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Prospective clinical study of surgical management of varicose veins of lower limb in a Rural Hospital

General Surgery

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ABSTRACT

Background: Varicose veins of the lower extremities are one of the most common peripheral vascular diseases and calls for treatment due to the morbidity and economic impact due to loss of productivity and work hours. Therefore, the present study has been undertaken evaluate the various clinical aspects of varicose veins of lower limb of the patients. **Methods:** The clinical study and observations in this study were based on a clinical proforma which included the determination of Ratio of varicose veins to the total number of cases with vascular complaints, type of vascular complaints, The relationship between the age of the patient and the disease, The sex ratio, The relationship of occupation and the disease, The different presenting complaints, The venous system involved, The limb involved and predisposing factors in the Patients with Varicose Veins. **Results:** Out of the 130 patients admitted with vascular complaints, only 100 cases were afflicted with varicose veins of the lower extremities. Maximum incidence was in the age group 30-50 years . Male preponderance was observed. The most common presenting complaint was dilated veins and pain which varied from dragging pain to night cramps associated with heaviness of the limbs. **Conclusions:** Our study reveals that the disease is most prevalent in the 3rd and 4th decades of life. Most of the patients had long saphenous vein involvement while short saphenous vein was involved in 10 cases and 10 cases had involvement of both venous systems. Many of the patients had perforator incompetency indicating advanced hemodynamic malfunction. Therefore, it was concluded that occupation involving prolonged standing and/ or violent muscular contractions contribute to or precipitate varicose veins if not actually cause them.

KEYWORDS:

Long saphenous vein, Varicose veins, Perforators, SFJ

INTRODUCTION

Varicose veins of the lower limb and their treatment are as old as mankind. Hippocrates discussed them 2500 years ago. It is not found in other animals and it is the human beings, who had to pay for their erect posture. Varicose veins1 constitute a progressive disease that becomes steadily worse. There is never remission of the disease except after pregnancy and delivery, when many of dilated varicosities may disappear. During its course, the disease produces complications, which usually induce the patient to seek medical care.

Varicose veins, though a common condition, many times remain asymptomatic. It is in the developed countries, where Attire reveals more than it conceals, and patient turn up for cosmetic reasons. In our Indian scenario it is the complications, not the cosmetic reasons, bring the patients to the doctor. That is the reason why, though common, varicose veins remains as an iceberg phenomenon.

In the Indian subcontinent, an estimated 23% of adults have varicose veins, and 6% have the more advanced chronic venous disease2 (CVD), including skin changes and healed or active venous ulcers. Varicose veins have long been considered a cosmetic problem that only affected emotional well-being, but was not the source of disability. Varicosities, however, are frequently the cause of discomfort, pain, loss of working days, disability, and deterioration of the health-related quality of life (QOL). Severe CVD may also lead to loss of limb or loss of life.

AIMS AND OBJECTIVES

The study of Varicose veins in the lower limb has been taken up with two aims

1. To study the distribution in age, sex, occupation, clinical features of varicose veins of lower limbs.
2. To study the various modalities of management of varicose veins of lower limb effectively and to prevent its complications.

PATIENTS AND METHODS

Source of data

Patients who were having varicose veins attending Department of General Surgery, Santhiram General Hospital, Nandyal, formed the subject of the study. Our sample size was 100 patients. All patients with varicose veins of any age attending our hospital during the period from Oct 2014 to Sep 2016 were included in the study. Patient with history of acute or chronic deep vein thrombosis was excluded from the study.

INCLUSION CRITERIA:

All patients with varicose veins of any age attending our hospital during the period from OCT 2014 to Sep 2016 were included in the study.

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Patient with history of acute or chronic deep vein thrombosis was excluded from the study.

Methods of collection of the data

In outpatient department, a detailed history and thorough physical examination of the patients having varicose veins were carried out and entered in the proforma. Relevant laboratory investigations were carried out. All patients were subjected to Doppler ultrasound of both lower limbs for confirmation of diagnosis and to rule out deep vein thrombosis. The patient was informed about the procedure and informed consent was obtained from the patient before subjecting them to include in the study. The complication of long-standing varicose veins such as edema, ulceration and dermatitis were attended before the operative procedure.

