

Research Article

CLINICAL FEATURES AND SURGICAL MANAGEMENT OF VARICOSE VEINS OF LOWER LIMBS.

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Abstract: **Background:** Despite all the advances in management, stripping remains important in the treatment of varicose veins and is usually preferable to endovenous procedures if carried out correctly. Since the prehistoric era, varicose veins of lower extremities are one of the most common ailments affecting humankind. With the adoption of erect posture, human became susceptible to pathology of varicose veins of dependent venous system. **Materials and methods:** This is a prospective study was conducted over a two-year period all admitted patients to a Tertiary Care Teaching hospital of varicose veins were evaluated for demographics, clinical manifestations, treatment and outcome. In the present study the clinical material consists of all the patients admitted with varicose veins of lower limb. **Result:** In our study, maximum number of patients were in 18-30 years and predominant were male. In this series, 46 patients had varicosity in the left lower limb and 38 had varicosity in the right lower limb and the remaining 6 had bilateral limb involvement. Among them prominent veins and pain were the main complain in 70 (77.7%) patients. Itching and pigmentation were present in 8 (8.9%) patients. Ankle edema was present in 7 (7.8%) patients. Pain and ulceration of lower leg were present in 5 (5.6%) patients. Out of 90 cases studied, 37 (41.1%) had only long saphenous vein, 15 (16.7%) had short saphenous vein and in 14 (15.5%) cases both short and long saphenous were involved. In addition to long saphenous vein, incompetent perforators were present in 24 (26.7%) cases. **Conclusion:** Operative line of management should be the first line of treatment even though conservative management relieves the symptoms but always requires a definitive management. In the present study, varicose veins are commonly seen in males, maximum in the age group of 30 to 50 years. Most common presenting symptom is visible dilated veins over lower limb but more than half of the patients present with one or more complications..

Keywords: Varicose veins, Colour Doppler, Long saphenous vein, Wound infection .

INTRODUCTION

Varicose vein is dilated, elongated, tortuous, and often palpable superficial venous system of the body, especially of the lower extremities, having subcutaneous veins with diameter ≥ 3 mm measured in upright erect position with demonstrable reflux. Varicose veins can be caused by several pathophysiological mechanisms, common among them are venous hypertension, incompetence of valves, changes in vein structure, inflammation and sheer stress, venous outflow obstruction, or calf pump failure. [1]The most common peripheral vascular disease is the varicose veins of lower extremities. The prevalence of varicose veins among adults is estimated to range from 20 to 40%. The presence of varicose veins reported a prevalence of varicose veins in 10–40% in men and 26–32% in women. [2]Treatment of varicose veins can be justified by its positive impact on quality of life. The treatment is determined by the stage of the disease; early cases are treated with pressure therapy, including medical elastic stocking therapy, elastic bandage therapy, and intermittent pressure compression therapy, which can temporarily relieve pain by external pressure. As the disease progresses, these treatment methods for patients with varicose veins of lower limb are not very effective. Surgical intervention as the main way of

radical resection of varicose veins of lower extremities commonly includes high ligation and stripping (HL/S) and valvuloplasty. [3] However, the above methods have some disadvantages including more surgical incisions. There have been no clear guidelines on when to select conventional surgeries or endovenous procedure for the management of varicose veins. Despite all the advances in management, stripping remains important in the treatment of varicose veins and is usually preferable to endovenous procedures if carried out correctly. In very superficially coursing saphenous veins in particular, an invaginating stripping procedure can produce a better cosmetic result. Varicose veins and their associated symptoms and complications constitute the most common chronic vascular disorder of the lower limb. The term varicose is derived from the Latin word meaning dilated. Varicose veins are defined as dilated, tortuous and elongated veins. Varicose veins are a common medical condition present in at least 10% of the general population. [4] The symptoms of varicose veins range from asymptomatic varicose veins to more severe complications such as ulceration and bleeding. Varicose veins may cause significant morbidity including dermatitis, ankle, spontaneous bleeding, superficial thrombophlebitis, lipodermatosclerosis and ulceration. Varicose veins were recognized prehistorically and many inventions were made

regarding the diagnosis and treatment of varicose veins by many phlebologists including many bandaging techniques, ligation and stripping of veins. The attention was mainly towards the mechanical effects of the varicosity rather than the basic cause. It is only in the recent past that considerable knowledge has been gained concerning the anatomy of the venous system of the leg, the physiological mechanism of venous return to the heart against gravity and pathology of the disorder, which has lead to many newer modalities of investigations and treatment. The Doppler ultrasound and duplex imaging has become the mainstay of investigations in the diagnosis of chronic venous insufficiency. [5]

MATERIALS AND METHODS

In the present study the clinical material consists of all the patients admitted with varicose veins of lower limb in the Department of Surgery in a tertiary Medical College Hospital. **Sample Size** Thirty two cases admitted and operated from all the surgical units during the period. **Collection of Data** All the patients presenting with varicose veins of lower limb, which met the inclusion and exclusion criteria were selected for this study.

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 was 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. So this study consisted of thirty two patients who met with these criteria. Informed consent was obtained from each patient before any investigation or intervention. A thorough history was taken in all the patients. A detailed clinical examination was done. All the clinical tests were applied to arrive at a probable diagnosis. Then the patients were subjected to duplex ultrasonography to confirm the diagnosis. The routine investigations were also done. The patients underwent suitable treatment based on their clinical and investigational profile. The post-operative course was noted. Further the patients were followed up and final outcome evaluated. Ethical clearance was obtained from the ethical committee prior to conducting the study.

RESULTS

In our study, maximum number of patients were in 18-30 years and predominant were male in table 1 and 2.

