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Research Article

Pattern and modes of presentation of varicose veins of lower limbs

Rohit NC[1]*, Manjunath ML[2]

[1]Department of General Surgery, Shivamogga Institute of Medical Sciences, Shivamogga, Karnataka, India
[2]Department of Physiology, Shivamogga Institute of Medical Sciences, Shivamogga, Karnataka, India

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***Correspondence:**
Dr. Rohit NC,
E-mail: medicogen.doc@gmail.com

ABSTRACT

Background: Varicose veins of the lower extremities are one of the most common peripheral vascular diseases and calls for treatment. Therefore the present study was undertaken to study the pattern and various modes of presentation of the patient with varicosities of the lower limbs.
Methods: The study was conducted in teaching & general hospital and government general hospital, attached to medical college. A detail clinical history was taken and a thorough clinical examination was done. The signs and symptoms of patients were reported.
Results: 42 cases were afflicted with varicose veins of the lower extremities comprising only 10.99% of the total admissions with vascular complaints. Maximum incidence was in the age group 21-40 years (61.9%). 57.14% of cases were involved in occupation requiring prolonged periods of standing and/ or violent muscular contraction. The most common presenting complaint was pain which varied from dragging pain to night cramps associated with heaviness of the limbs. Edema was present in 11 cases, predominantly localized to below knee with pitting nature.
Conclusion: Our study revealed that the disease is most prevalent in the 2nd and 3rd decades of life. We concluded that occupation involving prolonged standing and/or violent muscular contractions contribute to or precipitate varicose veins if not actually cause them.

Keywords: Varicose veins, Prevalence, Mode of presentation, Saphenous nerve

INTRODUCTION

Varicosity of vein is said to exist when the vein is dilated, lengthened and tortuous.[1] The incidence of varicose veins in India seems to be far less compared to western population because most of the patients do not come to the hospital unless complications such as pain, edema and ulceration, etc. occur.

Varicosity of the dependent veins is the price man pays for the erect posture but the exact etiology is yet to be established. Any vein of the body may show varicosities but certain sites like the lower limbs are more susceptible. It was considered as one of the commonest disorders in adult Europeans whereas; the population of South and Central America, Africa and the Indian sub-continent has remarkably lesser incidence.[2] There is a preponderance of 2:1 in favor of western woman. It is more common in the upper than in the lower socioeconomic group[3] and it is more seen in white European races and people of East of Suez and South of African continent but less in pure black Africans, Arabic races, Indian and Asiatic.

Etiology of this disease are varied and some cause rapid progression of the disease and some slow deterioration. Conflicting views are present regarding the etiology of varicose veins and its prevalence in the western female population. Wedell JM states that the chief brunt is borne by females and male to female ratio is 1:3.5 to 5 or even

higher in the westerners, but is seen infrequently in Indian and African women.[4]

Varicosity of the veins of lower limb develops insidiously and is often asymptomatic and so overall effect of venous insufficiency is underestimated. Though death is infrequent due to the complications of the disease, economic impact due to loss of productivity and work hours are enormous.[5] There is also wide variation in the clinical picture, degree of varicosity and morbidity produced. A patient with typical venous ulcer may not have any obvious varicose veins and a patient with severe varicosity may not have any symptoms at all.Varicose veins of lower extremities are the most common peripheral vascular disease and it calls for treatment due to the morbidity and loss of working hours it causes.[6-8] Though the varicosity was considered as one of the commonest disorders in adult Europeans, the data on the pattern and modes of presentation of varicose veins of lower limb is lacking. Hence, the present study is being undertaken to make an effort to study various pattern and modes of presentation of varicose veins of lower limb.

METHODS

The present clinical study was conducted on patients who were admitted in the teaching hospital. The study was conducted after the institutional ethical committee approval and written informed consent from all patients.

