

# Study of Management of Varicose Veins in Tertiary Care Hospital of Andhra Pradesh Population

S V Satyasekhar

General Surgeon, Civil Surgeon Specialist, CHC Bobbili, Vizianagaram, Andhra Pradesh, India

## Abstract

**Background:** Varicosity of veins in is of the major complications in the adults due to erect posture such as Hernia, Piles, and Sinusitis due to persistent standing against gravity.

**Materials and Methods:** Fifty-eight adult patients of both sexes were studied Dropler ultrasound of both limbs was done to confirm the varicosity and rule out deep various thromboses and associated complications. The technique or method was vein stripping. Two incisions (cuts) were made, one on top of the leg just below the groin and one just below the knee joint or at the ankle. The vein was then tied or clamped at the incision. A long wire stripper was passed through lower incision up the vein and the lower end button like cap was attached to the wire. The procedure included ligation of veins.

**Results:** Involvement of limbs in varicose was 29 (50%) left leg, 21 (36.2%) right leg, and 8 (13.7%) bilateral. The clinical manifestations were 17 (29.3%) had pain, 12 (20.6%) had dilatation of vein, 11 (18.9%) had ulcer, 5 (8.6%) had edema, 4 (6.8%) had itching and pigmentation, 6 (10.3%) had Cramps, and 3 (5%) had heaviness of legs. The involved veins were 25 (43%) (10.3%) both long and short veins are involved. Surgical procedure was 29 (50%) ligation of sapheno-femoral and anatomical constant veins, 15 (25.8%) ligation of incompetent perforators, 5 (8.6%) ligation of sapheno-femoral and sapheno-popliteal, 3 (5.1%) ligation of sapheno-femoral saphenopopliteal, 4 (6.8%) ligation of sapheno-popliteal with short saphenous, and 2 (3.4%) ligation of sapheno-popliteal with sub-fascial.

**Conclusion:** This management of varicose will be economic and helpful to middle socioeconomic patient to avail this procedure.

**Key words:** Andhra Pradesh, Great saphenous vein, In competent, Ligation, Perforators, Stripping

## INTRODUCTION

It is reported that at least 25% of adult population have varicose vein globally.<sup>[1]</sup> This condition is often correlated with great saphenous vein (GSV) reflux<sup>[2]</sup> Varicosity of veins affect the quality of life. The ideal management was surgical removal of GSV. Research comparing liquid sclerotherapy and surgery for treatment of GSV incompetence showed that surgery was more effective.<sup>[3]</sup> Most of the patients try to manage the symptoms by wearing compression stockings, these special stocking are meant to help the veins transport-blood by applying pressure on them.<sup>[4]</sup> If wearing

compression stockings do not relieve the symptoms enough, surgical procedure has to be considered. Varicose veins can be removed or closed off using number of techniques. This will not harm the blood supply in the legs because blood will re-direct into other healthy veins. Surgery can be done in both superficial and deep veins. In varicose vein surgery, varicose veins are removed relive symptoms such as pain and ulceration of legs. Phlebectomy technique is mainly used for smaller varicose veins and is time consuming; hence, vein stripping was carried out in the varicose patients of different occupation to avoid significant mortality including spontaneous bleeding, ulceration, dermatitis, superficial thrombophlebitis, ankle edema, and lipodermatosclerosis.<sup>[5]</sup>

## MATERIALS AND METHODS

Fifty-eight patients aged between 30 and 65 year visiting to CHC Hospital Bobbili, Vizianagaram, Andhra Pradesh, were studied.

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**Corresponding Author:** S V Satyasekhar, 26/4/1, Srungavarapukota, Vizianagaram - 535 145, Andhra Pradesh, India.  
E-mail: satyasekhar22@gmail.com

**Inclusion Criteria**

Clinical Grade 2 to Grade 5 (EAP) varicose veins patients were selected for study.

**Exclusion Criteria**

Deep venous thrombosis (DVT), concomitant arterial disease, pregnancy, morbid obesity diabetic foot, and local site infection or cellulitis were excluded from the study.

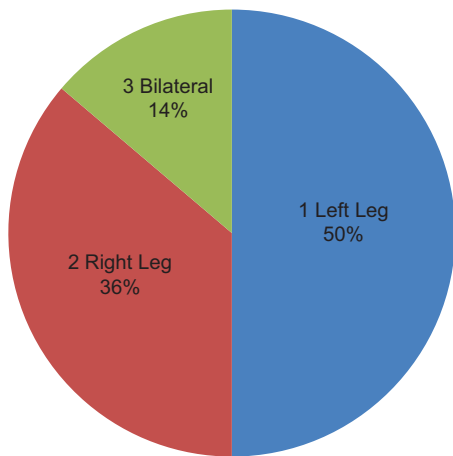
**Method**

All the patients belonged to middle socio-economic study. Routine blood examination was carried out in

every patient, Doppler ultrasound of both lower limbs to confirm the varicosity and to rule out deep venous thrombosis. Patients were associated with ulceration, itching and pigmentation, inflammation, and cramps were treated preoperatively.

