anal bleeding, prolapse, itching, and/or perianal skin irritation which are known to cause discomfort, disability and effects the quality of life in haemorrhoid patients(7,8). There are 2 methods to manage haemorrhoids. First being the Non-invasive medical approach and second is the invasive medical approach (surgery) based on the grade of the disease(9-15). The most recent guidelines stated that the conservation treatment option is still considered as an effective first-line therapy prior to the surgery(11). The recurrence rate with conservative medical management is 10 to 50% over 5 years(16).

There are very limited evidences based on the preventable risk factors in haemorrhoids. In addition, frequent recurrence and persisting pain and not negligible complication rate even after surgery had raise the need to prevent haemorrhoids through effective management of risk factors(17). Older age, female gender, pregnancy, alcohol consumption, constipation, prolonged abdominal straining, sedentary lifestyle, stress and obesity have been proposed as risk factors, but the findings are inconsistent across the studies(18-22). Hence, the aim of the study is to identify and assess the risk factors associated with grade 2 and 3 haemorrhoids.

Aim and Objective:

The aim and objective of the study is to assess the causative risk factors associated with grade II and III haemorrhoids in adult age group.

Materials and Methods:

This observational study was carried out for a period of 4 months in Chennai private hospital. Before conducting the study, IEC (VISTAS-SPS/IEC/VII/2020/06) was obtained and patients have signed the informed consent forms. As per the study, the patients were selected based on the inclusion and exclusion criteria's. Inclusion criteria includes the patients in adult age group from 18 to 64 and diagnosed with only grade 2 and 3 haemorrhoids. Exclusion criteria includes patients who were in other age groups (adolescent and elderly). The obtained results were then assessed using SPSS software and expressed in percentages.

Results and Discussion:

This observational study was carried in Chennai private hospital for a period of 4 months from August 2021 to November 2021. The patients who have signed the consent form and satisfy the inclusion and exclusion criteria's were included in the study (n=35).

Out of 35 patients, majority of the patients are males (n=20) followed by females (n=15) as shown in figure 1 and patients from age group 18 - 25 years were 9 (25.71%), 26 - 35 years were 13 (37.14%), 36 - 45 years were 10 (28.58%) and 46 years and above were 3 (8.57%) which is shown in Figure 2. Among 35 patients, 13 patients had family history of haemorrhoids shown in Figure 3.