The clinical material for this study consists of patients, who came to surgical OPD of teaching & general hospital with varicosities of the lower limbs. 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. A proper history was taken and a thorough clinical examination was done and recorded. In history, particular stress was given to occupation, family history, history of previous treatment. Data also contained, age, sex, duration of symptoms, chief complaints, history of deep vein thrombosis, history of previous surgeries and following complications.

The complications of varicosities such as edema, ulceration and dermatitis were attended to before surgery was undertaken. Children below 12 years of age and women with pregnancy and history of post-partum thrombosis have been excluded in my study. Patients over seventy years of age and those suffering from cardiopathy, bronchopneumopathy, nephropathy, metabolic disease and heavy obesity were managed conservatively as their general condition did not permit them to undergo surgery.

RESULTS

Out of the total number of admission for vascular complaints 382, TAO was the foremost with 156 admissions accounting for 40.83% of the total admissions. Cases with varicose veins were third among all with 42 cases accounting for 10.99% of the total admission with vascular complaints (Table 1).

Table 1: Percentage distribution of patients with varicose veins to patients with vascular complaints.

Cause	No. of cases	Percentage
TAO	156	40.83
Atherosclerosis	105	27.49
Varicose veins	42	10.99
Superficial vein thrombosis	41	10.73
Deep vein thrombosis	38	9.96
Total	382	100.00

The youngest patient who presented with varicose veins of the lower limb was 16 years old, while the oldest among these was 66 years old. The decade from 21-30 years showed the peak incidence, which is the most productive phase in a man's life. 20 years period from 21-40 years accounts for 61.9% of all cases (Figure 1).

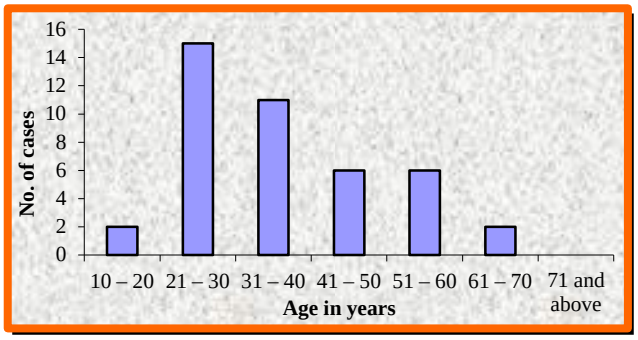

Figure 1: Age incidence of varicose veins in patients with vascular complaints.

This study reveals that 57.14% of the cases were involved in occupations requiring long periods of standing and/ or violent muscular contractions. 14.28% of the cases had a family history of varicose veins. 2 cases of secondary varicose veins were reported due to SOL in pelvis. 1 patient had previous history of varicosities during pregnancy. 9 cases had no obvious predisposing causes (Figure 2).

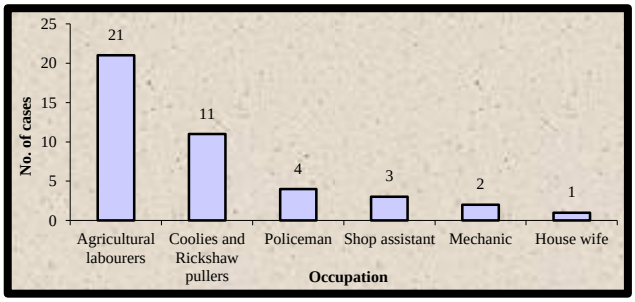

Figure 2: Distribution of varicose veins among various occupations in patients with vascular complaints.

The predisposing factors (Figure 3) were idiopathic (9), occupation requiring violent muscular exercise (18), family history of varicose veins (6), occupation requiring prolonged standing (6), secondary varicose veins (2) and previous history of pregnancy with varicosity (1).

