

ENDOVENOUS LASER TREATMENT OF VARICOSE VEINS. THE FIRST 601 CASES IN CHILE. SOUTH AMERICA

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OBJECTIVE(s): The hypothesis has been submitted to seal the point of reflux at the level of the greater saphenous vein and its tributaries, by means of a Percutaneous Endoluminal Laser procedure, in a selective and ambulatory manner. The objective of this communication is, therefore, to evaluate whether the Saphenous vein closure is indeed immediate and, if so, whether such treatment is Permanent over time with no incisions and minimum scars on the skin.

METHOD(s): Prospective protocol, with clinical and ultrasound follow-up. April 2003 to October 2008. The selection criteria consisted in applying this technology only to patients with a reflux in the saphenous-femoral junction and along the internal saphenous pathway, with varicose veins type 3 and 4, according to the CEAP classification. This preliminary communication covers a survey of the first 635 extremities operated on patients meeting the above criteria, without any exclusion.

The prospective protocol includes categorizing the vein reflux by means of Ultrasound mapping. The reflux time, the saphenous diameters, the energy utilized and the patient's tolerance. The follow-up includes a clinical and ultrasound evaluation 1 week, 6 weeks, 6 months, and 1 year after surgery to determine the disappearance of varicose veins. We used a Diomed 810 nm laser. The laser energy was delivered continuous mode through a 400-micron fiber optic element, introduced percutaneously, using 14 watts of power and an average total energy of 2.195,33 joules (SD 623,52). In all cases, we applied local tumescent anesthesia under ultrasound guidance and the procedure was fully ambulatory. The statistic method used was the analytical description of all categories studied.

RESULT(s): 635 limbs in 572 patients, 82,2% female and 17,8% male patients. Average age 52,22 (SD 12,82). Maximum diameter of saphenous vein average 10,34 mm (SD 9,47). Average reflux time 5,25 (SD 1,5). Vein segment treated average 19,65 cms (SD 7,86).

In 100% of the cases, we obtained a percutaneous catheterization of the saphenous vein. On 635 cases, we documented – via ultrasound – the full stop of

the reflux, i.e. in 100% of the cases. There was no significant associated morbidity i.e. skin burn or DVT.

The 1-week follow-up showed that an occlusion of the saphenous vein without any reflux had occurred in patients. At the 6-week follow-up, we observed that such percentage was indeed maintained; in 1 case we even observed a segmentary rechanneling of the saphenous pathway, but without showing any significant distal reflux. At the 6-month follow-up examination, we observed that the situation at the 6-week follow-up had also been maintained. During the far-apart follow-ups we also observed sclerosis in the saphenous vein, obtaining diameter reductions of up to 80%. In 70% of all cases, the varicose condition disappeared. The remaining 30% of the cases required complementary procedures to selectively tie the perforating veins under the knee, as well as Ambulatory Phlebectomy of all dilated collateral veins.

CONCLUSION(s): It has been clinically documented that it is feasible to treat the saphenous vein reflux by applying a percutaneous laser procedure. The follow-up results, albeit short-term given the characteristics of the saphenous vein wall, allow us to conclude that the treated vein shrinks significantly toward a state of permanent occlusion of the reflux causing the varicose veins. On the other hand, the procedure has been very well tolerated and accepted because is safe, no painful and very cosmetic.