



STUDY ON VARICOSES FROM A TERTIARY CARE HOSPITAL, GUNTUR

Cardiovascular

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ABSTRACT

Introduction: Varicose veins are part of the penalty we pay for adoption of the erect posture. Varicose veins and its associated symptoms and complications constitute the most common vascular insufficiency and a substantial number suffer economic hardship from the resulting disability.

Aims&objectives: The objectives of the present study were to enumerate various clinical modalities of varicose veins and to determine varicose veins with reference to clinical presentations, common site of incompetence, involvement of perforators, different modalities of treatment, response to treatment and cause of recurrence if any **Methods:** All patients attending the cardiothoracic surgery department, Government General Hospital, Guntur from August 2021 - August 2022 presented with varicose veins who were diagnosed by using clinical and radiological methods. All patients were operated in Elective theatres with aseptic precaution under Spinal / Epidural anaesthesia. All patients were applied Elastocrepe Bandage immediately after surgery. Patients were encouraged ambulation only after 48 hours and instructed to contract the leg and dorsiflex the foot against the railing of the bed. All patients were thoroughly assessed for complications and discharged after suture removal with instructions to attend surgical OPD 1 month and 3 months after surgery and follow up was done. **Results:** The majority of patients were in the age group of 30–60 years (72%). i.e. young adults and elderly with predominant being males (90%). Left limb involvement is more common than Right. Most of them are agricultural labourers and belonged to low socio- economic group. In all the patients varicose veins were of primary variety. Superficial venous system is only involved in all the patients. In more than 60% of cases the site of incompetence is saphenofemoral junction. Majority of cases (84 %) were treated by Trendelenberg's operation. Trendelenberg's operation with or without sapheno – femoral ligation had given good results in our set up. Recurrence rate was 10%. **Conclusions:** Appropriate management of the condition is extremely important for better quality of life and to prevent recurrence.

KEYWORDS

varicose veins, clinical modalities, recurrence

INTRODUCTION

Varicose veins found mention in as early as the Papyrus of Eber going back to 1550 B.C. In which he advised conservative line of management. Hippocrates (460 - 377 B.C.), the Greek genius, widely accepted as the Father of Medicine, associated with the Varicose Veins and leg ulcers and observed its relation to standing.^[1]

Varicose veins are tortuous, dilated and elongated veins with incompetence of the contained valves. Classification of varicose veins can be primary familial varicose veins and secondary varicose veins. Primary includes long saphenous vein, short saphenous veins & primary ankle perforator incompetence.^[1,2]

The essential lesion in the varicose veins is incompetence of valves leading to various hemodynamic changes. The venous hypertension thus developed leads to stasis and extension of both caliber and length of the vein. Two important events are set in motion during the development of varicose veins. First of all the valves no longer extend support to the long column of blood as they normally do. Secondly, there is a high-pressure reflux from the deep veins to the superficial system. Thus, a retrograde pattern of blood flow and stasis of blood in the distal part of the lower limb is established.^[3]

With regards to etiology, primary factors such as inefficiency of venous pump and secondary factors such as erect posture, violent muscular effort, obstruction, traumatic, congenital abnormalities, traumatic, deep vein thrombosis, hereditary factors and obesity. Various predisposing factors have been implicated like pregnancy, prolonged standing, obesity, old age, athletics etc., but heredity also plays an important role.^[4] In varicose veins, the problem may lie in superficial veins, deep veins or in the perforating system. Varicose veins and its associated symptoms and complications constitute the most common vascular insufficiency and a substantial number suffer economic hardship from the resulting disability.^[5,6]

Complications of varicose veins include hemorrhage, thrombophlebitis, eczema, ulceration, ankle flare and more. The most frequent complaints for which patient seek help are disfigurement (prominent veins in the limb), pain in the limb, swelling of the limb (limb edema) and complications of the disease.^[7]

Most of the investigations are academic value when compared to the clinical examination. Identification of the distribution of varicosities and the sources of the venous hypertension is of great importance. Appropriate use of noninvasive diagnostic tests aid to differentiate and

ensure that the therapy chose is likely to correct the patients varicosities with a minimal chance of recurrence. Non-invasion tests include Photoplethysmography, Air-plethysmography, Portable Doppler ultrasonography and Duplex ultrasonography. Plain X-ray, Doppler examination, Plethysmography, Duplex scanning, Venography are the various investigations which can be done for diagnosis and further evaluation.^[8]

Management of varicose veins includes conservative therapy, sclerotherapy and surgical therapy. Conservative therapy is indicated in young people, people who are unfit or refuse surgery and pregnant women. Surgical treatment in some or the other has been in use since the days of Hippocrates. Those techniques have undergone changes and modifications as the knowledge of the disease grew. Various procedures include Flush ligation, Flush ligation combined with stripping, Subfascial ligation, Multiple phlebectomy/ Hook phlebectomy and recent Techniques such as Venous Reconstruction.^[9] The objectives of the present study were to enumerate various clinical modalities of varicose veins and to determine varicose veins with reference to clinical presentations, common site of incompetence, involvement of perforators, different modalities of treatment, response to treatment and cause of recurrence if any.

