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A PROSPECTIVE STUDY OF CLINICAL PROFILE AND MANAGEMENT OF VARICOSE VEINS IN A TERTIARY CARE HOSPITAL

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Abstract

Introduction: Varicose veins are a superficial vein of the lower limb that has permanently lost its valvular efficiency and has become dilated, tortuous, and thickened as a result of the resulting venous hypertension in the standing position. Varicose veins affect 23% of American adults, according to statistics. When spider telangiectasis and reticular veins are included, the prevalence rises to 80% in males and 85% in females. Varicose vein disease is distinguished by dilated, elongated, and tortuous superficial veins of the lower limbs, which may allow blood to flow backwards due to faulty valves.

Materials and methods: The present study had been carried out in the tertiary care hospital settings of surgery department at Tagore Medical College and hospital, Chennai. The study was prospective observational single center study. The period of study was from April 2023 to March 2024 for 12 months. 90 patients were selected for the study. Patients of varicose veins of lower limbs of age 14 years and above irrespective of sex, cases of recurrent varicose veins, patients of chronic varicose veins and its complications like venous ulcer, deep vein thrombosis were included in the study. Patients who did not give valid informed consent, unreported serious adverse events and patients not following instructions of operating surgeon also not coming for follow up were excluded from the study.

Results: Varicose veins of the lower limb are disease of adult life. The youngest in the study was 23 years and the eldest was 69 years (Table 1). In our study, 69 patients were male and 21 patients were female (Table 2). Farmers forms the largest proportion around 33.33%. Manual labourer forms 30%. This disease affects mostly lower socioeconomic classes and those who stand for prolonged periods. The right limb was involved in 40% of cases and the left limb in 46.67% of cases. The bilateral varicose veins were seen in 13.33% of patients (Table 4).

Conclusion: Both the limbs were involved in 12 patients. The involvement of long saphenous system is more common than the short saphenous system and left limb is affected more than right limb. A greater portion of the patients had combined valvular incompetence with advanced hemodynamic disturbances at presentation. Sapheno-femoral incompetence is the most commonly observed pathology. Of the perforators below knee perforator is commonly involved.

Sapheno-femoral flush ligation with stripping and perforator ligation appeared to be the best method of surgical management for in competence in the long saphenous vein territory. In the presence of short saphenous vein incompetence sepheno-popliteal flush ligation with stripping needs to be added.

Key Words: Varicose veins, long saphenous system, sepheno-popliteal flush ligation, short saphenous vein.

INTRODUCTION

Varicose veins are a superficial vein of the lower limb that has permanently lost its valvular efficiency and has become dilated, tortuous, and thickened as a result of the resulting venous hypertension in the standing position.[1] Varicose veins affect 23% of American adults, according to statistics. When spider telangiectasis and reticular veins are included, the prevalence rises to 80% in males and 85% in females. Varicose vein disease is distinguished by dilated, elongated, and tortuous superficial veins of the lower limbs, which may allow blood to flow backwards due to faulty valves.[2] The patient is concerned about the unsightly appearance of dilated tortuous veins in the early stages of the disease, but if left untreated, the later stages are marked by itching due to dermatitis, swelling, and ulceration.[3]

The disease is one of the most common surgical problems among low socioeconomic groups in India. The patient is concerned about the unsightly appearance of dilated tortuous veins in the early stages of the disease, but if left untreated, the later stages are marked by itching due to dermatitis, swelling, and ulceration.[4] The disease is one of the most common surgical problems among low socioeconomic groups in India. The problem can have an economic impact because it can cause absenteeism at work and sometimes force them to change jobs.[5]

The objectives of our study was to study the clinical profile of varicose veins, complications of varicose veins, different modalities of treatment of patients of varicose veins and advanced modalities for treatment of varicose veins.

MATERIALS AND METHODS

The present study had been carried out in the tertiary care hospital settings of surgery department at Tagore Medical College and hospital, Chennai. The study was prospective observational single center study. The period of study was from April 2023 to March 2024 for 12 months.

90 patients were selected for the study. Patients of varicose veins of lower limbs of age 14 years and above irrespective of sex, cases of recurrent varicose veins, patients of chronic varicose veins and its complications like venous ulcer, deep vein thrombosis were included in the study. Patients who did not give valid informed consent, unreported serious adverse events and patients not following instructions of operating surgeon also not coming for follow up were excluded from the study.

