

Original Research Article

Clinical profile of patients with varicose vein: a cross sectional study from Vilasrao Deshmukh Government Institute of Medical Sciences, Latur, Maharashtra

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Received: 20 June 2020

Revised: 07 July 2020

Accepted: 08 July 2020

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ABSTRACT

Background: Although there is considerable evidence to suggest that varicose veins are less common in developing countries like ours, the absence of adequate epidemiological data leaves the question open. The objective of the study was to assess the risk factors and clinical features of patients with varicose veins in urban patients visiting surgical OPD.

Methods: The present cross-sectional observational study was carried out in 60 patients having varicose veins. Clinical features and diagnosis were assessed and analysed using SPSS software.

Results: Maximum number of patients 29 (48%) presented in the 31-50 years age group. 88.3% were males and 11.7% were females. 68.3% of patient's belong to the group whose occupation involved prolonged standing. In 18.3% of patients, both legs were involved. Involvement of great saphenous vein was seen in 51 cases i.e. 85% and in remaining 9 cases (15%), small saphenous vein was involved. In majority of our patients, Doppler study revealed incompetency of perforators i.e. 26 (43.3%) followed by sapheno-femoral as well as sapheno-femoral with popliteal in 16 each i.e. 26.7%.

Conclusions: The varicose veins occur in third and fifth decades of life. The occupations involving prolonged standing and violent muscular efforts are more prone for developing varicose veins. Presence of prominent swellings in lower limb and pain were the commonest presenting symptoms. Colour doppler ultrasonography is the investigation of choice in the management of varicose veins. Combined valvular incompetence is more common.

Keywords: Varicose veins, Clinical features, Risk factors

INTRODUCTION

Varicose veins and their associated symptoms and complications constitute the most common chronic vascular disorders leading to surgical treatment. The word 'varicose' is derived from the Latin word 'varix', which means twisted. The definition of varicose veins

varies widely ranging from "clearly visible, dilated, tortuous and possibly prominent subcutaneous veins of lower extremities" according to Arnoldi, to "dilated veins secondary to loss of valvular efficiency" according to Dodd and Cockett, "Vein with a saccular dilatation which is often tortuous" according to WHO. Varicose veins are common medical condition present in at least 10% the

general population.¹ Varicose veins cause symptoms and complications, cosmetic concerns, but more importantly, cause health - related quality of life limitations. Though varicose veins were recognized pre historically only in the present century considerable knowledge has been gained concerning the anatomy of venous system of the leg, the physiological mechanism of venous return to heart against gravity and pathology of the disorder, which has led to many newer modalities of treatment. Varicose veins and their associated symptoms and complications constitute the most common chronic vascular disorders leading to surgical treatment.²

Incidence of varicose veins in India seems to be far less when compared to western countries because most of the patients presents to the clinician only after the development of complications. But now a days the incidence in developing countries seems to be increasing because of more effective diagnostic facilities and increased awareness regarding the venous disorders. The prevalence has been variously reported from as little as 2% to over 20% in population studies.³

Although there is considerable evidence to suggest that varicose veins are less common in developing countries like ours, the absence of adequate epidemiological data leaves the question open.⁴ The incidence of chronic venous insufficiency and related varicose veins is variable and fluctuates according to factors such as age, sex, and geographical locations. Extrinsic environmental factors and intrinsic pathological conditions contribute to the disease, including family history, obesity, older age, pregnancy and female gender.⁵

Considerable advances in understanding of venous pathophysiology and modern imaging techniques have revolutionized the concept of management of varicosity of lower limb. At present, pressure therapy can be used to treat the primary varicose veins of lower extremity, including medical elastic stocking therapy, elastic bandage therapy and intermittent pressure compression therapy, which can temporarily relieve pain by external pressure. However, in the long term, the treatment method for patients with varicose veins of lower extremity is not very effective.^{4,6}

So, the present study was planned with the objective to assess the risk factors and clinical profile of patients with varicosity of veins at tertiary care centre of Vilasrao Deshmukh Government Institute of Medical Sciences (VDGIMS), Latur, Maharashtra.