METHODS

All patients attending the cardiothoracic surgery department, Government General Hospital, Guntur from August 2021 - August 2022 presented with varicose veins who were diagnosed by using clinical and radiological methods.

All patients were operated in Elective theatres with aseptic precaution under Spinal / Epidural anaesthesia. No General/Local anaesthesia was used. Patients were treated in Post Operative Ward.

All patients were applied Elastocrepe Bandage immediately after surgery and the bandage was removed after 48 hours for wound inspection and reapplied. Patients were encouraged ambulation only after 48 hours and we instructed to contract the leg and dorsiflex the foot against the railing of the bed.

All patients were thoroughly assessed for complications and discharged after suture removal with instructions to attend surgical OPD 1 month and 3 months after surgery and follow up was done. Informed consent was taken before the start of the study.

Data was entered and analyzed in Microsoft Excel 2019 version. Data

was presented in percentages and proportions.

RESULTS

Socio demographic data: The majority of patients are in the age group of 30- 60 years (78%), i.e. middle aged & elderly. 90 % were males and only 10 % females. Most of the patients are agricultural labourers, barbers, Hotel servers by their occupation, which require prolonged standing and majority of the patients belonged to low socio-economic group.

The right limb is involved in 11 cases out of 50 cases (22%) and the left limb is involved in 36 cases out of 50 cases (72%), bilateral involvement in 03 cases out of 50 cases (06%).

In this study majority of patients presented to us with prominent dilated veins with heaviness & aching in limbs. Heaviness was the most common symptom in 70% of the patients. Next common presented symptoms are aching (60%), cramping & itching.

26 patients out of 50 cases (52%) presented with skin changes such as oedema, pigmentation, eczema and ulcer whereas only 2 patients out of 50 cases (04%) came to hospital for cosmetic reasons.

Site Of Incompetence

In our study Sapheno - femoral junction incompetence was found in 35 out of 53 limbs (66.0%). Sapheno -popliteal junction incompetence was found in 04 out of 53 limbs (7.5%). Incompetence of Perforators was found in 33 out of 53 limbs (62.2%).

Table 1: Site of Incompetence

Site of Incompetence	Number	Percentage
Sapheno - femoral junction	35	66%
Sapheno - popliteal junction	04	7.5%
Perforators	33	62.2%

Perforators involvement: 33 out of 53 limbs (62.2%) presented with involvement of perforators; 20 out of 53 limbs (37.7%) with leg perforators (COCKETT); 6 out of 53 limbs (11.3%) with mid thigh perforator (DODD); 2 out of 53 limbs (3.7%) with below knee perforator (BOYD) and 5 out of 53 limbs (9.4%) presented with both mid thigh & leg perforators.

Treatment modalities: Various treatment modalities were adopted according to the individual case. In total no of cases 50; in which 47 cases were unilateral and 3 cases were bilateral. All the bilateral cases were operated only one side.

Majority of patients 42 cases out of 50 (84%) were treated by Trendelenburg operation.

19 cases (38%) are managed by Trendelenburg's operation alone; 16 cases (32%) are managed by Trendelenburg's operation+ stripping of long saphenous vein.

6 cases (12%) are managed by Subfascial ligation alone and 2 cases (04%) are managed by Trendelenburg's operation +Multiple Phlebectomies.

Other 7 patients were managed appropriately and details of it mentioned in the table.

Response to treatment: After the Trendelenburg's operation with stripping venous ulcer healing is improved and in majority healing occurred in 3-4 weeks period.

Recurrence:

All the follow up cases were evaluated by clinical & color Doppler ultrasound studies. In present study, out of 50 cases that had undergone varicose vein surgery, 44 reported back for follow up of up to 6-12 months. 5 patients had recurrence out of 50 cases i.e. 10%.

All the follow up cases were evaluated by clinical & color Doppler ultrasound studies. In recurrent cases 2 had incompetence of sapheno femoral junction, who were treated with subfascial ligation during 1st time for calf perforators, were then treated with Trendelenburg's operation and stripping. One patient, who had undergone Trendelenburg's operation 1st time, underwent multiple phlebectomies & perforator ligation subsequently.

One patient, who had undergone Trendelenburg's operation 1st time,

underwent subfascial ligation subsequently.

One patient, who had undergone Trendelenburg's operation + stripping 1st time, underwent multiple phlebectomies subsequently.

