DOI: https://doi.org/10.53350/pjmhs2023173508

ORIGINAL ARTICLE

Incidence of Various Types of Varicose Veins in Relation to Age and Gender Among Patients Presenting in Mayo Hospital

M. USAMA SHABBIR[1], MOHAMMAD AKMAL SHAFIQ[2], AMBER SALMAN[3], AHMAD RAFIQUE[4]
[1]*Consultant Surgeon, THQ Hospital Kherpur, Tamiwali.*
[2]*Associate Professor of Surgery, Rahbar Medical College, Punjab Rangers Teaching Hospital Lahore.*
[3]*Associate Professor of Anatomy, University Medical & Dental College, Faisalabad*
[4]*Consultant General Surgeon THQ Hospital Jaranwala, Faisalabad*
Corresponding author: Ahmad Rafique, Email: ahmadrafique91@yahoo.com

ABSTRACT

Amongst the most frequent illnesses in civilised nations of West is chronic venous insufficiency (CVI). It is believed that 40-50 percent of all individuals have superficial venous insufficiency of the leg, which manifests primarily as varicose veins. Individuals with varicose veins typically complain of leg pain at the conclusion of the day following extended walking. Ankle edoema, itch, hemorrhage, superficial thrombophelibitis, dermatitis, lipodermatosclerosis, and open wounds are some of the additional manifestations.

Methods: In this cross sectional study, conducted at the surgical floor, Mayo Hospital, Lahore. Varicose veins were defined as dilated, tortuous, subcutaneous veins usually seen in upright posture. Any case of suspected chronic venous insufficiency was assessed on clinical examination by unbiased consultant surgeon. The severity of varicose vein was assessed by clinical grading from CEAP (Clinical-Etiological-Anatomical-Pathophysiological) system in which there are six classes.

Results: Patients in our study were mostly males; male to female ratio of patients of varicose veins is 3:1, most of the male patients had class 2 or class 5; Association of class of varicose veins and gender was also insignificant (p-value calculated for the class of varicose veins and gender was 0.25).

Conclusion: In our study population, male patients suffered worse than female patients. The occurrence rate was comparable between people of different ages. There was a higher prevalence of varicose veins in classes 2 and 3. To further understand the causes of varicose veins, larger-scale studies focusing on female gender-related risk factors and occupation-related risk factors are needed. Additional measures, such as patient education, can aid in lowering the frequency of varicose veins.

Keywords: Varicose Veins, DVTs, Ankle edema, Thrombophelibitis, lipodermatosclerosis

INTRODUCTION

Amongst the most frequent illnesses in civilized nations of West is chronic venous insufficiency (CVI). The demographic, screening process, illness classification, and imaging modalities utilised all influence projections of its frequency. It is believed that 40-50 percent of all individuals have superficial venous insufficiency of the leg, which manifests primarily as varicose veins.[1] 80% of all major lower extremities varicosities are caused by great saphenous vein insufficiency. Individuals with varicose veins typically complain of leg pain at the conclusion of the day following extended walking. Ankle edoema, itch, hemorrhage, superficial thrombophelibitis, dermatitis, lipodermatosclerosis, and open wounds are some of the additional manifestations.[2]

Primary varicose veins are treated surgically after the failure of the medical management, other indications include: Among the invasive surgical procedures done, more effective is the sapheno-femoral ligation and stripping of great saphenous vein (GSV) with multiple phlebectomies. Non-invasive effective management strategies comprise of radiofrequency or laser ablation of the varicose veins. After any invasive or non-invasive procedure to treat varicosity of lower limb veins, all patients are advised to wear compression stockings to reduce the chances of bleeding and hematoma formation. These stockings also help in decreasing inflammation, edema and pain after the procedure.[3]

Varicose veins tend to be relatively common in female, however childbearing and the facts like ladies present with the existence of varicose veins more frequently than males may contribute to this difference.[4] Age and gender are the main predictors for contracting varicose veins. Some studies have shown that women with varicosities had a higher C-class and had relatively more complaints as well while other researches have demonstrated the frequency of varicosities to be greater in men. Some have reported menopause, multiple child births advanced age and female gender to be risk factors of varicose veins and chronic venous insufficiency.[5]

We could not find any study from which we can correlate the incidence of varicose veins in relation to gender and age in our population. The aim of this study was to determine the frequency of various types of varicose veins in relation to age and gender among patients presenting in Mayo Hospital, Lahore

MATERIAL METHODS

This observational survey was performed at the Surgical floor, Mayo Hospital, Lahore.

In this study the aim was to determine the frequency of different types of varicose veins in relation to age and gender among patients presenting in Mayo Hospital, Lahore.

