

## Comparison of 980 nm Laser and Bare-tip Fibre with 1470 nm Laser and Radial Fibre in the Treatment of Great Saphenous Vein Varicosities: A Prospective Randomised Clinical Trial.

[Doganci S](#), [Demirkilic U](#).

Gulhane Military Academy of Medicine, Department of Cardiovascular Surgery, Ankara, Turkey.

### Abstract

**OBJECTIVES:** The aim of this study is to compare efficacy, early postoperative morbidity and patient comfort of two laser wavelengths and fibre types in treatment of great saphenous vein (GSV) incompetence resulting in varicosities of the lower limb. **DESIGN:** Prospective randomised clinical trial. **MATERIALS AND METHODS:** Sixty patients (106 limbs) were randomised into two groups. They were treated with bare-tip fibres and a 980 nm laser in group 1 and radial fibres and 1470 nm laser in group 2 in order to ablate the GSV. Local pain, ecchymosis, induration and paraesthesia in treated regions, distance from skin, vein diameter, treated vein length, tumescent anaesthesia volume, delivered energy and patient satisfaction were recorded. Follow-up visits were planned on the 2nd postoperative day, 7th day, 1st, 2nd, 3rd and 6th months. **RESULTS:** Mean GSV diameters at saphenofemoral junction and knee levels were 12.1 S.D. 4.3 mm and 8.2 S.D. 2.4 mm, and 11.8 S.D. 4.1 mm and 7.9 S.D. 2.6 mm respectively in groups 1 and 2. There were 14 patients with induration, 13 with ecchymosis and nine minimal paraesthesia in group 1 and no or minimal local pain, minimum ecchymosis or induration in group 2. Duration of pain and need for analgesia was also lower in group 2 ( $p < 0.05$ ). There was significant difference on postoperative day 2, day 7 and 1st month control in favour of group 2 in venous clinical severity scores (VCSS). **CONCLUSION:** Treatment of the GSV by endovenous laser ablation using a 1470 nm laser and a radial fibre resulted in less postoperative pain and better VCSS scores in the first month than treatment with a 980 nm laser and a bare-tip fibre. Copyright © 2010 European Society for Vascular Surgery. Published by Elsevier Ltd. All rights reserved.