Table 2: Treatment modalities

Treatment	Number	Percentage
Trendelenburg's operation	19	38%
Trendelenburg's operation +stripping of Long saphenous vein	16	32%
Trendelenburg's operation+ Subfascial ligation	01	2%
Trendelenburg's operation Sapheno-popliteal ligation	01	2%
Trendelenburg's operation+ Multiple phlebectomies	02	4%
Trendelenburg's operation + stripping + sub- fascial ligation	01	2%
Trendelenburg's operation + stripping +Multiple phlebectomies	02	4%
Sub-fascial ligation only	06	12%
Sub fascial ligation + Multiple Phlebectomies	01	2%
Multiple phlebectomies & perforators ligation	01	2%

DISCUSSION

"Varicose veins are penalty being paid by the human beings for the assumption of erect posture"

Demographic data revealed that in the present study three fourth of them (78%) belonged to age group of 30- 60 years with male preponderance (90%). Occupation wise showed that people involved in prolonged standing including agricultural labourers, barbers, Hotel servers suffered from this condition majority of the patients belonged to low socio-economic group.

These findings were similar to study by Mulla SA (2017) ^[10] from Dharwad, Karnataka on clinical study on varicose veins where 45.6% belonging to 21 to 70 years age group with male patients (80%) outnumbered females. Almost half the proportions (45.6%) in their study were farmers.

Left limb (72%) was more commonly involved than right limb (22%) which was in contrast to findings by Shankar KH (2017) where left limb was involved in 42.8% patients followed by right limb (33%) and both (23.8%). But another study by Ramu AH et al (2021) ^[11] concurred with present study where left side involvement was seen in 70%.

With regards to clinical presentation, majority of patients presented to us with prominent dilated veins with heaviness & aching in limbs. Heaviness was the most common symptom (70%) followed by aching, cramping & itching. And slightly more than half the cases (52%) presented with skin changes such as oedema, pigmentation, eczema and ulcer. Only 4% of patients came to hospital for cosmetic reasons in the present study. Comparatively study by Shankar KH (2017) ^[12] observed that pain in the limb (40.8%), eczema (19%), limb swelling (14.3%), pain and ulceration (11.9%) and others.

Site of Incompetence: Thorough clinical examination has given most of the diagnosis and site of incompetence. Colour Doppler ultra sound imaging was used to confirm the site of the defective valves and the diagnosis. Duplex imaging system has an advantage that it precisely localizes the defects of the communicating system and deep venous system. And it showed that incompetence at Sapheno-femoral junction and perforator incompetence were the predominant sites of incompetence compared to Sapheno-popliteal junction incompetence. These findings were in consistent with findings by Mishra S et al (2016) ^[13] study on epidemiological factors and clinical profile of primary varicose veins from Pune, Maharashtra. 91.7% of them had incompetent Sapheno-femoral junction on colour Doppler study.

Various treatment modalities were adopted according to the individual case but majority of (84%) were treated by Trendelenburg operation either alone and in combination such as stripping of long saphenous vein and Phlebectomies. Comparatively study by Kudchadkar et al (2019) ^[14] found that in case of unilateral involvement 82.6%

underwent Trendelenburg's procedure with stripping of GSV and subfascial perforator ligation and same technique in 52.9% in case of bilateral leg involvement.

Recurrence rate in present study was 10% which was in concurrence with study by G.R.Kompally et al^[13] where recurrence rate was 12.5%. Causes of recurrence in this study may be due to various factors such as anatomical variations of the superficial venous system of lower limb, Incomplete primary surgery, not performing the stripping of long saphenous vein in the initial surgery (2 out of 5 cases) and continuation of precipitating factors (continuation of prolonged standing).

Other possible causes may be: Neovascularisation, subclinical congenital weakness of venous valves; continuation of thrombophlebitic process destroying the valves which are difficult to prove by clinical/ investigative modalities available in our hospital.

CONCLUSIONS

The majority of patients in our study were in the age group of 30–60 years (72%). i.e. young adults and elderly with predominant being males (90%). Left limb involvement is more common than Right. Most of them are agricultural labourers requiring prolonged standing and belonged to low socio- economic group.

In all the patients Varicose veins are of primary variety. Superficial venous system is only involved in all the patients. None of patients had previous history of deep vein thrombosis. None of the patients had family history of varicose veins. Most of them presented with prominent engorged visible veins. Heaviness was the most common symptom (70%). 52% patients presented with skin changes.

In more than 60% of cases the site of incompetence is saphenofemoral junction. Duplex ultrasound imaging is the best non invasive technique to know the site of incompetence and involvement of communicating system and deep venous system. Majority of cases (84 %) were treated by Trendelenburg's operation. Trendelenburg's operation with or without sapheno – femoral ligation had given good results in our set up. Recurrence rate was 10%.

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