Varicose veins were defined as dilated, tortuous, subcutaneous veins usually seen in upright posture.[2] Any case of suspected chronic venous insufficiency was assessed on clinical examination by unbiased consultant surgeon. The severity of varicose vein was assessed by clinical grading from CEAP (Clinical-Etiological-Anatomical-Pathophysiological) system in which there are six classes. All patients of primary varicose veins of both genders and age 18-50 Years presenting in the out-patient department of surgical department were included. Patients of bleeding disorders diagnosed on previous medical record, those with active ulceration diagnosed on clinical examination or those with other limb pain condition such as sciatica diagnosed on history

Data were entered in SSPS v23.0. Quantitative variables like age and post operative pain were presented as Mean ± S.D. Qualitative variable like gender was presented as frequency and percentages. Data was stratified for age, gender and type of varicosity and post stratification t test was applied. A p-value ≤0.05 was considered statistically significant.

RESULTS

In this cross sectional study, conducted at the Surgical floor, Mayo Hospital, Lahore from Jan to July, 2020 sixty 60 patients were enrolled. The objective of the study was to determine the frequency of various types of varicose veins in relation to age and gender among patients presenting in Mayo Hospital, Lahore. All these patients with primary varicose vein were enrolled in this study. Among all these patient included, 37 (61.7%) were males and 23 (38.3%) females. (as shown in Table no. 1)

Age range in this study was from 18 to 50 years with mean age of 35.4±9.9 years. Distribution of patients for age showed that of the total 60 patients, 22 (36.6%) were of 18-30 years of age, while 18 (30%) and 20 (33.3%) had 31-40 years and >40 years ages respectively. (as shown in Table no. 2)

Patients of varicose veins were categorized into various types, 20 (33.3%), 14 (23.3%), 13 (21.7%), 13 (21.7%), had class-2 grade, class-3, class-4 and class-5 grade of varicose veins respectively. (as shown in Table no. 3)

Table 1: showing distribution of patients with respect to gender

Gender	Total
Male	37 (61.7%)
Female	23 (38.3%)

Table 2: showing distribution of patients with respect to age

Age groups	Total
18-30 years	22 (36.7%)
31-40 years	18 (30%)
>40 years	20 (33.4%)

Table 3: showing distribution of patients with respect to various grades

Grades of varicose veins	Total
Class-2	20 (33%)
Class-3	14 (23%)
Class-4	13 (22%)
Class-5	13 (22%)

The outcome of the study and relevant data was stratified for age and gender and post stratification chi square test was applied to see the significance of difference of outcome variable among various age groups and among both gender groups. Most common class of varicose veins among our patients was of class 2 and among >40 years age group, the difference was not statistically significant, p value 0.17. Details of the various classes of varicose veins among various age groups are shown in table no 4. Similarly, details of the various classes of varicose veins among two genders are shown in table no 4. Patients in our study were mostly males; male to female ratio of patients of varicose veins is 3:1, most of the male patients had class 2 or class 5, p value calculated for the class of varicose veins and gender was 0.25.

Table 4: Stratification of various grades of with respect to Age and gender

Grades of Varicose Veins	Total	Age (in years)			Gender	
		18-30	31-40	> 40	Male	Female
Class 2	20	5	5	10	12	8
Class 3	14	9	4	1	7	7
Class 4	13	4	5	4	7	6
Class 5	13	4	4	5	11	2
P value		0.17			0.25	

DISCUSSION

In this cross sectional study, conducted at the Surgical floor, Mayo Hospital, Lahore. Objective of the study was to determine the frequency of various types of varicose veins in relation to age and gender among patients presenting in Mayo Hospital, Lahore. Varicose veins were defined as dilated, tortuous, subcutaneous veins usually seen in upright posture. Age range in this study was from 18 to 50 years with mean age of 35.4±9.9 years. Distribution of patients for age showed that of the total 60 patients, 22 (36.6%) were of 18-30 years of age, while 18 (30%) and 20 (33.3%) had 31-40 years and >40 years ages respectively. (as shown in Table no. 2) Patients of varicose veins were categorized into various types, 20 (33.3%), 14 (23.3%), 13 (21.7%), 13 (21.7%), had class-2 grade, class-3, class-4 and class-5 grade of varicose veins respectively. (as shown in Table no. 3) Most common class of varicose veins among our patients was of class 2 and among >40 years age group, the difference was not statistically significant, p value 0.17. Patients in our study were mostly males; male to female ratio of patients of varicose veins is 3:1, most of the male patients had class 2 or class 5, p value calculated for the class of varicose veins and gender was 0.25.

In Belgium and Luxembourg done few years back, around six thousands patients were studied by general physicians after they were diagnosed as having chronic venous insufficiency – CVI. They studied the effect of age and gender on the disease. Mean age of the patients was 53.4 years. Unlike the results of our study, female gender and old age were found to be major risk factors. Frequency of various signs and symptoms were 'heavy legs' (70.4%), pain leg (54%), and sensation of swelling (52.7%). Most of the symptoms increased with age ($p < 0.001$). Varicose veins are a very common disease that progresses with age.[6] Our study showed that patients of all adult age groups equally had varicose veins, showing that all age groups are equally affected. Opposite to other studies, males were more affected in our population as compared to females.

