



A Comparative Study between Trendelenberg Procedure versus Radio Frequency Ablation in Varicose Veins

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ABSTRACT:

Conventional surgery has been used for a long time for treatment of varicose veins with variable degrees of minor to major complications. (1)Trendelenburg operation is juxta femoral flush ligation of saphenous veins and stripping of veins up to below the knee, followed by multiple phlebectomy for the below knee dilated veins. Radiofrequency ablation is a minimally invasive procedure and has replaced the Trendelenberg technique and getting popular because of fewer complications. It is worked by thermal destruction of venous tissues using electrical energy passing through tissue in form of high-frequency alternating current. (2)

Endovenous RA of VV has been established as a practical and effective alternative to conventional surgery. Segmental radiofrequency ablation provides high ablation rates in conjunction with a very moderate side effect profile. The advantages of RFA are far greater than its associated risks. (3)

I. INTRODUCTION:

Varicose veins are dilated torturous veins of lower limb veins (great saphenous and short saphenous systems) with skin changes. A varicose vein is due to a vessel wall pathology or valvular pathology. It usually affects the people who work by standing for a long time. Trendelenburg operation is juxta femoral flush ligation of saphenous veins and stripping of veins up to below the knee, followed by multiple phlebectomy for the below knee dilated veins.

Endo venous thermal ablation [RFA and EVLA] Radiofrequency ablation is a minimally invasive procedure and has replaced the

Trendelenberg technique and getting popular because of fewer complications (4) (5). It is worked by thermal destruction of venous tissues using electrical energy passing through tissue in form of high-frequency alternating current.

PURPOSE OF STUDY:

Thus, the need of study is to compare the Trendelenburg and radiofrequency in terms of

1. Early Ambulation
2. Early return to work
3. The intensity of postoperative pain
4. Recovery time
5. Complications.

II. MATERIALS AND METHODS:

INCLUSION CRITERIA:

- Patient in the age group of 20-70 years
- who are willing for surgery and duplex scan showing diameter more than 3mm.

EXCLUSION CRITERIA:

- Active infection
- DVT

PROCEDURE METHODOLOGY:

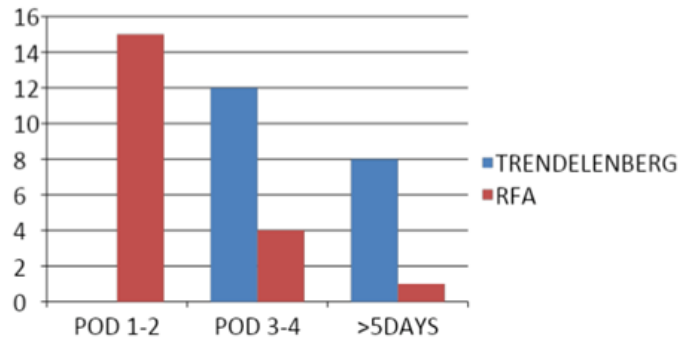
Patients who presented to the department of general surgery and department of vascular surgery in Saveetha Medical College and Hospital between March 2017 to March 2018 were selected based on the clinical examination with CEAP scoring, duplex ultrasound (GSV AND SSV more than 3mm). Patients were randomly selected in each group for Trendelenburg procedure and RFA.



III. STATISTICAL ANALYSIS:

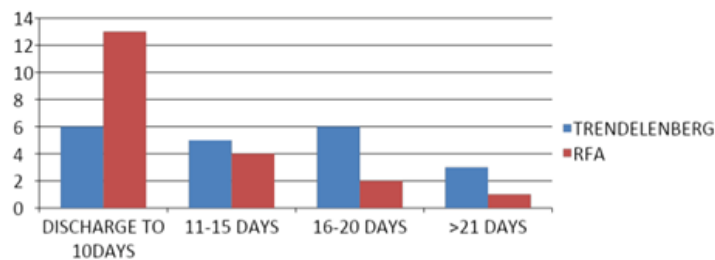
Early mobilisation:

POST OP DAY	TRENDELENBERG	RFA
POD 1-2	0	15(75%)
POD 3-4	12(60%)	4(20%)
>5 DAYS	8(40%)	1(5%)



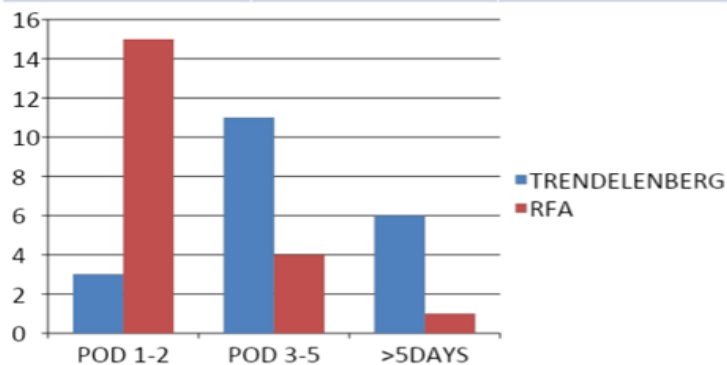
Duration of hospital stay:

DAYS TO RETURN	TRENDELENBERG	RFA
DISCHARGE TO 10DAYS	6(30%)	13(65%)
11-15DAYS	5(25%)	4(20%)
16-20DAYS	6(30%)	2(10%)
>21DAYS	3(15%)	1(5%)