Table 1: Distribution of age group of patients

Age in years	Number of Patients	Percentage
18-30	49	54.5
31-50	38	42.2
51-70	2	2.2
>71	1	1.1
Total	90	100

Table 2: Distribution of Sex

Gender	Number of Patients	Percentage
Male	61	67.8
Female	29	32.2
Total	90	100

Table 3: Limb involvement

Gender	Number of Patients	Percentage
Left leg	46	51.1
Right leg	38	42.2

Bilateral	6	6.7
Total	90	100

In this series, 46 patients had varicosity in the left lower limb and 38 had varicosity in the right lower limb and the remaining 6 had bilateral limb involvement in table 3.

Table 4: Presentation of symptoms

Presentation of symptoms	Number of Patients	Percentage
Prominent vein and pain	70	77.7
Itching and pigmentation	8	8.9
Ankle edema	7	7.8
Pain and ulceration	5	5.6
Total	90	100

In table 4, among them prominent veins and pain were the main complain in 70 (77.7%) patients. Itching and pigmentation were present in 8 (8.9%) patients. Ankle edema was present in 7 (7.8%) patients. Pain and ulceration of lower leg were present in 5 (5.6%) patients.

Table 5: Type of venous system involved.

Type	Number of Patients	Percentage
Long saphenous	37	41.1
Long saphenous + incompetent perforators	24	26.7
Short saphenous	15	16.7
Both long and short saphenous veins	14	15.5
Total	90	100

In table 5, out of 90 cases studied, 37 (41.1%) had only long saphenous vein, 15 (16.7%) had short saphenous vein and in 14 (15.5%) cases both short and long saphenous were involved. In addition to long saphenous vein, incompetent perforators were present in 24 (26.7%) cases.

Table 6: Surgical procedure performed.

Surgical procedure	Number of Patients	Percentage
Saphenofemoral flush ligation and ligation of anatomical constant tributaries at their termination along with stripping of long saphenous vein by using intraluminal stripper.	38	42.2

Perforators were identified sub-fascially and ligated in addition to the above procedure.	29	32.2
Saphenofemoral and saphenopoplital flush ligation with stripping of both long and short saphenous vein	9	10
The saphenofemoral, saphenopoplital flush ligation with stripping of long and short saphenous vein and sub-fascial ligation and excision of incompetent perforators were performed	6	6.7
Saphenopoplital flush ligation with stripping of short saphenous was done after ligating the tributaries.	4	4.4
Saphenopoplital flush ligation with sub-fascial ligation of perforators	4	4.4
Total	90	100

DISCUSSION

A varicose vein is one of the common clinical disorders encountered by the surgeons in regular practice. This is a silent disease which develops in early life and assumes a silent course in the life time. This condition is not associated with mortality but with high morbidity and associated complications due to development of venous hypertension. Male predominance with 66.25% of males in our study was observed which is similar to the findings of many Indian studies, but studies conducted in western countries report female dominance which is due to the scenario that females in india are not exposed to high risk of work which involve prolonged standing and physical stress due to cultural and socioeconomic conditions. [7] In the present study, majority of the cases (40%) were in the age group of 41 to 50 years with a mean age of 43.40 years which is on par with the findings in the study of Mishra et al from india and McGuckin. [8] As most of the studies universally reported, dilated veins was the most common symptom in our study also with 85% of cases as compared to Rudofsky et al with 90% and Shankar et al with 94% in their studies. [9] Observation of varicose veins in several members of the same family suggest a clear hereditary factor as cause of varicose veins, in our study 30% of the cases had a definitive family history which is similar to the reports of Staniszewska et al who conducted a study among the European population and reported significant association between varicose veins and family history. [10] In the present study, skin changes like lipodermatosclerosis, pigmentations and eczema were observed in 47.5% of cases which is quite higher when compared with the studies in western population which may be due to less cosmetic importance among the Indian population and neglected nature of the minor ailments like swelling without any pain? Agarwal in his study reported an incidence of 52% of skin changes among the cases in his study which is on par with the present study. [11] Right limb was involved in 60%, left in 25% and bilateral involvement in 15% of cases in the study. Many studies

reported an increased involvement of left limb which is contrary in our present study. The explanation of left limb involvement may be due to compression of left iliac veins by left loaded colon, left common iliac vein crossing over left iliac artery, and the longer course travelled by left iliac veins. In the present study, no significant association was found between smoking and alcoholism and the occurrence of varicose veins. Findings of our study were comparable with the reports of Carpentier. [12] In our present study, the long saphenous vein was involved in 52.5% of all cases, short saphenous in 27.5% and both in 20% of cases. Findings of our study were on par with the findings of many studies conducted universally and also in Indian scenario. In a study by Vashist, 60% of patients had involvement of great saphenous vein (GSV), 17% patients had small saphenous vein (SSV) while 23% patients had involvement of both GSV and SSV. [13] In the present study, in 30% of the cases, site of perforator incompetence was noted in below knee position, 27.5% above the ankle, 20% in the thigh region and 8.75% unnamed findings of our study were on par with the findings of Marrocco. [14] Wound infection was the most common postoperative complication observed in all tehcases managed surgically. SSFL with stripping of long saphenous vein was performed in 41.25% of the cases

CONCLUSION

In the present study, varicose veins are commonly seen in males, maximum in the age group of 30 to 50 years. Most common presenting symptom is visible dilated veins over lower limb but more than half of the patients present with one or more complications. Most commonly venous system involved is great saphenous vein system and most commonly involved perforators are below knee perforators. SSFL with stripping of long saphenous was the most common procedure performed. None of the cases had recurrence after one year of follow-up. Operative line of management should be the first line of treatment even though conservative management relieves the symptoms but always requires a definitive management.

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