Figure 1: Based on Gender

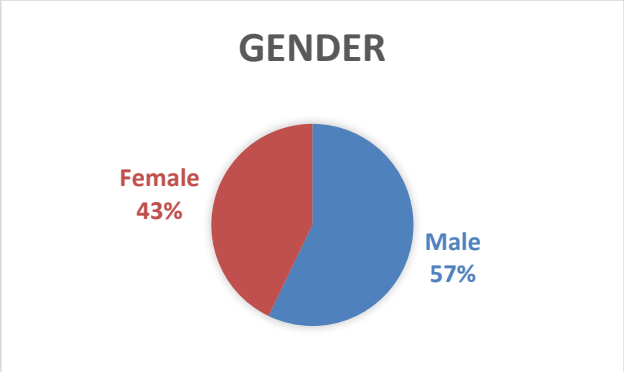


Figure 2: Based on Age Group

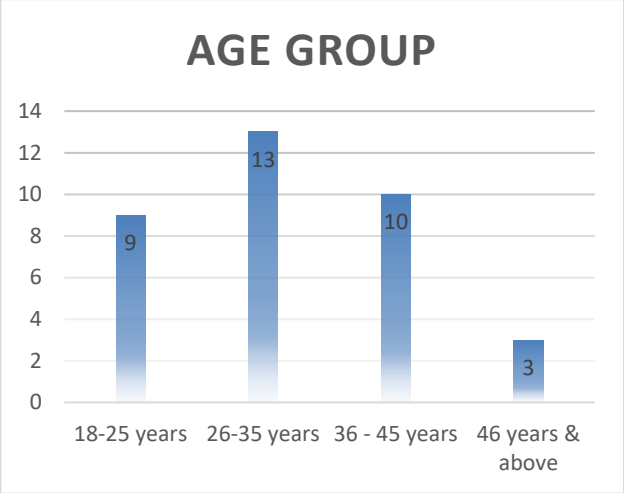
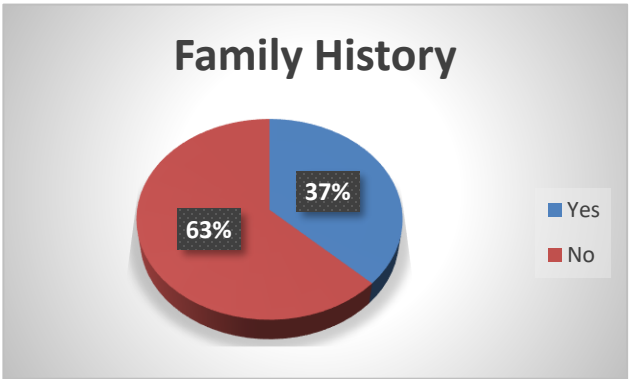
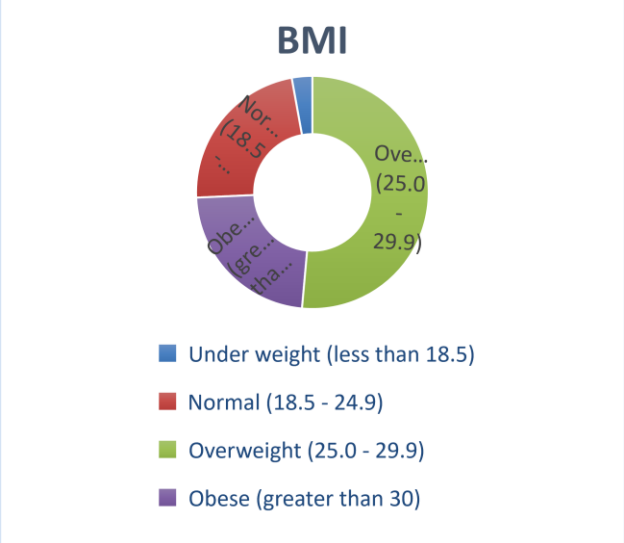


Figure 3: Based on Family History



Among 35 patients, 18 patients were overweight followed by 8 patients each in obese and normal and 1 patient was underweight as shown in Figure 4

Figure 4: Based on BMI

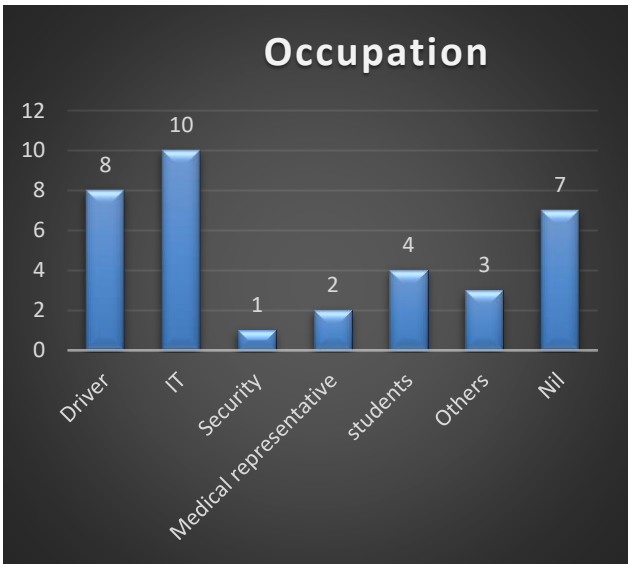


Based on Occupation among 35 patients, 7 Drivers, 10 IT professionals, 1 Security, 2 Medical representatives, 4 students, others were 3 and Nil were 7 as shown in the Table 1 and Figure 5

