

# Stripping of Great Saphenous Vein Results in Early Healing of Ulcer: A Retrospective Observational Study

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**Abstract:** **Background:** The superficial veins of the lower extremity form a network that connects the superficial dorsal veins of the foot and deep plantar veins. The dorsal venous arch, into which empty the dorsal metatarsal veins, is continuous with the great saphenous vein medially and the small saphenous vein veins of lower limbs which have permanently lost their valvular efficiency are known Varicose vein. These veins are abnormally dilated, tortuous, elongated. objectives of our study was to study clinical profile, assess and study the final outcome of healing of ulcer after stripping of great saphenous vein & perforator ligation of patient included in our study. **Methods:** This study was a retrospective observational and analytical study of 30 patients. Patients within age group of 18 to 68 years and patients with varicose vein and nonhealing venous ulcer at lower part of leg were included in our study whereas patients with age less than 18 years and more than 68 years, patients with deep vein thrombosis, chronic debilitated and immune-compromised patients were excluded. **Results:** 30 patients were treated for varicose veins with ulcer of lower limb in our institute. Average age of the patients was 43 years. Commonest presentation was dilated veins with itching and hyperpigmentation in 40% of patients. Long saphenous vein incompetence was noted in 90% of patient. Healing of ulcer was noted after 4 to 6 wks of post-op. **Conclusions:** The database of our retrospective study regarding age & sex incidence, clinicopathological features like hyperpigmentation ulcer and therapeutic outcome was assessed to other studies in various literatures.

**Keywords:** Varicose veins, Long and short saphenous venous system, Stripping and flush ligation, Subfascial ligation

## 1. Introduction

Varicosity means abnormal dilatation, tortuosity, elongation of superficial veins, usually of lower limbs. These veins permanently lose their valvular efficiency hence veins become incompetence. Ulcer over leg with associated Varicose veins are a major health problem in the western countries, being more common in females. In India, the incidence is slightly low, being more common in males and presents late with associated complications like hyperpigmentation and ulceration. Aims of the study was to assess the healing of ulcer after stripping of veins included in our study.

## 2. Methods

The study was a retrospective observational study of 30 patients which was conducted at our institute. Patients within age group of 18 to 68 years and patients with varicose vein with ulcer were included in our study. whereas patients with age less than 18 years or more than 68 years, patients with deep vein thrombosis, chronic debilitated and immune-compromised patients were excluded from study.

**Table 1:** Age incidence

Age in years	No of patient	%
18-28	9	30
29-38	9	30
39-48	6	20
49-58	3	10
59-68	3	10

**Table 2:** Side of lower extremity affected incidence

Side	No of patient	%
Right leg	12	40
Left leg	18	60

**Table 3:** Mode of presentation

Clinical presentation	No. of patients	%
Dilated veins+itching+pigmentation	12	40
Dilated veins +ulceration	18	60

**Table 4:** Relation with occupation

Occupation	No. of patients	%
Prolonged standing	24	80
Without prolonged standing	6	20

**Table 5:** Post op hospital stay

Operated patients	No. of patients	No. of days post op stay
With post op complication	1	8
Without post op complication	29	5
average	30	6

## 3. Discussion

### Management

#### Conservative treatment

In our study, all patient with ulcer over leg was first treated conservatively by, limb elevation, compression bandage, daily dressing with "Bisgard's regimen". Optimal wound care which includes appropriate antibiotic, proper wound cleansing, debridement of any callus and necrotic tissue,

focused wound care with application of tissue regenerators and specially off - loading of pressure<sup>1</sup>.

Varicose veins, with associated edema, ulceration, etc. conservative management play major role in reducing post-operative morbidity and hospital stay.

**Surgical treatment**

The surgical treatment includes the following procedures:

- Flush ligation of the sapheno-femoral / sapheno-popliteal junction-Trendelenberg operation.
- Stripping of the varicose veins segments.
- Subfascial ligation of incompetent perforators- Dodd's and Cockett's operation.

In the present study Surgical treatment includes the different operations in various combinations. The results as seen at the time of discharge were no residual varicosities during their post-operative stay. In this study there was a major affection of the sapheno-femoral junction limbs which was the commonest involvement. These combinations of pathology were in the same limb in majority of limbs affected. That's why in the present study all the three procedures were carried out at the same time in most of the limbs.