Duration of analgesics:

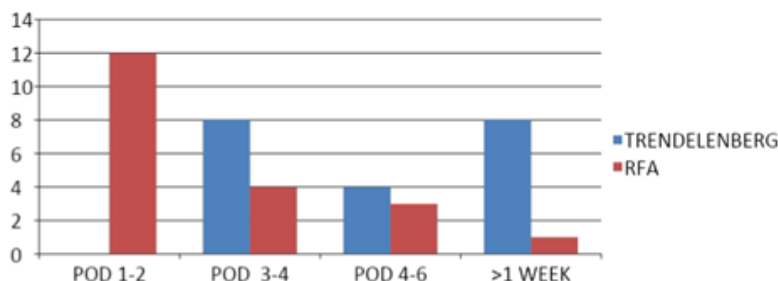
POST OP DAY	TRENDELENBERG	RFA
POD 1-2	3(15%)	15(75%)
POD 3-5	11(55%)	4(20%)
BEYOND 5 DAYS	6(30%)	1(5%)





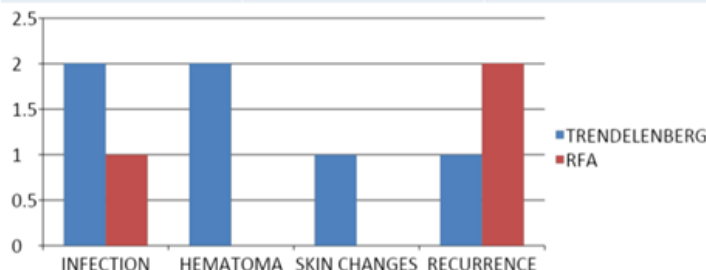
Early return to work:

DAYS AT DISCHARGE	TRENDELENBERG	RFA
POD 1-2	0	12(60%)
POD 3-4	8(40%)	4(20%)
POD 5-6	4(20%)	3(15%)
>1 WEEK	8(40%)	1(5%)



Complications:

COMPLICATIONS	TRENDELENBERG	RFA
INFECTION	2(10%)	1(5%)
HEMATOMA	2(10%)	0
SKIN COLOUR CHANGE	1(5%)	0
RECURRENCE	1(5%)	2(10%)



The anesthesia complications were also reduced in RFA when compared to TRENDELENBERGS

PROCEDURE

- RFA done under local anesthesia and tumuscentanesthesia.
- TRENDELENBERG PROCEDURE done underspinal anesthesia.

IV. RESULT:

In our study 20 patients underwent RFA and 20 patients underwent Trendelenbergs procedure. The average hospital stays for patients who underwent

RFA was 3 days and those who underwent Trendelenbergs procedure was 5 days and more. There was a significant reduction in the use of analgesics for patients who underwent RFA. Anaesthetic complications were reduced for patients who underwent RFA Post operative

complications were significantly reduced for patients who underwent RFA.

V. DISCUSSION:

Varicose veins are dilated branches of the great saphenous vein and small saphenous vein; the incidence of varicose veins varies from 10% to 30%. It is nowadays a common problem among middle aged and older patients associated with disfigurement, disability and impairment in the quality of life.

Risk factors:

- Family history
- Age
- Pregnancy
- A possible risk factor is standing for a long period of time. (6)



Signs and symptoms include aching, heaviness, throbbing, burning or bursting over affected areas and sometimes the whole limb. Symptoms can be very severe and interfere with a patient's daily activities.

The presence of tortuous dilated subcutaneous veins is usually clinically obvious. These are confined to the GSV and SSV systems in approximately 60% and 20% of cases. The veins become more prominent on standing.

Investigations - **DUPLEX ULTRA SOUND** -

The aim of the duplex scan in a patient with varicose veins is to establish the presence of reflux in the deep and superficial venous system. (Axial, junctional and segmental reflux). The exact distribution and extent of reflux in the superficial venous system including affected junctions and perforators. The presence of obstruction in the deep venous system. The presence of thrombus within the superficial veins. An indication of a pelvic source of reflux or obstruction. (7)

Superficial or crural vein reflux is defined as retrograde flow in the reverse direction to physiological flow lasting for 0.5 seconds or more. The proximal deep veins require a duration of 1 second or more to be classified as incompetent.

Management –

COMPRESSION

Compression hosiery relies on graduated external pressure to improve deep venous return and reduce venous pressures. Compression hosiery are classified according to the pressure they exert: the British classification

- class 1 stockings exert pressure of 14–17 mmHg
- class 2 exert 18–24 mmHg
- class 3 exert 25–35 mmHg.

ENDO THERMAL ABLATION

- Endo venous laser ablation
- Radio frequency ablation

ULTRASOUND GUIDED FOAM SCLEROTHERAPY

(Sodium tetradecyl sulphate)

ENDOVENOUS GLUE (Cyanoacrylate) OPERATIVE PROCEDURE

VI. CONCLUSION:

Thus, we emphasize that RFA technique is a safe operative procedure and it provides obvious advantages over Trendelenberg in terms of early ambulation, early return to work, less intensity

of post-operative pain, rapid recovery time and low complications. RADIOFREQUENCY ABLATION should be considered as the initial choice of surgery for patients presenting with varicose veins of lower limbs.

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