All patients were operated in Elective theatres with aseptic precautions under spinal anesthesia. All tributaries of the long saphenous vein are ligated and all below knee perforators and varicosities were treated in the same way by perforator ligation and multiple phlebotomies.

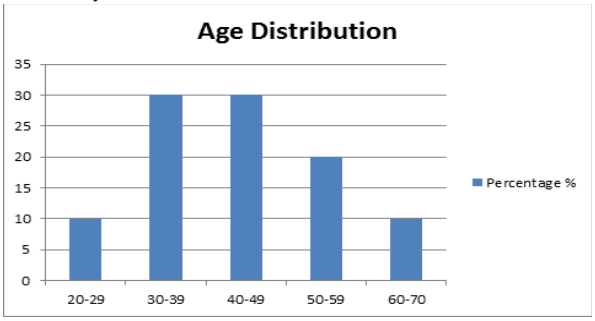
Patients were treated in Postoperative Ward for the 1st postoperative day and shifted to General Wards on the 2nd postoperative day.
All patients were applied Elastocrepe Bandage immediately after surgery and the bandage was removed after 48 hours for wound inspection and bandage reapplied. Patients were encouraged ambulation only after 48 hours and were instructed to contract the leg and dorsiflex the foot against the railing of the bed.

All patients were thoroughly assessed for complications and were discharged after suture removal with instructions to attend surgical OPD 1 month and 3 months after surgery. During follow-up, patients were assessed both clinically and sonographically and the results were

tabulated.

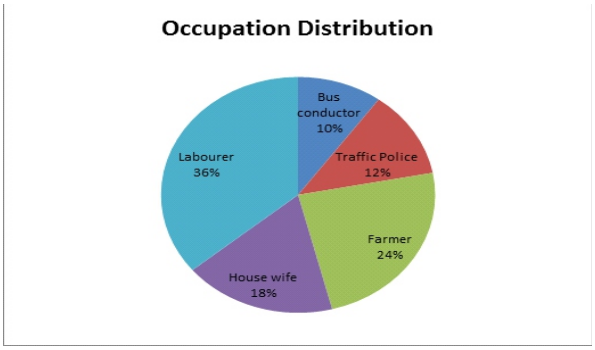
OBSERVATIONS AND RESULTS

These 100 cases of varicose veins constituted 0.5% of the total surgical admissions in our hospital during that period. The age of the patients studied varied from 20 to 70 years. Most patients were in the age group of 30 to 60 years. There were 80 males and 20 females.



Among 100 patients studied, 82 patients exhibit a definite history of standing for a long duration. In that 60 were agricultural and related workers and 12 were traffic policemen and 10 were bus conductors, who required standing for a long duration during their work. Others are sedentary workers.

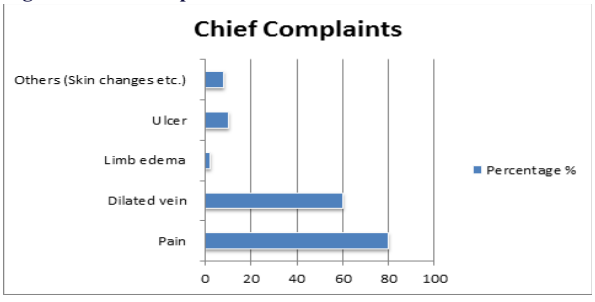
Figure 2 Occupation distribution



In this series, 50 patients had varicosity in the left lower limb and 40 had varicosity in the right lower limb and the remaining 10 had bilateral limb involvement.

The predominant symptom in majority of cases was prominent veins and dull aching pain followed by edema and venous ulcers and skin changes

Figure 3 Chief complaints



The long saphenous vein is involved in most of the patients. This can be explained as the length of long saphenous vein is more; the short saphenous vein runs in the fascial tunnel from above the lateral malleolus to the popliteal fossa. The communicating veins are mostly indirect in short saphenous system, while direct communicating veins predominates in the long saphenous system.