Table 1: Based on Occupation

Occupation	No. of patients (n=35)	Percentage (%)
Driver	8	22.86
IT	10	28.57
Security	1	2.86
Medical representative	2	5.71
students	4	11.43
Others	3	8.57
Nil	7	20

Figure 5: Based on Occupation



Out of 35 patients, 14 patients (40%) used to smoke and 7 patients (20%) drink. Based on dietary habit, 11 patients (31.43%) were vegetarians and 24 patients (68.57%) were non-vegetarians. The details were shown in Table 2

Table 2: Based on Dietary and Social Habits

Dietary/Social Habits		
Smoking	**No. of patients (n=35)**	**Percentage (%)**
Yes	14	40
No	21	60
Drinking	**No. of patients (n=35)**	**Percentage (%)**
Yes	7	20
No	28	80
Dietary	**No. of patients (n=35)**	**Percentage (%)**

Veg	11	31.43
Non-veg	24	68.57

Among 35 patients, 12 patients had constipation, 4 patients IBD, 2 patients had hypertension, 2 patients had diabetes, 4 patients had HTN/DM, 2 patients were pregnant, 1 patient was pregnant and had hypertension, 2 patients had other comorbidities like hypercholesterolemia and hypothyroidism and 6 patients had no co-morbidities has shown in Table 3 and Figure 5.

Table 3: Based on Co-morbidities

Comorbidities	No. of patients (n=35)	Percentage (%)
Constipation	12	34.3
IBD	4	11.43
hypertension	2	5.71
Diabetes	2	5.71
HTN/DM	4	11.43
Pregnancy	2	5.71
Pregnancy/HTN	1	2.86
Others	2	5.71
Nil	6	17.14

Conclusion:

Our study concluded that the associated risk factors for haemorrhoids are males when compared to females and age group of 26-35 years. Overweight and Obese are also the associated risk factors for haemorrhoids along with comorbidities of constipation and IBD. Occupation plays a major role based on the position. Sitting for a long period/duration induces the constipation and haemorrhoids. Diet and social habits like smoking, drinking and non-vegetarians (high protein diet) are also the associated risk factors of haemorrhoids. Family history also plays a major role, However, as the study was carried out for a short term, the result was controversy. Hence, long term analysis is further needed to confirm and support the existing data.

