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A Prospective Study of Clinical Profile and Management of Varicose Veins in a Tertiary Care Hospital

Rajiv Verma
Department of General Surgery, GS Medical College and Hospital, Pilkhuwa, Hapur (U.P.), India

Bhaskar Kumar
Department of General Surgery, GS Medical College and Hospital, Pilkhuwa, Hapur (U.P.), India

Yogendra Kumar
Department of General Surgery, GS Medical College and Hospital, Pilkhuwa, Hapur (U.P.), India

Amit Agarwal
Department of General Surgery, Rajshree Medical Research institute, Bareilly (U.P.), India

***Abstract*---**Introduction: Varicose vein disease is predominantly a cosmetic problem of the females of western world. In our country the overall prevalence is comparatively low and patients commonly present with some complications. Varicose veins have been recognized as a chronic disorder of surgical importance since ancient times. Materials and Methods: The data for the study was obtained from the patients admitted and treated in Santosh Medical College and Hospital Ghaziabad for a period of one year from September 2020 to August 2021. Patients presenting with signs and symptoms of varicose veins, who were diagnosed as having varicosities of the superficial veins by clinical examination, were taken up for the study, after explaining the nature of the disease and various modalities of treatment available. Accordingly, 100 patients with primary varicose veins of lower limbs were included in the present study. Written informed consent was taken. Various presentations, complications and treatments were noted and finally followed up for minimum of 3 months. Results: The age of the patients ranged from 10 to 75.

***Keywords*---**clinical, hospitals, saphenous system, superficial veins, varicose vein.

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***Corresponding author**: Agarwal, A.; Email: surg_amit@hotmail.com*
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Introduction

Varicose vein disease is predominantly a cosmetic problem of the females of western world. In our country the overall prevalence is comparatively low and patients commonly present with some complications. Varicose veins have been recognized as a chronic disorder of surgical importance since ancient times (1). The term “Varicose” was derived from Latin word “VARICOUS”, which means “dilated”. According to U.S. statistics 23% of American adults have varicose veins. If spider telangiectasis and reticular veins are also considered, then the prevalence increases up to 80% in males and 85% in females (2). Varicose veins are common problem and are present in at least 10% of the general population. So far as the aetiology is concerned varicose veins mostly occur due to incompetence of their valves. Risk factors for varicose veins include obesity, female sex, inactivity and family history. Varicose veins are penalty of erect posture which the human beings have adopted. Commonly occurs in those whose works demand standing for long hours like conductors, drivers of the trams (3). Varicosity of lower limb develops in a very slow process, asymptomatic and probably harmless and only when the complications of varicosity like pain, edema, ulcer, skin changes and thrombosis occur, and then the patients present themselves for the relief. Commonly this problem is tackled either by a conservative approach or by surgical interference, both of which have their limitations (4,5). In the present study, an attempt is being made to study various clinical presentations of varicose veins, their management and complications.

Materials and Method

The data for the study was obtained from the patients admitted and treated in Santosh Medical College and Hospital Ghaziabad for a period of one year from September 2020 to August 2021.

Method of data collection

Patients presenting with signs and symptoms of varicose veins, who were diagnosed as having varicosities of the superficial veins by clinical examination, were taken up for the study, after explaining the nature of the disease and various modalities of treatment available. Accordingly, 100 patients with primary varicose veins of lower limbs were included in the present study. Written informed consent was taken. Various presentations, complications and treatments were noted and finally followed up for minimum of 3 months.

Inclusion criteria

The inclusion criteria, being, patients presenting with symptomatic varicose veins, those patients presenting with complications of the disease such as pigmentation, eczema, ulceration, superficial thrombophlebitis, etc. and patients with cosmetic concern. The most specific criteria were patients with primary varicose veins of lower limb.

Exclusion criteria

The patients who were treated on an outpatient basis were not included in the study. Patients with secondary varicose veins due to deep vein thrombosis and other causes of venous obstruction like a mass per abdomen and pregnancy were also excluded.