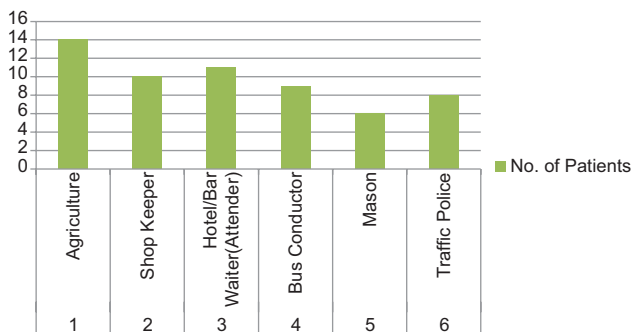
**Table 1: Involvement of limbs in varicosity**

Legs involved	Number of patients (58)	Percentage
Left Leg	29	50
Right Leg	21	36.2
Bilateral	08	13.7



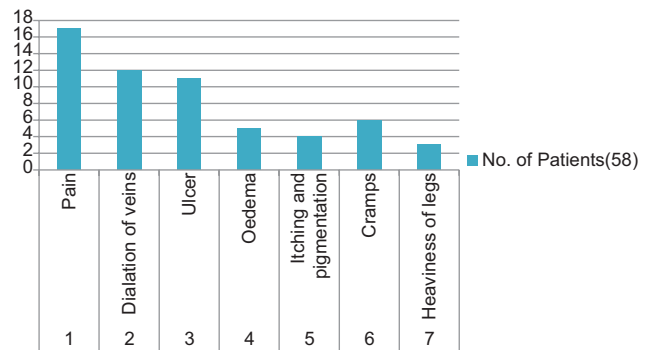
**Table 2: Occupation of the varicose patients**

Occupation	Number of patients	Percentage
Agriculture	14	24.1
Shop keeper	10	17.2
Hotel/Bar waiter (Attender)	11	18.9
Bus conductor	9	15.5
Mason	6	10.3
Traffic police	8	13.7



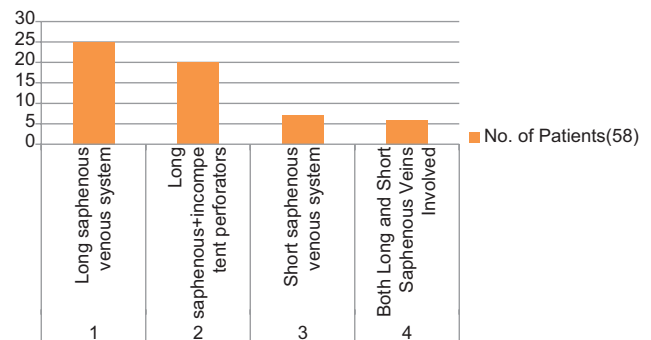
**Table 3: Clinical manifestations of varicose patients**

Manifestations	Number of patients (58)	Percentage
Pain	17	29.3
Dilation of veins	12	20.6
Ulcer	11	18.9
Edema	5	8.6
Itching and pigmentation	4	6.8
Cramps	6	10.3
Heaviness of legs	3	5.1



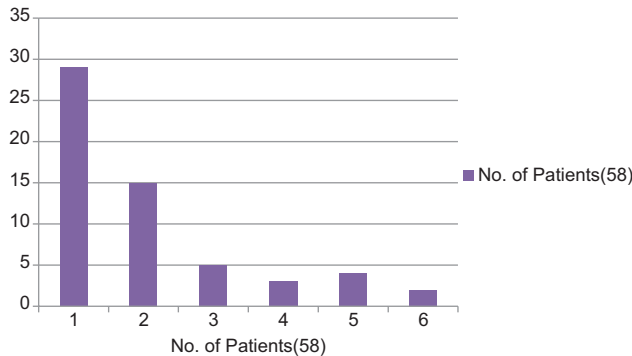
**Table 4: Types of venous system involved in varicosity**

Types	Number of patients (58)	Percentage
Long saphenous venous system	25	43.1
Long saphenous + incompetent perforators	20	34.4
Short saphenous venous system	7	12
Both long and short saphenous veins involved	6	10.3



**Table 5: Description of surgical procedures**

Particular	Number of patients (58)	Percentage
Sapheno-femoral flush ligation and ligation of anatomical constant tributaries at their termination along with stripping of long saphenous vein using intra luminal stripper	29	50
Incompetent perforators were identified subfascially and ligated in addition to the above-mentioned procedure	15	25.8
A sapheno-femoral and sapheno-popliteal flush ligation with stripping of both long and short saphenous vein	5	8.6
The sapheno-femoral, sapheno-popliteal flush ligation with stripping of long and short saphenous vein and sub-fascial ligation and excision of incompetent perforators were performed	3	5.1
Sapheno-popliteal flush ligation with stripping of short saphenous was done after ligating the tributaries	4	6.8
Sapheno-popliteal flush ligation with sub-fascial ligation of perforators	2	3.4



