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ORIGINAL RESEARCH

A study of demographic factor's and clinical profile of primary varicose veins in a tertiary care center: An observational study

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Abstract

Aim: Study of demographic factor's and clinical profile of primary varicose veins in a tertiary care center.

Materials and method: 32 patients with features of varicose veins and its complications at Sri Aurobindo Medical College and P.G. Institute, Indore were included in the study. Informed consent was taken from all the patients who was willing to participate in the study. While patients with secondary varicose vein's due to DVT, pregnancy, and venous flow obstruction were excluded from the study. Detailed clinical history was taken, Clinical examinations, routine investigations and color Doppler will be performedas per mentioned criteria in the proforma and data was tabulated as per master chart.

Results: In our study, there were 5 (15.63%) females and 27 (84.38%) males. Males were more in proportion as compared to the Females. In 6 (18.75%)patients hypertension was present and in 9 (28.13 %)patients diabetes mellitustype-2waspresent. Out of these 3 patients having T2 DN and hypertension both simultaneously. History of deep vein thrombosis was given in 2 (6.25 %) patients. There were 18 (56.25%) patients in the normal weight group, 12 (37.5 %) patients were in the overweight and 2 (6.25%) patients were in the obese group. Majority of the patients were in the normal weight group, followed by overweight. Majority of the patients were having perforator incompetence, followed by SFJ incompetence and Dilated tortuous GSV/SSV. 24 (75%) patients Trendelenburg TestI was positive, while in 22 (68.75%) patients Trendelenburg Test II was positive. In 17 (53.13% both) Trendelenburg Test I and II was positive.

Conclusion: Varicose veins may be classified in order to help with the treatment and prevention of problems. We also draw the conclusion that colour Doppler is a better tool for assessing superficial and perforator vein incompetence than clinical assessment.

Keywords: Varicose veins, GSV/SSV, demographic factor's, clinical profile

Introduction

Although varicose veins seldom result in total disability and do not pose a direct danger to life, they do place a heavy strain on the health care system due to the associated morbidity and lost work time they cause. That's the price we have to pay for standing up straight. In the West, it affects 10–20% of the population, whereas in India, it only affects 5–3%.[1-3] Varicose veins may be caused by being pregnant, constantly on one's feet, being overweight, being older, having an abnormally high intra-abdominal pressure, or engaging in strenuous physical

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activity. The significance of heredity cannot be understated, either. [4] In demographic studies, estimates of the prevalence have ranged from around 2% to much beyond 20%. Studies in the West have found that 20% of the population experiences varicose veins, and that 1% of the population experiences skin changes leading to venous ulceration.[5] This enormous variation is due to the different populations studied, the different definitions applied, and the different assessment of examination techniques. Over 80% of both sexes were found to have webs or minor reticular varicosities. Although it was previously thought that women were more likely to suffer from varicose veins, recent demographic research show that males are just as likely to have this condition. The prevalence of trunk varicosities in the EVS increased from 11.5% in the 18-24 year old group to 55.7% in those aged 55-64, as shown in Study.[6] The lack of proper research disproves the widespread anecdotal evidence that suggests varicose veins are less frequent in developing nations like India. The question is unanswered by epidemiological evidence. This dissertation covers almost every facet of varicose veins, and the hunt for better methods of prevention and therapy for this prevalent problem continues.

Materials and methods

This observational study was done in the department of General surgery at sri aurobindo medical college and post graduate institute. The work was started after the review & approval of protocol of study by Institutional Ethics and Research committees. 32 patients were included according to inclusion criteria. who visit at Sri Aurobindo Hospital, Indore, pertaining to disease during the study period. Patients with features of varicose veins and its complications at Sri Aurobindo Medical College and P.G. Institute, Indore were included in the study. Informed consent was taken from all the patients who was willing to participate in the study. While patients with secondary varicose vein's due to DVT, pregnancy, and venous flow obstruction were excluded from the study. Detailed clinical history was taken, Clinical examinations, routine investigations and color Doppler will be performedas per mentioned criteria in the proforma and data was tabulated as per master chart.

Inclusion criteria

- All symptomatic cases of primary vericose vein.
- Patient who has given well informed consent was included.
- Patient of>18 years age group.

