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Original Research Article

A study to analyses the clinical features and various treatment modalities of varicose veins of lower limbs

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ABSTRACT

Background: Varicose veins are defined by WHO as abnormally dilated saccular or cylindrical superficial veins, which can be circumscribed or segmental. This includes tiny spider telangiectasia's as well as grossly dilated saphenous varicosities. It involves at least 1 out of 5 in the world and with increasing population, increased life span and change in life style, the problem is ever growing. The objective of this study is to analyse the clinical features and various treatment modalities adopted for the management of varicose veins of 40 has some form of varicosity or telangiectasia of the veins.
Methods: A prospective study was conducted in CG hospital and Bapuji hospital attached to JJM Medical College, Davangere from June 2009 to May 2011. A total of 40 cases were included in the study duration. All patients who presented to the outpatient department with signs and symptoms of primary varicose veins were interviewed with preformed performa, meticulously examined and later subjected to color doppler studies before they underwent surgery for the same.
Results: The incidence of varicose veins was seen most commonly in male when compared to female in this study. The family history of varicose veins was seen in only 12.5% of the subjects. In this study patients presented with varied symptoms, out of which dilated veins was most common 37 (92.5%) patients followed by aching pain 22 patients (55%).
Conclusions: Varicosity of the lower limb is a common clinical entity. The number of cases reporting to the hospital is much less than the real incidence because in the absence of symptoms due to varicose veins patients do not seek treatment in our country. Most of the patient presented to the hospital for one or the other complications not for the cosmetic purpose.

Keywords: Cosmetic, Doppler, Lower limb, Varicose veins

INTRODUCTION

Varicose veins and their associated symptoms and complications constitute the most common chronic vascular disorders leading to surgical treatment. Varicosity is the penalty for verticality against gravity.[1] The term Varicose is derived from the Latin "Varix" (pleural "Varices") which in turn possibly derived from 'Varus' meaning bent. Physiologically speaking a varicose vein is one which permits reverse flow through its faulty valves.[2] Varicose veins are defined by WHO as abnormally dilated saccular or cylindrical superficial veins, which can be circumscribed or segmental.

This includes tiny spider telangiectasia's as well as grossly dilated saphenous varicosities.[3] Varicose veins are common. The disease appears to be most common in Europe and USA, with an estimated 24 million adults in

this country affected by varicose disease. Nearly 50% of the population over the age of 40 has some form of varicosity or telangiectasia of the veins. Between 10% and 20% adults have significant varicose veins, and 0.5% has superficial varicosities associated with chronic venous stasis and ulceration.[3]

Varicose veins have been recognized as chronic disorder since ancient times. Hippocrates discussed them 2500years ago. It involves at least 1 out of 5 in the world and with increasing population, increased life span and change in life style.

So, the problem is ever growing. 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.

The Edinburgh Venous study (EVS) published examined over 1500 adults in UK, showed that 39.7% of men and 32.2% of women had a dilated tortuous trunk of the long and/or short saphenous vein and their first or second order branches.[4] The prevalence of webs or small reticular varicosities was even higher at over 80% for both males and females.

Although it was previously believed that varicose veins are more common in women, few other population studies confirm that varicose veins are at least as common in men. The prevalence of varicose veins rises with age in virtually all published studies, the prevalence of trunk varicosities in the EVS rose from 11.5% in the 18-24year old group to 55.7% in those aged 55-64.

Although there is considerable anecdotal evidence to suggest that varicose veins are less common in developing countries like ours, the absence of adequate epidemiological data leaves the question open. It is in the developed countries where attire reveals more than it conceals, patients turn up for treatment of cosmetic reasons. In the Indian scenario it is the complications not the cosmetic reasons bring the patient to the doctor.[5] That is the reason, why, though common, varicose veins remain as an iceberg phenomenon. The objective was to analyze the clinical features and various treatment modalities adopted for the management of varicose veins.

METHODS

A prospective study was conducted in CG hospital and Bapuji hospital attached to JJM Medical College, Davangere from June 2009 to May 2011. A total of 40 cases were included in the study duration. All patients who presented to the outpatient department with signs and symptoms of primary varicose veins were interviewed with preformed performa, meticulously examined and later subjected to color doppler studies before they underwent surgery for the same. The patients underwent treatment based on their clinical and investigational profile. The post-operative course was noted. Further the patients were followed up on 1st and 3rd month. If necessary, repeat investigation (Duplex USG) was done. Outcome was evaluated. All the information was taken down in the performa, designed for the study. Important data pertaining to each case is shown in the master chart.

All patients with primary varicose veins of lower limb due to superficial and perforator venous incompetence, those presenting with complications like chronic swelling, skin changes (lipodermatosclerosis, eczema, pigmentation etc.), venous ulceration and post-operative cases of varicose veins presenting with complications were included. The patients with secondary varicose veins and varicose veins associated with deep vein thrombosis were excluded.

RESULTS

A total of 40 cases were included in the analysis in the study. In this study most of the study subjects were in the middle age group of 20 to 40years. The incidence of varicose veins was seen most commonly in male when compared to female in this study. The family history of varicose veins was seen in only 12.5% of the subjects. (Table 1).

Table 1: Socio demographic profile of study participants.

Social demographic profile		Number of cases	%
Age	10-20	03	7.5
	21-30	09	22.5
	31-40	11	27.5
	41-50	06	15
	51-60	05	12.5
	>60	06	15
Gender	Male	33	82.5
	Female	07	17.5
SES	1	1	2
	2	3	8
	3	19	47.5
	4	12	30
	5	5	12.5
Family history of varicose veins	Yes	5	12.5
	No	35	87.5

In this study patients presented with varied symptoms, out of which dilated veins was most common 37 (92.5%) patients followed by aching pain 22 patients (55%). Nearly 27.5% of them had limb edema and nearly 32.5% had other skin changes. Long saphenous system is the most common venous system affected by varicosity (64.7%). Both the long and short saphenous system is affected in 26.48 % of the cases.