The technique or method to approach of veins was stripping. Two incisions (cuts) were made one at the top of the leg just below the groin and one just below the knee joint or at the ankle. The vein was then tied or clamped off at the incision using techniques called ligation. A long wire stripper is passed through the lower incision up through the vein and at the lower end a button like cap was attached to the wire. This allows the entire vein to be pulled out through the incision near the groin. The procedures done include sapheno-femoral flush ligation and ligation of anatomical constant tributaries at their termination along with stripping of long saphenous vein 29 (50%). In addition to above-mentioned procedure along with stripping of long saphenous vein, those having perforators were identified subfascially and ligated 15 (25.8%). Sapheno-femoral and sapheno-popliteal flush ligation with stripping of both long and short saphenous vein 5 (8.6%) was carried out. The sapheno-femoral, sapheno-popliteal flush ligation with stripping of long and short saphenous vein and sub-fascial ligation and excision of incompetent perforators 3 (5.1%) were also ligated. Sapheno-popliteal flush ligation with stripping of short saphenous vein was done after ligating the tributaries 4 (6.8%). Sapheno-popliteal flush ligation with sub-fascial ligation of perforators 2 (3.4%) was carried out. Post-operative elastocrepe bandage was applied to all cases to prevent hematoma formation after they were discharged from the hospital. The duration of study was from March 2017 to October 2020

### Statistical Analysis

Various parameters of study were classified with percentage. The analysis was performed SPSS 2007 software. The ratio of male and female was 2:1.

### OBSERVATION AND RESULTS

29 (50%) ligation of sapheno-femoral along with stripping of long saphenous vein was carried out , 15 (25.8%) ligation of incompetent perforators, 5 (8.6%) ligation of sapheno femoral, and sapheno-popliteal flush with stripping of both veins was done , 3 (5.1%) ligation of sapheno-femoral, sapheno-popliteal flush with stripping of long and short saphenous vein 4 (6.8%) ligation of sapheno-popliteal flush with stripping of short saphenous vein was also carried out, 2 (3.4%) ligation of sapheno-popliteal flush with sub-fascial perforators was done.

### DISCUSSION

The present study is the management of varicose veins in Andhra Pradesh population. Involvement of limbs in varicosity was 29 (50%) left leg, 21 (36.2%) in right leg, and 8 (13.7%) in bilateral [Table 1]. The occupation of varicose patients was 14 (24.1%) agriculture, 10 (17.2%) was shop keeper, 11 (18.9%) was Hotel/Bar waiter (attender), 9 (15.5%) was bus conductor, 6 (10.3%) was Mason, and 8 (13.7%) was traffic police [Table 2]. The clinical manifestations of varicose patients were 17 (29.3%) had pain, 12 (20.6%) dilation of veins, 11 (18.9%) ulcer, 5 (8.6%) had edema, 4 (6.8%) had itching and pigmentation, 6 (10.3%) had cramps, and 3 (5.1%) had heaviness of legs [Table 3]. Types of varicose veins involved in varicosity were – 25 (43.1%) were long saphenous venous system, 20 (34.4%) were long saphenous incompetent perforators, 7 (12%) were short saphenous venous system, and 6 (10.3%) were both long and short saphenous veins involved [Table 4]. The surgical procedure involved – 29 (50%) had ligation of sapheno-femoral flush anatomical constant tributaries, 15 (25.8%) ligation of incompetent [perforators situated subfascially, 5 (8.6%) ligation of sapheno-femoral and sapheno-popliteal flush, 3 (5.1%) ligation of sapheno-femoral sapheno-popliteal,

4 (6.8%) ligation with sapheno-popliteal flush and short saphenous, and 2 (3.4%) ligation of sapheno-popliteal flush with subfascial perforators [Table 5]. These findings are more or less in agreement with the previous studies.<sup>[6-8]</sup>

In the present study, left limb was affected more common than right limb. The probable reason could be attributed to longer course transversed by the left iliac veins of lower limbs. Moreover, incompetent perforators were observed. It was due to hemodynamic disturbances of lower limb due to persistence standing on foot sapheno-femoral valves incompetence result into edema, ulcer, and in severe cases it may end in spontaneous bleeding also.<sup>[10,11]</sup> Complications of varicosity after surgery are very rare and include wound infections were major complications treated meticulously with suitable antibiotics. Apart from surgery sclerotherapy, foam therapy, and laser endo-luminal ablation are available treatment for varicose veins. However, surgery is the unique treatment with long-term effectiveness because surgical method of flush ligation with vein stripping will maintain the competency of venous valves for longer duration and there will be least chances of recurrence in post-surgical cases.

## SUMMARY AND CONCLUSION

The present study of surgical management of varicose vein tertiary hospital in Andhra Pradesh. As varicose veins of the lower limb with incompetent perforators, vein stripping after flush ligation allows entire vein to be pulled out through the incision near the groin. It appears to be better method of treatment than extra fascial ligation. Because in the former all the perforators could be visualized and death with while the latter there were chances of missing one or two perforators. This surgical procedure is safer and enables this patient to lead normal future life. However, this study demands further pathophysiological, bio-mechanical, angiological, nutritional, and genetic studies because exact mechanism of formation and etiology of varicose veins is still un-clear.

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