Exclusion criteria

- Patients who was not fulfilling terms of inclusion criteria.
- Patients with deep vein thrombosis of calf or thigh veins, patients with peripheral vascular disease, patients with secondary varicose veins, pregnant patients were excluded.
- Patients who did not continue complete treatment because of financial or social constrains.
- Previously operated cases of DVT

Results

Table 1. Distribution of patients according to age

Age	Frequency (N)	Percentage (%)
<=20 years	1	3.13
21-40 years	13	40.63
41-60 years	16	50.0
>60 years	2	6.23
Total	32	100.0

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1 (3.13%) patient was in the age group <=20 years, 13 (40.63%) were in the age group 21-40 years, 16 (50%) were in the age group 41-60 years and 2 (6.23%) were in the age group >60 years. Majority of the patents were in the age group 41-60 years. The mean age of the patients was 41.78 years (range: 19 to 70 years).

Table 2. Distribution of patients according to sex

Sex	Frequency (N)	Percentage (%)
Female	5	15.63
Male	27	84.37
Total	32	100.0

In our study, there were 5 (15.63%) females and 27 (84.38%) males. Males were more in proportion as compared to the Females.

Table 3. Distribution of patients according to occupation

Occupation	Frequency (N)	Percentage (%)
Farmer	12	37.5
Construction Worker	5	15.63
Housewife	4	12.5
Labourer	3	9.38
Bus Conductor	1	3.13
Machine Turner	1	3.13
Student	2	6.25
Coolie	2	6.25
Police Trainee	1	3.13
Shop Keeper	1	3.13
TOTAL	32	100

12 (37.5%) patients were Farmer, 5 (15.63%) were Construction worker and 4 (12.5%) were Housewife. Majority of the patients were farmer and construction workers.

Table 4. Distribution of patients according to lower limb involvement (n=32)

Lower limb involvement	No.	%
Bilateral	12	37.5
Unilateral	20	62.5
Total	32	100.0

There were 12(37.5%) bilaterall ower limb involvement and20(62.5%) unilateral lower limb involvement.

Table 5. Distribution of patients according to presenting complains

Presenting Complains	No.	%
Dilatedveins	30	93.75
Skinchanges	26	81.25
Dullachingnightpain	20	62.5
Ulcer	15	46.88
Edema	9	28.13

Table 6. Distribution of patients according to comorbidities

Associated Comorbidities	No.	%
Hypertension	6	18.75
DiabetesMellitustype-2	9	28.13

In 6 (18.75%) patients hypertension was present and in 9 (28.13 %) patients diabetes mellitustype-2waspresent. Out of these 3 patients having T2 DN and hypertension both simultaneously.

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Table 7. Distribution of patients according to previous DVT

Previous DVT	No.	%
No	30	93.75
Yes	2	6.25
Total	32	100.0

History of deep vein thrombosis was given in 2 (6.25 %) patients.

Table 8. Distribution of patients according to BMI (according to WHO classification)

BMI(WHO Classification)	No. of patients	%
Normal Weight(18.5-24.9kg/m^2)	18	56.25
Overweight(25.0-29.9kg/m^2)	12	37.5
Obese(>30kg/m^2)	2	6.25
Total	32	

There were 18 (56.25%) patients in the normal weight group, 12 (37.5 %) patients were in the overweight and 2 (6.25%) patients were in the obese group. Majority of the patients were in the normal weight group, followed by overweight.

Table 9. Distribution of patients according to Doppler Findings

Doppler Findings	No. of patients	%
SFJ incompetence	24	75
SPJ incompetence	10	31.25
Perforatorin competence	29	90.63
Dilated tortuous GSV/SSV	22	68.75

Majority of the patients were having perforator incompetence, followed by SFJ incompetence and Dilated tortuousGSV/SSV.

Table 10. Distribution of patients according to Trendelenburgtest

Trendelenburg Test	No.	%
Trendelenburg TestI	24	75
TrendelenburgTestII	22	68.75
Trendelenburg Test I and II	17	53.13

24 (75%) patients Trendelenburg TestI was positive, while in 22 (68.75%) patients Trendelenburg Test II was positive. In 17 (53.13% both) Trendelenburg Test I and II was positive.