Clinical examination

History and examinations were completed as mentioned in the proforma. The patient was examined in standing position with good illumination, exposing both the lower limbs completely. The required tests were performed such as, Brodie Trendelenburg I and II, Modified Perthe's test, Multiple tourniquet test, Schwartz test, Morrissey's cough impulse test, Fegan's test, Abdominal and rectal examination.

Color doppler ultrasonography

Using a 10MHz probe, the patient was examined in standing position along the whole length of the long saphenous and short saphenous systems. The important things noted were, saphenofemoral junction incompetence, saphenopopliteal junction incompetence, perforator incompetence, deep venous system

Operative procedures

The following operative procedures were undertaken depending upon clinical and Doppler findings.

- High, flush ligation of saphenofemoral junction with or without stripping of long saphenous vein.
- High, flush ligation of saphenopopliteal junction without stripping of short saphenous vein.
- Incompetent perforator vein subfascial ligation.

After dressing the wound, graded pressure bandage was applied with the help of Elastic crepe bandage. Wound were reviewed on day five and assessed about wound healing and looked for any complications.

Follow-up

All patients were discharged around 7-10 days after surgery with elastic crepe bandage. They were all followed up at 15 days, 1, 3 and 6 months.

Results

The age of the patients ranged from 10 to 75. Commonest age group affected was between 31-40 yrs. Out of 100 patients 26 were female and 74 were male. In 14 patients (14%) there was positive family history of presence of varicose veins and in 86 patients (86%) occupational influence was seen (Table 1). Most commonly affected limb was left limb, (in pts 50) 50 %, when compared to right (in 28 pts)

28%. Both the limbs were involved (in 22 pts) 22% long saphenous system was the most common venous system affected by varicosity (62%). Both the long and short saphenous system was affected in 22% of the cases. Our patients presented with varied symptoms, out of which dilated veins was most common compliant in 34% of the patients, followed by pain in the leg in 22% (Table 2). There were totally 174 Incompetent perforators present and commonest were above ankle perforator, which was present in 68 out of 172 pts (39.5%). 18 of our patients (41%) showed symptomatic relief with conservative treatment. In 14 pts (32%) ulcer showed signs of healing with compression for 3 weeks. 6 pts (14%) had ulcer recurrence. In 46 cases SFJ ligation with stripping of LSV with incompetent perforator ligation was done and in 6 pts only SPJ ligation was done. 52 patients developed complications post operatively. Delayed wound healing was commonest among all and was seen in 16 (31%) cases (Table 3).

Table 1
Demographic characteristics of the patients

Characteristics	No of cases	Percentage
Age (years)		
10-20	0	0
21-30	6	6
31-40	38	58
41-50	24	24
51-60	14	14
61-70	12	12
>70	6	6
Gender		
Male	74	74
Female	26	26
Family and occupational history		
Family	14	14
Occupational history	86	86

Table 2
Distribution of patients according to side affected, venous system and symptoms

Characteristics	No of cases	Percentage
Side affected		
Left	50	50
Right	28	28
B/L	22	22
Venous system		
Long Saphenous System	62	62
Short Saphenous System	16	16
Both systems	22	22
Symptoms		
Dilated veins	34	34
Pain in the legs	22	22

Venous Ulcer	16	16
Darkening of the skin (Ankle)	6	6
Itching	10	10
Chronic swelling of limbs	2	2
Bleeding from trauma	4	4
Tender swelling	6	6

Table 3
Distribution of patients according to performance incompetence, compression therapy, treatment given and complication

Characteristics	No. of cases	%
Perforator Incompetence		
Thigh	20	11.6%
Below Knee	62	36.04%
Above ankle	68	39.5%
Unnamed	22	12.79%
Compression therapy		
Symptomatic relief	18	41
Signs of ulcer healing at the end of 3 wks	14	32
Ulcer Healing after surgery	36	82
Ulcer recurrence	6	28
Treatment Given		
SFJ flush ligation with stripping of LSV	18	18
SFJ flush ligation with stripping of LSV with incompetent perforator ligation	46	46
SFJ, SPJ ligation with stripping of LSV with incompetent perforator ligation	24	24
SPJ ligation without stripping of SSV	6	6
Conservative management	6	6
Complication		
Seroma	8	15
Haematoma	4	8
Infection	6	11
Limb oedema	4	8
Paraesthesia	0	0
Delay healing	16	31
Residual varicosity	14	27