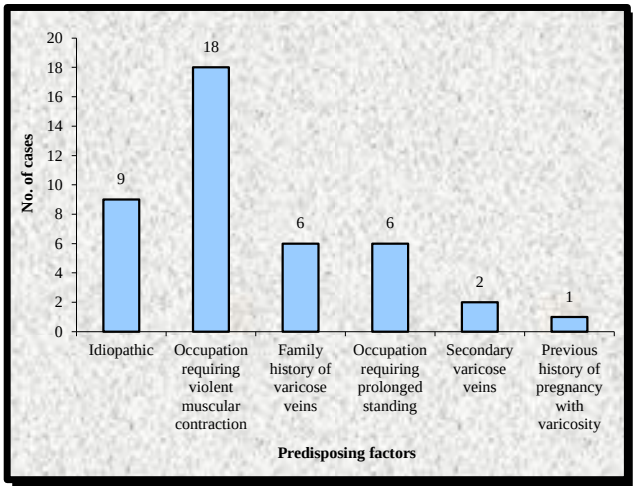

Figure 3: Predisposing factors of varicose veins among various occupations in patients with vascular complaints.

The most common symptom was pain, which occurred alone or in combination with ulceration, swelling and eczema. Thus pain seems to be an important factor in prompting patients to seek medical help rather than cosmesis in the west (Table 2).

Table 2: Presenting complaints in patients with vascular complaints.

Presenting complaint	No. of cases	Percentage
Pain in the limb	17	40.48
Swelling of the limb	6	14.29
Eczema	8	19.00
Pain and swelling	4	9.52
Pain and ulceration	5	11.9
Deformity	1	2.4
Pain, swelling, eczema and ulcer	1	2.4
Total	42	100.00

Out of the 42 cases 14 had varicosities of the right limb, 18 cases had varicosities of the left lower limb and 10 cases had affliction of both lower limbs. This may be due to more pressure on left iliac vein due to the crossing over of left common iliac artery or due to loaded recto sigmoid (Figure 4).

Both the long saphenous venous system and the short saphenous venous system can be involved either singly or in combination. In this series, the long saphenous venous system was involved in 83.33% of cases, while the short saphenous venous system was involved only in 7.14% of cases. This can be attributed to the fact that the LSV extends the whole length of the limb and bears the brunt of the erect posture. Both LSV and SSV were involved in 9.53% of cases (Table 3).

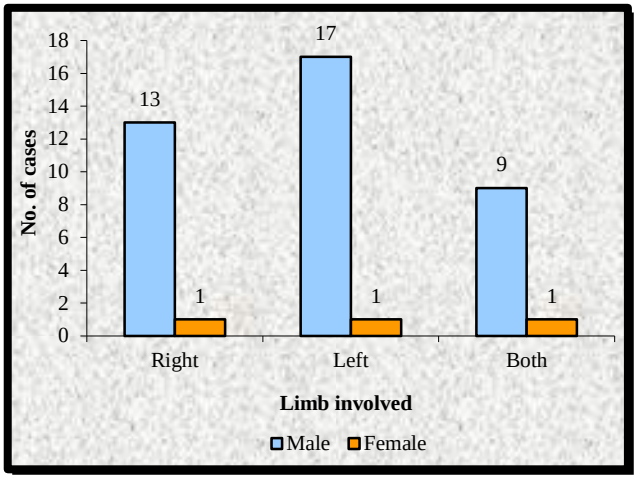

Figure 4: Distribution of limb involvement in patients with vascular complaints.

Table 3: Venous system involved in patients with vascular complaints.

Venous system involved	No. of cases	Percentage
Long saphenous vein (LSV) only	35	83.33
Short saphenous vein (SSV) only	3	7.14
Both LSV and SSV	2	9.53
Total	42	100.00

Out of the 42 cases, only 2 cases had terminal incompetency of long saphenous vein accounting for 4.76% of cases. 11 cases had perforator incompetency of long saphenous vein i.e., 26.19% of cases while 26 cases (61.90%) had both incompetency of saphenofemoral junction as well as perforator incompetency (Table 4).

In the present series, 52.38% of the cases had incompetency of the hunterian perforator while 73.8% of cases had below knee perforator incompetency and 90.48% of cases had above ankle perforator incompetency (Table 5).