All patients detailed history were taken like age, sex, occupation, complaints, past history of any operation, obstetric history in case of female patients. All clinical tests of varicose veins were applied for every patient. General, systemic and local examination was done. Patients of affected limb was classified as per CEAP classification. All patients were subjected for duplex (Doppler)-USG of affected limb. All patients were offered conservative treatment in the form of compression stockings, advice regarding change of lifestyle, occupation counselling. Medical (drug) treatment as per the need was given. Follow up after 4 weeks was advised. Patients were subjected to surgical interventions as indicated.

Data analysis

The postoperative course was noted, minor complications were attended and treated accordingly. Patients were followed up after 4 weeks. Final outcome was evaluated. All the clinical data of each patient were recorded in the pre coded clinical proforma designed for the study, analysed using IBM SPSS Software and was compared with various other studies.

RESULTS

Varicose veins of the lower limb are disease of adult life. The youngest in the study was 23 years and the eldest was 69 years (Table 1). In our study, 69 patients were male and 21 patients were female (Table 2). Farmers forms the largest proportion around 33.33%. Manual labourer forms 30%. This disease affects mostly lower socioeconomic classes and those who stand for prolonged periods.

Age in years	Number	Percentage
20-30	15	16.67
31-40	24	26.67
41-50	24	26.67
51-60	21	23.33
61-70	6	6.66
Total	90	100

Table 1: Age distribution

Gender	Number	Percentage
Male	69	76.67
Female	21	23.33

Table 2: Gender distribution

Occupations	Number	Percentage
Farmer	30	33.33
laborer	27	30
Driver	9	10
Housewife	6	6.67
Student	6	6.67

Conducter	6	6.67
Shopkeeper	3	3.33
Teacher	3	3.33
Total	90	100

Table 3: Occupation distribution

Limbs involved	**Number**	**Percentage**
Right	36	40
left	42	46.67
Both	12	13.33
Total	90	100

Table 4: Limb involvement

The right limb was involved in 40% of cases and the left limb in 46.67% of cases. The bilateral varicose veins were seen in 13.33% of patients (Table 4).

Veins involved	**limbs**	**Percentage**
Great saphenous	87	96.67
Short saphenous	3	3.33
Both	0	0
Perforator	72	80

Table 5: Venous system involved

As the long saphenous vein extends along the whole length of the limb, it bears the brunt of the erect posture. The long saphenous vein was involved in 96.67% of cases, the second victim being the perforators which was involved in 80% of cases. There was only a single case of isolated short saphenous vein involvement out of 90 cases (Table 5).

Site of incompetence	**Number**	**Percentage**
Great saphenous vein	15	16.67
Great saphenous vein+perforator	57	63.33
Short saphenous vein	3	3.33
Perforator	15	16.67

Table 6: Site of incompetence

Symptoms	**Number**	**Percentage**
Prominent veins	69	76.67
Prominent veins + pain	9	10
Prominent veins + pigmentation	3	3.33
Prominent veins + healed ulceration	6	6.67

Prominent veins+active ulceration	3	3.33

Table 7: Clinical features at presentation

In our study, almost all patients came with complaint of prominent veins at the time of presentation out of which 76.67% of patients shares isolated prominent veins. Other symptoms like pain, pigmentation, edema and ulceration were also associated with prominent veins (Table 7).

Surgical Procedures	Limb	Percentage
Saphenofemoral flush ligation (SFFL)	9	10
Bisgards regime (BR)+perforator ligation (PL)	3	3.33
PL	9	10
Subfascial endoscopic perforator ligation (SEPS)	3	3.33
Saphenopopliteal ligation (SPL)	3	3.33
Sapheno-femoral flush ligation+stripping	9	10
Sapheno-femoral flush ligation+stripping+PL	54	60

Table 8: Surgical procedures performed

Postoperative complications	Number	Percentage
Wound infection	3	3.33
Saphenous neuritis	3	3.33
Hematoma	9	10
Residual varicosity	3	3.34
Total	18	20

Table 9: Postoperative complications

Hospital stay in days	Number	Percentage
Less than 5	0	0
5-10	30	33.33
11-15	48	53.34
Greater than 15	12	13.33

Table 10: Duration of hospital stay

In our study, out of 90 patients only three patients showed recurrence, one case which was operated for perforator ligation and two cases operated for sapheno-femoral flush ligation with stripping and perforator ligation.