Table 4
Distribution of patients according to recurrence and hospital stay

Characteristics	No. of cases	%
Recurrence		
Sapheno Femoral (n=88 limbs)	8	9
Sapheno Popliteal (n=30 limbs)	6	20
Days of Hospital stay		

7-10	64	128
10-15	28	56
15-20	8	16

Table 5
Distribution of patients according to clinical signs and colour Doppler findings

Findings	Clinical signs	Colour doppler
Sapheno femoral Jn.	66	76
Sapheno popliteal Jn.	8	30
Thigh	6	20
Below knee	52	68
Above ankle	42	62
Unnamed	10	22
Total	184	278

Discussion

The age distributions of varicose vein show majority of patients are between the age of 20 to 40 years which correlates well with study conducted by Mirji P et al and Campbell WB et al. Mirji P et al, in his descriptive study reported that youngest was 20 yrs and oldest was 65 yrs most common age group of incidence of varicose veins being 21-30 (6). Das K et al, in his study of outcome of surgical management and recurrences of varicose veins showed patients were found mostly in the age group of 41 to 60 and the second most common age group was between 21 to 40 years of the age. These results might be due to significant risk of advancing age. Prasad P et al reported the commonest age at presentation to be 30-40 yrs (7).

In the Edinburgh vein study, the prevalence of trunk varicosities in the age groups 18-24 years, 25-34 years, 35-44 years, 45-57 years and 55-64 years was 11.5, 14.6, 28.8, 41.9 and 55.7 percent, respectively (8). Maximum number of patients 19 (38%) presented in the 31-40 years age group. The next common age group of presentation was 41-50 years with 12 patients (24%). 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. Varicose veins is a common condition in the young and middle aged peoples (9). This study suggests higher frequency of male patients (74%) being affected by varicose veins is probably due to their lifestyle. This disparity may be due to the fact that patients are from the low socio-economic background and cosmetics is not a concern, as these patients do not wear clothes exposing their legs, and female patients of poor socioeconomic status are less likely to seek medical advice.

Edinburgh et al, study showed that the age adjusted prevalence of trunk varices was higher in men (39.7%) than women (32.2%).2 Whereas all other studies such as, Bulgarean study, Finland, Bobek et al, showed women to be affected more than men. Pavan BK et al showed higher prevalence of varicose veins in males (78%) than female (22%). The major finding from this study was the significantly higher prevalence of varicose veins in men as compared to women. Higher prevalence of men has been reported in another Indian study and Edinburgh

study (10). The percentage of women suffering from varicose veins was low as compared to western study done by Kontosic et al, Baric et al and Mimica et al. Sakurai T et al, showed female preponderance (F-77.5% Vs M-22.5%). Vaidyanathan S et al, showed equal distribution among males and female population. According to Mirji P et al, incidence of varicose veins is are among males (75%) in comparison with females (25%).

Conclusion

From the present study, it is concluded that, varicosity of the lower limb is a fairly common clinical entity. The number of cases reporting to the hospital is much less than the real incidence; because in absence of troublesome symptoms, patients do not seek treatment in our country. No definite conclusion could be drawn from the present series regarding etiology, as the number is small. However, a definite relationship exists between the occupation and the incidence of varicose veins. The involvement of long saphenous system is more common than the short saphenous system and left limb is affected more than right limb. Clinical examination has got good predictive accuracy. It gives sufficient information to treat the patients in centers where colour Doppler is not available or affordable. The use of colour Doppler is a valuable supplement to clinical examination. And it can be used as an adjuvant to prevent recurrences and reduce morbidity. SPJ junction is highly variable and should always be marked pre-operatively using Doppler. Conservative treatment though relieves symptoms, it cannot be the definitive treatment and it has to be followed by some form of definitive treatment. Operative line of treatment is a primary procedure in the management of varicose veins of lower limbs. LSV tripping up to knee and non stripping of SSV is associated with less morbidity.

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