Table 4: Distribution of incompetency of the venous system involved in patients with vascular complaints.

Type	LSV		SSV	
	No. of cases	Percent	No. of cases	Percent
Terminal incompetency	2	4.76	3	7.14
Perforator incompetency	11	26.19	-	-
Both	26	61.90	-	-

Table 5: Perforators affected in long saphenous veins in patients with vascular complaints.

Perforator	No. of cases	Percentage
Hunterian	22	52.38
Below knee	31	73.80
Above ankle	38	90.48

DISCUSSION

Varicose veins have been described in various anatomical sites like the lower limbs, the scrotum, the rectum etc. While various causes have been put forward as the etiology of varicose veins, there is no definite indication of the exact cause of this disease. The end result of this has been that there is no consensus on how the disease can be prevented and treated.[9] The disease is thought to be a common entity. Out of the 382 patients admitted with vascular complaints only 42 cases were afflicted with varicose veins comprising 10.99% of the total admissions with vascular complaints. The admission rate cannot be considered as a true index of the prevalence of this disease. This is because varicose veins remain asymptomatic for period extending up to decades and when symptomatic, the symptoms may not be severe enough to force the patient to seek medical help.

The reasons for low rates in India could be due to the difference in stature, where Indians are short stature and have less hydrostatic pressure in their lower limb veins.[10] Also low residue, constipating diets may be responsible for higher incidence in western population. The commode system, which is used in the western countries, has a disadvantage as the limbs remain unsupported and dependent and do not prevent transmission of increased pressure to lower limb veins during straining. This is not so in our country where we squat to defecate.

In the present study, the youngest patient to present with varicosity was 16 years old and the oldest patient was 66 years old. Maximum incidence was found in the age group 21-30 years. The 20 years period from 21-40 years accounted for 61.9% of all cases. This is the period during which a man is most active and is the most productive phase in a man's life. It is therefore evident that the disease can cause significant morbidity.

During our study of 42 cases of varicose veins, only 3 (7.14%) female patients presented with varicosities of lower limbs. Though this study projects the disease as one mainly affecting the male, it would certainly be erroneous to consider the disease as one with overwhelming male preponderance. Previous studies revealed that 57.14% of the cases were involved in occupation requiring prolonged periods of standing and/or violent muscular contractions. Thus, it could be safely said that occupations demanding prolonged period of standing or violent muscular contractions by itself may not cause varicose veins but could contribute to, or precipitate varicosities in the presence of other factors like weak valves and vein walls because 9 patients in the present series had no predisposing factors. 14.28% of the cases had positive family history of varicose veins. Previous data give a 40-80% family history. Hence, low incidence in our series tends to disagree with the previously reported high family incidence.

Most of the patients in this study, reported to the hospital for some complications of the disease rather than the disease itself. The most common complaint was pain, which occurred alone or in combination with ulceration, swelling or itching. Nature of the pain varied from mild ache to dragging pain to night cramps sometimes associated with heaviness of the limb. Pain is sharply localized to varicose veins. This may be because of pressure in stretching the deep fascia. This pain is called as venous claudication.[11] Out of the 42 cases, 14 cases (33.33%) had varicosities of the right lower limb while 18 cases (42.86%) had varicosities of left lower limb and 10 cases (23.81%) had affliction of both lower limbs. The fact that the left lower limb was involved in more number of cases must be due to more pressure on left iliac vein due to crossing over of left common iliac artery or due to the loaded recto sigmoid.

CONCLUSION

Our study revealed that the disease is most prevalent in the 2nd and 3rd decades of life. It was concluded that occupation involving prolonged standing and/or violent muscular contractions contribute to or precipitate varicose veins if not actually cause them. Most of the patients had long saphenous vein involvement while short saphenous vein was involved in 3 cases and 4 cases had involvement of both venous systems. Many of the patients had perforator incompetency indicating advanced hemodynamic malfunction.

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