References

1. Gallo, G., Sacco, R. & Sammarco, G. Epidemiology of hemorrhoidal disease. In Hemorrhoids (eds Ratto, C. et al.) 3–7 (Springer, 2018).
2. Lohsiriwat, V. Anatomy, physiology, and pathophysiology of hemorrhoids. In Hemorrhoids (eds Ratto, C. et al.) 9–17 (Springer, 2018).
3. Riss, S. et al. The prevalence of hemorrhoids in adults. Int. J. Colorect. Dis. 27(2), 215–220. https://doi.org/10.1007/s00384-011-1316-3 (2012).
4. Pata, F. et al. Anatomy, physiology and pathophysiology of haemorrhoids. Rev. Recent Clin. Trials 16(1), 75-80. https://doi.org/10.2174/1574887115666200406115150 (2021).
5. Bernstein WC, What are hemorrhoids and what is their relationship to the portal venous system? Diseases of the colon and rectum. 1983 Dec [PubMed PMID: 6605842]
6. Ibrahim AM,Hackford AW,Lee YM,Cave DR, Hemorrhoids can be a source of obscure gastrointestinal bleeding that requires transfusion: report of five patients. Diseases of the colon and rectum. 2008 Aug [PubMed PMID: 18506529]
7. Ng KS, Holzgang M, Young C. Still a case of “no pain, no gain”? an updated and critical review of the pathogenesis, diagnosis, and management options for hemorrhoids in 2020. Ann Coloproctol. (2020) 36:133-47. doi: 10.3393/ac.2020.05.04
8. Steven R. Brown. Haemorrhoids: an update on management. Therapeutic Advances in Chronic Disease. 2017, Vol. 8(10) 141–147 DOI: 10.1177/2040622317713957
9. Altomare, D. F. & Giannini, I. Pharmacological treatment of hemorrhoids: a narrative review. Exp. Opin. Pharmacoth. 14(17), 2343–2349. https://doi.org/10.1517/14656566.2013.836181 (2013).
10. Song, S. G. & Kim, S. H. Optimal treatment of symptomatic hemorrhoids. J. Korean Soc. Coloproctol. 27(6), 277–281. https://doi.org/10.3393/jksc.2011.27.6.277 (2011).
11. Gallo, G. et al. Consensus statement of the Italian society of colorectal surgery (SICCR): management and treatment of hemorrhoidal disease. Tech. Coloproctol. 24(2), 145–164. https://doi.org/10.1007/s10151-020-02149-1 (2020).
12. van Tol, R. R. et al. European society of coloproctology: guideline for haemorrhoidal disease. Colorectal. Dis. 22(6), 650–662. https://doi.org/10.1111/codi.14975 (2020).
13. Picciariello, A. et al. Classifcations and clinical assessment of haemorrhoids: the proctologist’s corner. Rev. Recent Clin. Trials 16(1), 10-16. https://doi.org/10.2174/1574887115666200312163940 (2021).
14. Stratta, E., Gallo, G. & Trompetto, M. Conservative treatment of hemorrhoidal disease. Rev. Recent Clin. Trials 16(1), 87-90. https://doi.org/10.2174/1574887115666201021150144 (2021).
15. Sobrado Júnior CW, Obregon CA, AHDS ESJ, Sobrado LF, Nahas SC, Cecconello I. A new classifcation for hemorrhoidal disease: the creation of the "BPRST" staging and its application in clinical practice. Ann.

Coloproctol. 2020;36(4):249–255. doi: https://doi.org/10.3393/ac.2020.02.06.
16. Brodovskyi SP,Iftodiy AG,Kozlovska IM, [OPTIMIZATION OF SURGICAL TREATMENT OF HEMORRHOIDAL DISEASE STAGES III-IV]. Klinichna khirurhiia. 2017 [PubMed PMID: 30272930]
17. Eberspacher C, Magliocca FM, Pontone S, Mascagni P, Fralleone L, Gallo G, et al. Stapled hemorrhoidopexy: "mucosectomy or not only mucosectomy, this is the problem." Front Surg. (2021) 8:655257. doi: 10.3389/fsurg.2021.655257
18. Peery, A. F. et al. Risk factors for hemorrhoids on screening colonoscopy. PLoS ONE 10(9), e0139100. https://doi.org/10.1371/ journal.pone.0139100 (2015).
19. Lee, J. H., Kim, H. E., Kang, J. H., Shin, J. Y. & Song, Y. M. Factors associated with hemorrhoids in korean adults: korean national health and nutrition examination survey. Korean J. Family Med. 35(5), 227–236. https://doi.org/10.4082/kjfm.2014.35.5.227 (2014).
20. Rao, M. V., & Jeganath, S. (2022). Estimation of levels of vitamin E in grade II & III haemorrhoids: A prospective study. International Journal of Health Sciences, 6(S2), 1341713421. https://doi.org/10.53730/ijhs.v6nS2.8534
21. Riss S, Weiser FA, Schwameis K, Mittlbock M, Stif A. Haemorrhoids, constipation and faecal incontinence: is there any relationship? Colorectal Dis. Of. J. Assoc. Coloproctol. Great Britain Ireland 2011;13(8):e227-33. doi: https://doi.org/10.1111/j.1463-1318.2011.02632.x.
22. Johanson JF. Association of hemorrhoidal disease with diarrheal disorders: potential pathogenic relationship? Diseases of the colon and rectum 1997;40(2):215–9; discussion 219–21. (In eng).