Table 11. Distribution of patients according to Perthe'stest

Perthes Test	No.	%
Negative	20	62.5
Positive	12	37.5
Total	32	

Table 12. Distribution of patients according to Multiple Tourniquettest

MultipleTourniquetTest	No.	%
Negative	17	53.13
Positive	15	46.88
Total	32	

Table 13. Distribution of patients according to family history

Family history	Frequency (N)	Percentage (%)
Present	5	15.63
Absent	27	84.38
Total	32	100.0

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Table 14. Distribution of patients according to socioeconomic status

Socioeconomic status	Frequency (N)	Percentage (%)
Middle	19	61.3
Poor	12	38.7
Total	31	100.0

19 (61.3%) patients belonged to middle socioeconomic strata and 12 (38.7%) patients belonged to poor socioeconomic strata. Majority of patients belonged to middle socioeconomic strata.

Discussion

This research was conducted to have a better understanding of the epidemiology of varicose veins in the local community that attended this hospital. In India, no analogous research has been published. The research also intends to raise awareness about the lifestyle factors that contribute to the development of varicose veins and how to prevent them. Varicose veins are more frequent in Western nations than in India[7], resulting in significant morbidity and health-care expenditures.

In this research, 1 (3.13%) patient was under the age of 20, 13 (40.63%) were between the ages of 21 and 40, 16 (50%) were between the ages of 41 and 60, and 2 (6.23%) were above 60. The majority of the patents were issued to people aged 41 to 60. The patients' mean age was 41.78 years (range: 19 to 70 years). This conclusion is consistent with the Edinburgh Vein Study.[8]

In our research, 84.37% of patients were men and 15.63% were women. The research of Lee et al., Edinburgh Vein Study, found a prevalence of 40% in men and 32% in women.8 Our results are consistent with the study of Vashist et al., which found a prevalence of 64% in males and 36% in females.[9]

The significant female predominance of varicose veins in the Jerusalem sample might be attributed to the fact that the prevalence of overweight (BMI 2-8 g/cm2 or above) in the study group was 1-4 times higher in women than in men. In the United States, the comparable sex ratio is 1.1 if overweight is defined as 10% or more over normal weight, and 1-7 if it is 20% or more above normal weight.[10]

There were 18 (56.25%) patients in the normal weight group, 12 (37.5%) in the overweight group, and 2 (6.25%) in the obese group. The majority of the patients were normal weight, with the remainder being overweight.

Our findings are consistent with the findings of Kröger et al., who discovered that an increase in BMI is one of the most important determinants of the development of varicose veins.[11]A study by Selçuk Kapsz et al. discovered that obesity and lack of exercise are contributory factors in the development of varicose veins.[12]

There were 12 cases of bilateral lower limb involvement (37.5%) and 20 cases of unilateral lower limb involvement (62.5%). Staniszewska et al.[13] found that the majority of patients had unilateral lower limb varicose veins, which is consistent with our findings.

The majority of the patients had perforator incompetence, followed by SFJ incompetence and Dilated tortuous GSV/SSV. De Andrade et al.[14] discovered that severity was related to the number of incompetent perforating veins in each limb and the association of superficial veins, particularly with SSV incompetency. The lack of reflux in perforating veins alone was prominent in C2 patients, which is consistent with our findings. In a research conducted by Staniszewska et al.[13], the majority of patients showed C2 varicosities.

Vashist et al. observed that 72% of patients had SFJ incompetence on clinical testing and 80% had SFJ incompetence on colour Doppler.[9] Their sensitivity was 90% and specificity was 100%. Trendelenburg Test I was positive in 24 (75%) of the patients in our research, whereas Trendelenburg Test II was positive in 22 (68.75%) of the patients. Trendelenburg

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Test I and II were both positive in 17 (53.13%). In the Vashist et al. investigation, clinical examinations found 104 perforators whereas colour Doppler showed 100 perforators.[9]

Conclusion

From our research, we know that sitting for lengthy periods of time is just as bad for your veins as standing. Other risk factors include being overweight or old. Varicose veins may be classified in order to help with the treatment and prevention of problems. We also draw the conclusion that colour Doppler is a better tool for assessing superficial and perforator vein incompetence than clinical assessment.

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