METHODS

The present cross-sectional observational study was carried out in patients having varicose veins during the period of January 2018 to May 2019. Study was initiated after obtaining permission from ethical committee of

VDGIMS and consent from patients. A sample size of 60 was calculated for the study.

Inclusion criteria

Patients with the following symptoms of varicose veins: ulceration, phlebitis, bleeding, aching, skin changes or eczema, heaviness and cosmetic, patient who has given well informed consent and age group >18 years were included.

Exclusion criteria

Patients with deep vein thrombosis of calf or thigh veins, patients with varicose veins and peripheral vascular disease, secondary varicose veins, pregnant patients were excluded.

The present clinical study was conducted on patients who were admitted in our tertiary care hospital. The study was conducted after the institutional ethical committee approval and written informed consent from all the patients. The clinical material for this study consists of patients, who came to surgical OPD of hospital with varicosities of the lower limbs. A proper history was taken and a thorough clinical examination was done and recorded. This study included not only the patients willing for surgery but also patients who were managed conservatively to view the patterns of presentation of varicosities.

Following clinical tests are performed on patient having symptoms with varicose veins i.e. Brodie Tendelenberg test, multiple tourniquet test, Perthe's test, modified Perthe's test, Schwartz test, Pratt test, cough impulse test: (Morissey's), Fegan's test, Homan's sign, Mosses sign.⁷

Along with this through systemic examination done to look for any systemic pathology. Abdominal examination is done to rule out any pathology leading to secondary varicose veins.

A Doppler assessment is now the minimum level of investigation required before treating a patient with venous disease. This investigation is carried out with the patient standing. Before treatment is initiated, physical examination followed by Doppler assisted mapping of venous system should be undertaken. Some signs were specifically looked for saphenofemoral junction incompetence, sapheno popliteal junction incompetence, perforator incompetence, deep venous system and presence of abnormal or unnamed veins or perforators. The sites of incompetence were marked by indelible skin pencil.

Statistical analysis

Data was collected by using a structure proforma. Data entered in MS Excel sheet and analysed by using SPSS

24.0 version IBM USA. Qualitative data was expressed in terms of proportions quantitative data was expressed in terms of mean and standard deviation.

RESULTS

In our study, maximum number of patients 29 (48%) presented in the 31-50 years age group. In our study of 60 patients we found the mean age of the study population to be 41.93 years with a range of 18 to 78 years. Out of total, 53 i.e. 88.3% were males and 7 (11.7%) were females (Table 1).

Table 1: Distribution according to age and gender.

		Frequency	Percentage
Age group in years	<30	16	26.7
	31-40	16	26.7
	41-50	13	21.7
	51-60	4	6.7
	>60	11	18.3
Sex	Male	53	88.3
	Female	7	11.7
	Total	60	100

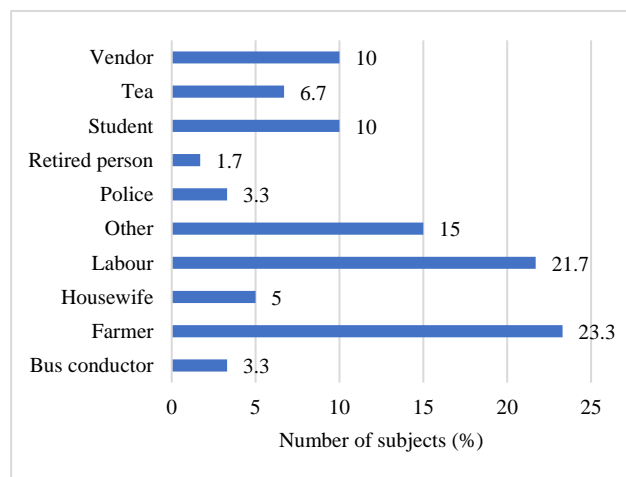


Figure 1: Distribution according to occupation.

