

Surgical Management of Varicose Veins: Case Series

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Abstract: *Varicose veins is the problem seen in people with occupation involving prolonged standing with people presenting to doctor with complaints of chronic leg pain and complications if any. Many modalities of treatment have been discovered, but we will discuss about the surgical interventions which we carried out on our patients.*

Keywords: Surgical Management Of Varicose Veins- Case Series

1. Introduction

Varicose veins are defined as dilated, usually tortuous, subcutaneous veins >3mm in diameter measured in upright position with demonstrable reflux. Adult prevalence of visible varicose veins is 25-30 percent in women and 15 percent in men. Seen more in patients having high Body Mass Index and suffering from constipation and occupations involving prolonged standing. Preoperatively diagnosed by clinical and Ultrasound Doppler.

2. Materials and Methods

We studied 35 cases in our study and divided them into 3 categories depending upon the anatomical reason for the cause of varicose veins.

Most of the cases referred to us were from neurosurgery department with complaints of pain in lower limbs. On further investigating these cases, they were diagnosed as cases of varicose veins.

Patients underwent Venous Doppler Ultrasound of the lower limbs one day before surgery and marking was done of

- 1) Dilated Great Saphenous veins' track along with
- 2) Marking of the **incompetent perforators** along the path of the vein.
- 3) And marking of whether Saphenofemoral junction was competent or incompetent.

Category 1-Patients having Varicose veins due to **Saphenofemoral junction only** were kept in this category – we proceeded by ligating and cutting of all the tributaries of the Great Saphenous vein at the level of Saphenofemoral junction namely-

- a) Superficial Inferior Epigastric vein
- b) Superficial Circumflex Iliac vein.
- c) Deep External Pudendal vein
- d) Superficial External Pudendal Vein
- e) Posteromedial Thigh Vein.
- f) Anterolateral Thigh Vein.

This was followed by ligation and cutting of the main Great Saphenous vein at Saphenofemoral junction followed by either removal of upper 6-8cm of the vein or stripping upto just below the knee joint.

15 cases were studied in Category 1.

Category 2

Patients having Varicose veins due to both Saphenofemoral junction incompetency and perforators incompetency.

We proceeded by

- A) Ligation and cutting of the tributaries of Great Saphenous vein opening in Great Saphenous vein at Saphenofemoral junction.
- B) Ligating and cutting Great Saphenous vein at the Saphenofemoral Junction.
- C) Followed by stripping of the Great Saphenous vein upto just below the knee joint.
- D) Ligation of the perforators (marked preoperatively by Venous Doppler). Followed by multiple ligation along the track of rest of the dilated tortuous vein.

10 cases were studied under Category 2.

Category 3:

Patients having Varicose veins due to **Perforators incompetency** only were included in this category.

10 cases were studied in this category.

We proceeded by:

- a) Ligation of the perforators (marked preoperatively by venous Doppler ultrasonography) followed by multiple ligation along the dilated Great Saphenous vein.
- b) 10 cases were studied in this category.

3. Technique of Operation :

For Incompetency of Saphenofemoral Junction

Patient was given spinal anaesthesia.

Patient was operated upon in supine position.

3 cm below and lateral to pubic tubercle 2 points were taken and perpendiculars drawn at these points. Point where these 2 lines met, transverse incision of around 5cm was taken at this point parallel to inguinal ligament.

Subcutaneous fat was dissected.

Saphenofemoral junction identified. Then above mentioned tributaries of Great Saphenous vein were identified opening into the vein near the junction of Saphenofemoral junction. Then first the tributaries are ligated and cut followed by flush ligation and cut of the main Great Saphenous vein.

Saphenous Vein and vein stripped upto just below the knee joint.

For Incompetent perforators:

At the preoperatively marked site – small nick given in the skin and subfascial ligation of the perforators was done .

4. Results

S No.	Complications	Number of cases	Percentage of cases
1	Recurrence	1	2.85%
2	Area of anaesthesia along the medial side of the leg	2	5.71%
3	Wound Infection	4	11.42%
	Total	7	20%

5. Discussion

Varicose veins is the problem humans have due to their erect posture. Under normal conditions the blood flow from the superficial venous system to deep venous system through competent perforators and from deep venous system the blood is pumped up to the heart by the muscle pump.

But if there is a break in this mechanism - either due to destruction of the valves of deep veins or of the perforators resulting in stagnation of the blood in superficial veins (which become the prey of high pressure leaks) and become distended and tortuous to become varicose.

These when long standing- result in number of complications:

- a) Pigmentation at the Gaiter area.
- b) Non healing venous ulcer.
- c) Bleeding
- d) Thrombophlebitis.

Clinically many tests are done to see for the culprit- whether main Saphenofemoral junction perforator is the culprit or perforators along the path of the Great saphenous vein are culprit.

Then we go for the Venous Doppler study of the lower limbs to confirm our clinical findings. Venous Doppler tell us about

- a) Course of Great Saphenous vein.
- b) The incompetent perforators along the path of vein showing dilation and backflow.
- c) Saphenofemoral junction competency.

Various procedures are now there to treat the varicose veins other than the definitive surgery:

- A) Compression Hosiery.
- B) Ultrasound guided foam Sclerotherapy.
- C) Endovenous Laser Ablation.
- D) Radiofrequency Ablation.

Various Surgeries include:

- a) Sapheno femoral ligation and long saphenous stripping.
- b) Saphenopopliteal junction ligation and Lesser Saphenous Stripping .
- c) Perforator ligation.

- d) Phlebectomies.

In our study – we went for Surgical interventions:

- 1) Out of 35 cases we operated upon in this study – recurrence was seen only in 1 case that also due to incorrect venous doppler not mentioning one of the perforator incompetency.
- 2) While in two cases, patient complained of having anaesthesia along the medial side of the leg which was most likely due to injury of Saphenous nerve.
- 3) And there was incidence of wound infection in 4 cases despite good antibiotic coverage which was managed conservatively and wound healed by secondary healing.

6. Conclusion

- 1) Patients having Saphenofemoral incompetency only as their cause of varicose veins , respond well to simple Tredelenberg procedure in which flush ligation of the Great Saphenous Vein and all its tributaries namely
 - a) Superficial Inferior Epigastric vein
 - b) Superficial Circumflex Iliac vein.
 - c) Deep External Pudendal vein
 - d) Superficial External Pudendal Vein
 - e) Posteromedial Thigh Vein.
 - f) Anterolateral Thigh Vein.
- 2) Those with incompetent perforators on the venous Doppler- perforators should be tied.
- 3) Upon correction of the anatomical etiology of the varicose veins- either with Tredelenburg flush ligation and stripping or perforator ligation and multiple ligation or both – the ulcers at the Gaiter area due to varicose veins also heal and it improves quality of the life of the individual.

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