In another study, around 700 adults were enrolled and venous system related signs/symptoms were noted. In this study, 63% were women and 37% were men and the mean age of these patients 53.5 years. Of all participants 4.7% were of class 0, and 34.3% were od class- 1. Chronic venous insufficiency of class 3 to class 6 was in 8.2% and venous ulcers in 1.1%. Frequencies of various signs and symptoms were noted. Risk factors related to varicose veins were noted to be: Female gender, old age, number of births and menopause were risk factors for CVD. Our study showed that patients of all adult age groups equally had varicose veins, showing that all age groups are equally affected. Opposite to other studies, males were more affected in our population as compared to females. We didn't study the relation of menopause, number of births and other factors associated with varicose veins.

In a study, Shafiuddin M, et al.[7] showed that pain with prominent veins was the presenting compliant, just like other studies by Cambell et al. Most common vein involved was long saphenous vein (85.7%) and both long with short saphenous vein involvement in 14.3% patients. Janugade et al. also reported similar findings.[8] Our study documented the class of varicose veins and relation of age and gender on the incidence of varicose veins.

Pain is the most important parameter when it comes to patient satisfaction. Therefore it cannot be ignore. Age, gender, ulceration size, duration of the ulcer, body mass index are not independent parameters of success or failure of compression treatment.[9]

In a study, patients of varicose veins of various classes were compared. Unlike that in our study, around 2/3rd were female; but similar to our population mean age was around 57 years and most common class of varicose veins was C2-C3 in around 90% cases, various type of veins involved due to varicosities were Great Saphenous veins - GSV in around 80% cases, small saphenous veins - SSV in around 15%.[10]

Studies have reported females having more chances of development of varicose veins. A cross-sectional study on around 500 female cases was done. According to CEAP staging disease was divided into three: Mild CVT (classes 1–3 by CEAP), severe CVD (classes 4–6 by CEAP). Mean age range of participants was average 54.9 years). Risk factors declared was older age, family history of varicose veins, standing job position and hypertension. Child birth was declared not to be one of the risk factors of development of varicose veins.[11]

Male gender was a significant risk factor found in our study. Young adults and old age people were having similar occurrence rate. Class 2 and class 3 of varicose veins were more prevalent. Further studies should be done on larger scales regarding female gender related risk factors and occupation related risk factors, to identify multiple other factors leading to the development of varicose veins. Further, steps can be taken like patient education which can help in the reduction of incidence of varicose veins.

CONCLUSION

In our study population, male patients suffered worse than female patients. The occurrence rate was comparable between people of

different ages. There was a higher prevalence of varicose veins in classes 2 and 3. To further understand the causes of varicose veins, larger-scale studies focusing on female gender-related risk factors and occupation-related risk factors are needed. Additional measures, such as patient education, can aid in lowering the frequency of varicose veins.

REFERENCES

1. Sheikha JE, Carradice D, Nandhra S, Leung C, Smith GE, Campbell B, et al. Systematic review of compression following treatment of varicose veins. Br J Surg 2015;102:719-725.
2. Kevin B. Venous disorder in: William NS, Bulstrode CJK, O'connel PR, Bailey and love's short practice of surgery 25thed boca raton: CRC press 2008;927-935.
3. Huang TW, Chen SL, Bai CH, Wu CH, Tam KW. The optimal duration of compression therapy following varicose vein surgery: A meta-analysis of randomized controlled trials. Eur J Vasc Endovasc Surg 2013;45:397-402.
4. Biswas S,clark A,shields DA.Randomized clinical trail of the duration of compression therapy after varicose vein surgery.Eur J Vasc Endovasc Surg 2007;3:631-637
5. Bakker NA, Schieven LW, Bruins RMG, Van den berg M, Hissink RJ. Compression stockings after endovenous laser ablation of great saphneous vein: A prospective randomized control trial. Eur J Vasc Endovasc Surg 2013;46:588-592.
6. Vuylsteke ME, Colman R, Thomis S, Guillaume G, Degrande E, Staelens I. The influence of age and gender on venous symptomatology. An epidemiological survey in Belgium and Luxembourg. Phlebology. 2016;31(5):325-333. doi:10.1177/0268355515589224
7. Shafiuddin M, Bhavanishankar TP. Study of different surgical management approach in lower limb varicose veins at tertiary care hospital. Int Surg J 2017;4:2520-4.
8. Janugade HB, Patil BP, Tata NH, Saygaonkar HV, Janugade DH, Dokania V. Clinical profile and management of lower limb varicose veins. 2017;6(2):1615-22.
9. Milić D, Živić S, Golubović M, Bogdanović D, Lazarević M, Lazarević K. A randomized trial of surgery alone versus surgery plus compression in the treatment of venous leg ulcers in patients with primary venous insufficiency. Vojnosanitetski pregled. 2020;77(8):811-5.
10. Kokkosis AA, Schanzer H. Compression Therapy may not be Necessary after Endovenous Ablation Therapy for the Treatment of Varicose Veins. Clin Surg. 2017; 2: 1700.
11. Matić M, Matić A, Gajinov Z, Golušin Z, Prćić S, Jeremić B. Major risk factors for chronic venous disease development in women: is childbirth among them? Women & Health 2019:59:10, 1118-1127, DOI: 10.1080/03630242.2019.1590492