DISCUSSION

In our study the age range is from 23 years to 69 years and the most common age group for varicose veins was 31-50 years. 48 patients, more than 50% of the patients were in the age group of 31-50 years. Joseph et al found that majority of cases were of the age group 41-50 years. Athar Mohammad et al studied that most of the patients (93.4%) were in the 20-50 years age group. Mirji et al study revealed that the disease was more prevalent during the active adult life in their 3rd and 4th decades. Piazza studied that majority of cases were between the ages of 40 to 80 years.[6]

In our study, varicose veins showed male dominance, out of thirty patients 69 patients were male, contributing 76.67 percentage. Joseph et al found that 74.7% of patients were male. Latif et al recorded that varicose veins were more in male. Mohammad et al found that male (91.25%) patients were dominant than the female. Mirji et al studied that only 25% of the total patients in this study were females as compared to males who made 75% of total case.[7]

The present study showed about 80% of the patients had occupation history of prolonged standing (like farmer, manual labour, bus conductor, teacher) which suggested that occupation had a definite role as a causative or a contributing factor. Joseph et al recorded that majority were unskilled workers. Mohammad et al studied that varicose veins are common in people having occupation which involved prolonged standing. Yun et al studied that lower-limb varicose veins were common and known to have a higher prevalence among people who worked in occupations requiring prolonged standing.[8]

The right limb was involved in 36 cases and the left limb in 42 cases. Our study showed slightly increased incidence of varicosity on the left limb. The cause of increased incidence of left side was not known. The probable reason followed a more tortuous course through the pelvis, with left common ileac vein traversed by the right common ileac artery. The bilateral varicose veins were seen in 13.33% of patients. Joseph et al studied that varicose veins on the left side were more involved than on the right. Mohammad et al recorded that the right limb was involved in less cases than the left limb. Mirji et al study showed slightly increased incidence of varicosity on the left limb.[9]

Majority of the patients in this study reported to the hospital for prominent veins (76.67%) which occurred alone or in combination with pain, oedema, eczema, pigmentation or ulceration. Joseph et al found that the most common presentation in varicose veins was ulceration followed by pain which differs from our study. Latif et al found that usual complaints prominent veins, pain and cosmetic reasons were the common presentation. Samane et al studied that the commonest symptom was dilated, tortuous veins followed by pain. O'Leary et al recorded that prominent veins and aching were the most frequent reason for presentation.

60% of the patients had multiple perforator incompetence. Patients who had multiple perforator incompetence had one or the other complications of varicose veins. Isolated above knee

perforator incompetence was seen in 60% of patients, below knee perforator incompetence was seen in 76.67% of patients.

Sapheno-femoral junction ligation including the ligation of anatomically constant tributaries at its termination with stripping of long saphenous vein by Myers stripper up to the knee and ligation of incompetent perforator was done in 54 cases. Sapheno-popliteal flush ligation was done in 6 cases and flush ligation of SFJ and stripping of LSV was done in 9 cases. Subfascial endoscopic perforator ligation performed only in one case. In Pavan et al series all patients were managed surgically and patients were managed conservatively till surgery was feasible.[10]

CONCLUSION

The study revealed slightly increased incidence of varicosity in the left lower limb as compared to right lower limb (right limb:left limb was 1:1.67). The cause for the same is not known but could be the probable reason for increased incidence on left side is that the venous drainage of the left leg follows a more tortuous course through the pelvis, with left common ileac vein traversed by the right common ileac artery.

Both the limbs were involved in 12 patients. The involvement of long saphenous system is more common than the short saphenous system and left limb is affected more than right limb. A greater portion of the patients had combined valvular incompetence with advanced hemodynamic disturbances at presentation. Sapheno-femoral incompetence is the most commonly observed pathology. Of the perforators below knee perforator is commonly involved. Sapheno-femoral flush ligation with stripping and perforator ligation appeared to be the best method of surgical management for in competence in the long saphenous vein territory. In the presence of short saphenous vein incompetence sepheno-popliteal flush ligation with stripping needs to be added. Complications due to surgery were mainly hematoma formation, wound infection, lymphorrhoea and saphenous neuritis and hematoma formation was the most common complication in our study. Mean hospital stay were 11 days (minimum-6 days and maximum-19 days).

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