A greater portion of the patients had combined valvular incompetence (60%). Isolated perforator incompetence was seen in 15% of the patients. The most common was the above ankle group with 24 followed by below knee with 21 cases (Table 2).

The various modalities of treatment given for the study subjects are shown in the Table 3. The complications seen post-operative was seroma (10%), hematoma (7.5%) and paraesthesia (7.5%) and delayed healing in 5%.

Table 2: Clinical presentation of varicose veins.

Clinical Presentation		No. of cases	%
Symptoms	Pain	22	55
	Dilated vein	37	92.5
	Limb edema	11	27.5
	Ulcer	05	12.5
	Others (skin changes etc.)	13	32.5
System involved	Long saphenous system	22	64.70
	Short saphenous system	03	08.82
	Both systems	09	26.48
Site of incompetence	Saphenofemoral	10	25
	Saphenofemoral + Perforator	12	30
	Saphenofemoral + Saphenopopliteal + Perforator	07	17.5
	Saphenopopliteal + Perforator	03	07.5
	Saphenofemoral + Saphenopopliteal	02	05
	Perforator	06	15
Perforators incompetence	Thigh	15	37.5
	Below knee	21	52.5
	Above ankle	24	60
	Unnamed	05	12.5

Table 3: Treatment and complication of the varicose veins.

		No. of cases	%
Treatment given	SFFL	1	2.5
	SFFL + STR	8	20
	SFFL + SPL + STR	2	05
	SFFL + MSFL + STR	9	22.5
	SFFL + MSFL + STR + SSG	4	10
	SFFL + SPL + MSFL + STR	7	17.5
	SPL + MSFL	3	7.5
	MSFL	5	12.5
	Sclerotherapy	1	2.5
Complication	Seroma	4	10
	Hematoma	3	7.5
	Infection	2	05
	Paraesthesia	3	7.5
	Delay healing	2	05
	Recurrence	0	0

DISCUSSION

In my study the age range is from 13 to 70 years. Malhotra SL in their study comprising 677 patients from both north and south India had an age range of 18-65years.[6] In the Wright DD et al, in their study of 1338 patients in England had an age range of 20-75years.[7] Also in my study, maximum number of patients 11 (27.5%) presented in the age group of 31-40years. This age distribution correlates well with other studies conducted by Campbell WB et al, who showed the commonest age at presentation to be 30-40years.[8] In my series male to female ratio was found to be 4.7:1. Malhotra SL, did not record a single case of female patients.

Burkitt DP showed a ratio of 1.5:1.[6,9] Compared to these observations Mekky S et al, did not record even a single case of male having varicose veins.[10] Leipnitz G et al, in Germany recorded a ratio of 1:2. Widmer LK in Switzerland recorded a ratio of 1:1.[11,12]

The decreased occurrence of disease in females at the set up may be since the middle class and lower-class women are not much worried about the cosmetic appearance. Secondly the women may be resistant to complications of varicose veins probably due to? Hormonal influence or less average height compared to male which has a direct impact on venous hypertension or less violent muscular activity.

In present study right and left limb involvement is 52.77% and 47.22% respectively, which was compared with study conducted by Dur AH et al, in which right and left limb accounted respectively for 48.55% and 51.45%. Both limbs involvement in this study were seen in 4 patients.[13] In the present study, the commonest symptom in 37 (92.5%) cases were that of dilated and tortuous veins. 22 (55%) cases had complaints of pain in the affected limb and 11 (27.5%) cases had limb edema, venous ulcer was present in 5 (12.5%) of cases. This finding correlate well with other studies done by Campbell WB et al, with cosmetic symptoms being 90% and aching pain 57%.[8]

In my study 14 patients had complicated varicose veins (class 3 and above) (71.42%) had combined superficial and perforator incompetence, 2 (14.28%) patients each had isolated superficial incompetence and isolated perforator incompetence. [10] In a similar study by Lees TA et al, (60 patients with skin changes), 39 (65%) had combined superficial and perforator incompetence, 17 (28.33%) had isolated superficial incompetence and 2 (3.33%) had isolated perforator incompetence.[14]

In my study over all 70% of patients had perforator incompetence which shows that majority of the cases presenting to the hospital for treatment are advanced cases of hemodynamic disturbances of the limb and it is comparable with study conducted by Labropoulos N et al where 68% had perforator incompetence.[15] We had no recurrence of varicosity in this study with a follow up of a minimum of 6months to 1year. In a small series of this study, it is difficult to assess the results of operative treatment and outcome since the assessment should be evaluated after a long follow up period of at least five years.

CONCLUSION

Varicosity of the lower limb is a common clinical entity. The number of cases reporting to the hospital is much less than the real incidence because in the absence of symptoms due to varicose veins patients do not seek treatment in our country. Most of the patient presented to the hospital for one or the other complications not for the cosmetic purpose. The use of color doppler is a valuable supplement to clinical examination for effective treatment of varicose veins and its use is strongly recommended to prevent recurrences and reduce morbidity as it is effective tool in detecting venous incompetence. Complications are negligible if cases are meticulously selected and operated. The present procedures enable the patient to lead almost normal life after surgery and the mortality rate is very negligible. Though the newer trends in the management of varicose veins are showing good results and they need a long term follow up.

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