**Table 6:** Comparison of age incidence

study	Youngest patient	Oldest pt.	Average age
Meyer T.T <sup>2</sup>	19	67	49.4
Burnand K.G.et <sup>3</sup>	30	70	50
Hoare M.C.et al <sup>4</sup>	45	77	58
Nelzen et al <sup>5</sup>	39	97	77
Bradbury et al <sup>6</sup>	39	73	56
Vaidyanathan s <sup>7</sup>	22	56	39
Present study	18	68	43

In the present study the average age 43 year was noted which was comparable with the other studies, while the youngest patient in this study being of 18 year, is comparatively much earlier.

**Table 7:** Side of lower extremity affected

Study	Right lower limb	Left lower limb
A.H.M.Dure et al <sup>8</sup>	101(48.5%)	107(51.55%)
Hoare M.C.et al <sup>9</sup>	11(47.8%)	12(52.2%)
Present study	12(40%)	18(60%)

**Table 8:** Mode of presentation

study	Itching with pigmentation	ulceration
Jacobson et al	60.3%	2.5%
Fegan W.G.	-	12%
Verma B.K. et al	20%	30%
Vaidyanathan	-	46.67%
Present study	40%	60%

**Table 9:** Relation with occupation

Study	% of pt. with occupation involving prolonged hours of standing
Neuchataloise et al	77.18%
Jakobsen B.H.	63.8%
Present study	80%

**Table 10:** Comparison of post operative complication

Study	Wound infection	Saphenous neuritis	Recurrence
Negus & Friedgood	-	-	15.7%
Hyde & Hull	-	-	24%
Munn S.R.et al	11.8%	33%	-
Burnand et al	-	-	55%
Corrigan & Kakkar	-	-	35%
Field and vanboxel	-	-	1.7%
Cox S.J.et al	-	36.5%	-
Hobbs J.T.	5%	7%	-
Vaidyanathan s.	-	-	23.3%
Present study	3.33%	3.33%	20%

**Complications**

- Early complications: in our study 1 patient develop bleeding from ulcerated wound for which pressure bandage was done, and bleeding stopped. No any further complication occur in this patient.
- Late complications: out of 30 operated patients only 1 patients developed recurrence.



**Figure 1**



**Figure 2**

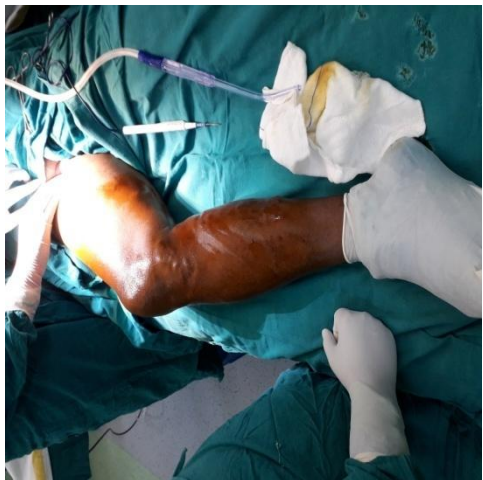


Figure 3



Figure 7



Figure 4



Figure 5



Figure 6

Figure: 1,2Preop pictures

Figure: 3,4,5,6 Intraop pictures

Figure: 7 Postop picture

#### 4. Conclusion

Varicosity of leg veins is a common disease which affect, middle aged group, commonly males, rather than females. It occurs in people involved in occupations involving prolonged hours of standing. Commonest presentation is dilated veins affecting unilateral limb, with associated symptoms of itching, pigmentation and ulceration. Ulcer over leg compel the patient to consult and take treatment earlier for early recovery. First diagnose the case, Clinically, some clinical tests are important to denote the site of pathology. Commonly long saphenous system with incompetency of valves occurs in varicose vein. clinical tests in association of Doppler study of leg gives higher accuracy in diagnosing the site of pathology. Conservative line of treatment before surgery is beneficial. Clinical assessment with investigations, treatment with associated complications and surgical procedure minimizes cost and morbidity of varicose vein surgery and early healing of ulcer. Varicose vein is not a life threatening condition. Before taking up a patient for surgery patient should be properly counselled. In the present study there was no intra-operative or post-operative mortality.

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