

ENDOVENOUS LASER ABLATION IN VARICOSE VEINS IN COMPARISON WITH OPEN SURGERY

A thesis submitted for MD degree in general surgery

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THE EBERS PAPYRUS (27TH PHARAONIC DYNASTY, 1580-1320 BC) CLEARLY CONTRAINDICATED SURGERY FOR VARICOSE VEINS:

“INSTRUCTION CONCERNING SWELLING OF BLOOD VESSELS. IF THOU EXAMINE A SWOLLEN BLOOD VESSEL UNDER THE SKIN OF A LIMB AND ITS ASPECT INCREASES, BECOMES SINUOUS AND SERPENTINE, LIKE SOMETHING SWOLLEN WITH AIR, THEN THOU WILL SAY CONCERNING IT, IT IS A SWOLLEN BLOOD VESSEL—THOU SHALL NOT TOUCH SOMETHING LIKE THIS”

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LIST OF ABBREVIATIONS:

- **CEAP:** Clinical, Etiological, Anatomical and pathophysiological classification.
- **ELA:** Endovenous laser ablation.
- **EVA:** Endovenous laser ablation.
- **EVL:** Endovenous laser therapy.
- **GSV:** Great saphenous vein.
- **LASER:** Light Amplification by Stimulated Emission of Radiation.
- **LL :** Lower limb.
- **PTVs:** Posterior tibial veins.
- **PVs:** Perforating Veins.
- **RCT:** Randomised Controlled Study.
- **SFJ:** Sapheno femoral junction.
- **SPC:** Superficial posterior compartments.
- **U/S:** Ultrasound.

INTRODUCTION

AND

AIM OF WORK

INTRODUCTION:

During the 1930s to the 1960s, several large studies reported the prevalence of varicose veins to roughly average 2% in the general population. However, more recently, large population studies demonstrated the prevalence of 10% to 35%, with venous ulcers found in up to 4% of people older than 65. **(Barwell J, et al. 2004)**

Treatment of superficial venous incompetence can be accomplished by techniques that result in removal, ablation, or ligation of the refluxing venous segment. At the current time, reconstructive procedures have no role in the treatment of superficial venous disease outside of experimental protocols. Current options for eliminating this target reflux include high ligation and stripping, Endovascular Venous Ablation, sclerotherapy and ambulatory phlebectomy. The modern vascular surgeon should be comfortable in applying those procedures in a thoughtful manner based on the patients' individual needs. **(Cambria, et al. 2007)**

In 2002, Endovenous Laser Ablation was approved for use in the United States for ablation of the GSV. Early theories of performing this technology advocated pulsed delivery of laser energy combined with manual compression during delivery of energy. This methodology resulted in profuse vessel perforations, which have been linked to increased pain and bruising post operatively. Shortly after the first use of ELA, treatment parameters were modified to deliver energy in continuous mode without compression, and excellent results were achieved. (**Eremia S, et al. 2002**)

AIM OF WORK:

The aim of this study is to compare between patients who underwent EVLT for long saphenous vein versus those who underwent the classic trendlenberg's and stripping operation as regards requirement of general anesthesia, operative feasibility, timing, intra and postoperative complications.

ANATOMY OF VENOUS DRAINAGE OF THE LOWER LIMBS

CHAPTER I

ANATOMY OF VENOUS DRAINAGE OF THE LOWER LIMBS

DEVELOPMENTAL ANATOMY OF THE VEINS OF THE LOWER LIMBS:

By the fourth week of the intrauterine fetal life, a swelling of the lateral embryonic body wall forms the limb buds. They are richly vascularized, where the arteries are axial, while the veins are marginal. There are a couple of veins present on each side. The anterior marginal vein is pre-axial and the posterior marginal vein is post-axial; both drain separately into the posterior cardinal vein (*Mozes G et al., 2001*).

In the adult life the pre-axial vein of the lower limb become the great or long saphenous vein, which more proximally gives rise to the proximal femoral and the external iliac veins. The post-axial vein becomes the lesser or the short saphenous vein, which more proximally gives rise to the popliteal, inferior gluteal and internal iliac veins as a portion of the posterior cardinal vein (*Mozes G, 2001*).