Figure 4 Treatment given

Sl. No	Surgery	Percentage %
1	SFJ flush ligation (SFJFL)	20
2	SFJ flush ligation with incompetent perforator ligation	60
3	SFJ, SPJ ligation with incompetent perforator ligation	10
4	SPJ ligation without stripping of SSV	10

Conservative treatment was followed preoperatively to improve the general condition of the patients and to make them fit for surgery. Post-operative elastocrepe bandage was applied to all the cases to prevent hematoma formation and advised to continue it for 2 more months after they were discharged from the hospital. The following surgical procedures were adopted.

In this study, 11 cases had complication, the commonest being haematoma in 3 cases which cleared after about 15 days and seroma (2 cases), which were subsided with drainage and 2 patients had postoperative wound infection, which was treated with antibiotics and one case of residual varicosity in a patient with perforator incompetence which was again reoperated 6 months after.

Discussion

Total 100 cases of varicose veins of the lower limb have been studied in detail. An analysis3 of the data has enabled this study to arrive at the following conclusions. 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 the absence of symptoms due to Varicose veins patients do not seek treatment in our country.

The commonest age group of patients suffering from varicose veins is 30 to 50 years, 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. The incidence is low before puberty which can be because of greater elasticity of skin and veins and active muscular movement before puberty. The hydrostatic pressure within the venous system increases as the person attains his full height during that period and hence, the incidence increases after puberty. Males are affected more commonly than females which are in contrary to literature, which is probably due to Indian women cover their body with saree hence they are not much bothered about the appearance of dilated veins.

The involvement of long saphenous system4 is more common than the short saphenous system and left limb is affected more common. For incompetent perforators, extra-fascial ligation results are on par with subfascial ligation. Clinical examination has a high predictive accuracy. It gives sufficient information to treat the patients in centers where color Doppler is not available or affordable. 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. SPJ junction is highly variable and should always be marked pre-operatively using Doppler.

The outcome of cases of primary varicose veins depends on a thorough and complete clinical examination and duplex scan by experienced radiologists.

Operative line of treatment5 is a primary procedure in the management of varicose veins of lower limbs. Flush ligation of SFJ and nonstripping of SSV is associated with less morbidity. 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, they need a long-term follow-up.

Many patients simply require reassurance, and a thorough discussion of options at the primary care level may circumvent unnecessary referral. Compression stockings alone may be appropriate for patients who are too unfit for intervention or those who do not wish to have any form of surgical intervention. Many patients are treated for cosmetic concerns alone, so it is important to manage patient's expectations. Minimally invasive treatment options such as injection sclerotherapy and endovenous modalities are becoming increasingly popular and have shown equivalence in short-term outcomes. Conventional open surgery has also improved, with better outcomes, smaller incisions,

and duplex mapping.

As already alluded to, not every patient or every varicose vein will be suitable for endovenous ablation; therefore surgery6 would still play an important role in the management of varicose veins. The growth in the use of foam sclerotherapy means that there is yet another tool for the treatment of suitable veins and patients.

There is as yet no one-cap-fits-all modality, and although almost any varicose vein can be treated by surgery, not all patients will want to have, (nor indeed can be candidates to have) open surgery. In spite of its current status as a gold standard, it is inevitable that the role of standard surgery in the treatment of lower limb varicose vein will shrink significantly in the nearest future, in line with the expansion of minimally invasive techniques. Accurate preoperative evaluation and ligation of the site of incompetency are key to success.

Conclusion

The varicose veins of lower limbs are a disease of younger age group, occurring more commonly during third and fourth decades of life. The occupations involving prolonged standing and violent muscular efforts are more prone for developing varicose veins. Family history is found to be another contributory factor. Majority of our patients presented with complications of varicose veins rather than the disease itself. Presence of prominent swellings in lower limb and pain were the commonest presenting symptoms. Duplex ultrasonography is the investigation of choice in the management of varicose veins. Combined valvular incompetence is more common than individual incompetence. Saphenofemoral junction flush ligation with multiple subfascial ligation of perforators7 was the commonest operation in our hospital. Other procedures were done with good results depending on the requirement of the case. The most common post-operative complication was wound infection.

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