Majority of the patients in our study were farmers i.e. 23.3% and labourers i.e. 21.7%. 10% each were students and vendors. Almost 68.3% of patient's belong to the group whose occupation involved prolonged standing (Figure 1).

In 45% of cases, left leg was involved and in 36.7% cases, right leg was involved. In 18.3% of patients, both legs were involved (Figure 2).

Clinical examination revealed that in all 60 patients, prominent veins were seen. In 26 (43.3%) patients, pain was complained by the patient and in 24 (40%) cases, edema was observed. Pigmentation was noticed in 25% and ulceration in 6.7% patients (Table 2).

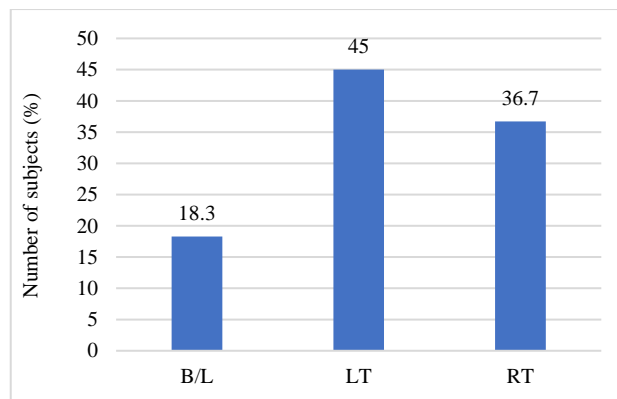


Figure 2: Distribution according to involvement of limb.

Table 2: Distribution according to clinical presentation.

Clinical manifestation	Frequency	Percentage
Prominent veins	60	100.0
Prominent veins and pain	26	43.3
Prominent veins and edema	24	40.0
Pigmentation	15	25.0
Venous ulceration	4	6.7

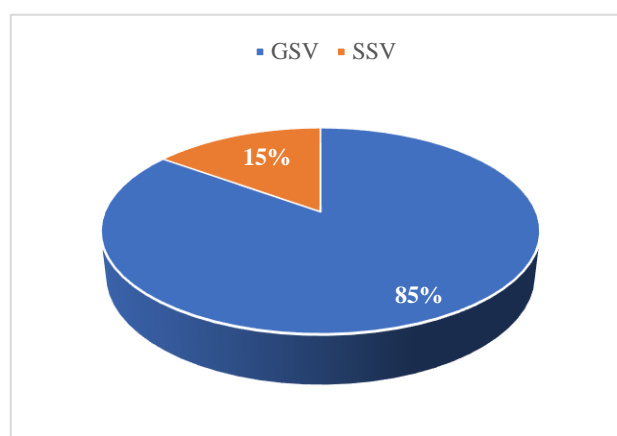


Figure 3: Distribution according to involvement of segment.

Involvement of great saphenous vein was seen in 51 cases i.e. 85% and in remaining 9 cases (15%), small saphenous vein was involved (Figure 3).

In majority of our patients, Doppler study revealed incompetency of perforators i.e. 26 (43.3%) followed by sapheno-femoral as well as sapheno-femoral with popliteal in 16 each i.e. 26.7% (Table 3).

Multiple tourniquet test was found positive in all 60 patients in our study followed by modified Perthe's test in 56 (93.3%), Perthe's test in 54 (90%) (Table 4).

Table 3: Distribution according to Doppler report.

Doppler study	Frequency	Percentage
Perforator	26	43.3
Sapheno-femoral	16	26.7
Sapheno-femoral and perforator	16	26.7
Sapheno-popliteal	2	3.3
Total	60	100.0

Table 4: Distribution according to clinical examination tests.

	Positive		Negative	
	Freq	%	Freq	%
Brodie Trendelenburg test	51	85.0	9	15.0
Multiple tourniquet test	60	100.0	0	0.0
Perthe's test	54	90.0	6	10.0
Modified Perthe's test	56	93.3	4	6.7
Schwartz test	52	86.7	8	13.3
Pratt test	49	81.7	11	18.3
Cough impulse test (Morissey's)	45	75.0	15	25.0
Fegan's test	47	78.3	13	21.7
Homan's sign	47	78.3	13	21.7
Mosses sign	44	73.3	16	26.7

DISCUSSION

Varicosity of the lower limb is a common clinical problem. Varicosities often starts early in life but assume a silent course for variable length of time, before they develop complications due to venous hypertension.

Age distribution

In our study, maximum number of patients 29 (48%) presented in the 31-50 years age group. This age distribution correlates well with other studies conducted by Campbell et al, who showed the commonest age at presentation to be 30-40 yrs.⁸

In our study of 60 patients we found the mean age of the study population to be 41.93 with a range of 18 to 78 years. This correlates well with other studies conducted by Mulla et al, who showed the mean age of 45.6% with a range of 21 to 70 years.⁹ Majority of the patients in the study were less than 50 years. So, it is the disease, which affects the youth and the bread-earning members of the society. The youngest in this study was 20 years and the eldest was of 65 years. The age range in the present study is almost similar to study done by Khan et al and Singh et al in their study.^{10,11}

Gender distribution

In the present study, 11 cases were female out of total 60 patients. It is very low compared to the western studies.

Mirji et al found 25% of the total patients in this study were females as compared to males who made 75% of total cases. The low incidence seen in present study is most probably due to less cosmetic concern in our Indian middle- and lower-class women.¹²

Occupation

In our study, almost 68.3% of patient's belong to the group whose occupation involved prolonged standing (Figure 1). Our findings are at higher side compared with the findings of Ratkal et al (44%) and Lateef et al (35%) whereas at lower side as compared with Mirji et al (81%).¹²⁻¹⁴

Limb involvement

In the present study (Figure 2), right limb involvement of 36.7% (22 patients) and the left limb involvement of 45.0% (27 patients), favourably compares with the study conducted by Das et al.¹⁵ The cause for the increased incidence of left side is not known. This is probably because that the loaded left colon constantly compresses the left iliac veins, the left common iliac artery crossing over the left common iliac vein and the longer course traversed by the left iliac veins.

Venous system involvement

In this series, great saphenous vein was involved in 85% of cases, the short saphenous vein in 15% (Figure 3). Prasad et al had found long saphenous vein was involved in 76% of cases (38 patients), the short saphenous vein in 4% and both long and short in 20% (10 cases).¹⁶ Al-Mulhim et al found long saphenous vein was involved in 68.4% of cases and short saphenous vein in 7.1% cases.¹⁷

Clinical manifestation

In the present study, the commonest symptom in 60 (100%) cases was that of dilated, tortuous veins. 26 (43.3%) cases had complaints of pain in the affected limb and 24 (40%) cases had limb edema, venous ulcer was present in 4 (6.7%) of cases (Table 2). This finding correlates well with other studies done by Campbell et al with cosmetic symptoms being 90% and aching pain 57%.⁸

CONCLUSION

The varicose veins of lower limbs are a disease of younger age group, occurring more commonly during third and fifth decades of life. The occupations involving prolonged standing and violent muscular efforts are more prone for developing varicose veins. Majority of our patients presented with complications of varicose veins rather than the disease itself. Presence of prominent swellings in lower limb and pain were the commonest presenting symptoms. Colour Doppler ultrasonography is the investigation of choice in the management of varicose

veins. Combined valvular incompetence is more common.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Samane DS, Swami G, Halnikar CS, Takalkar AA. Clinical profile of patients with varicose vein: a cross sectional study from Vilasrao Deshmukh Government Institute of Medical Sciences, Latur, Maharashtra. Int Surg J 2020;7:2691-5.