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The treatment of legs veins with IPL and ND: Yag Laser

For many years various laser treatment systems have been used in the treatment of vascular injuries. Laser is a device that is made up of active media, including gases, liquids, or solids enclosed within a resonating chamber, bounded by a pair of smooth, parallel mirrors, some perfectly clear and others semi-transparent. Einstein was first who suggested the basis for the controlled manipulation of light waves in 1917, but it was not until 1960 that the first laser was built (light amplification by stimulated emission of radiation), and some of the first applications were in the treatment of cutaneous vascular injuries. This gave rise to the argon laser, invented in 1960 by Maiman, which was a continuous emission laser with light wave lengths ranging between 488 and 514 nm. Subsequently, in the mid-nineties the Photoderm (IPLS-intense pulsed light source) came about which used a high energy flash lamp system with a spectrum of variable wave lengths ranging from 515 to 1200 nm. The most recent laser used in the treatment of blood vessels is the ND YAG pulsating at a length of 1.064 nm and called the Vasculight light, which emits energy up to 150j/cm². This system is based on the deep penetration of these wave lengths in order to photocoagulate larger blood vessels (especially in the lower extremities), as reticulated varicose veins, essential and secondary telangiectasias, and, therefore, substituting for sclerotherapy. The light of the laser is absorbed in a selective way by chromophore (hemoglobin), generating heat above the point of coagulation and causing the re-absorption of the vascular walls. As supposed, the pathologies that involve various veins are conditioned by the location and function of each--the network of deep veins and controlling a high percentage of the blood-return veins (approximately 80%)--and is associated with areas of vein insufficiency. The perforated veins suffer injuries at times in their valvular structures, losing the unidirectional nature of their flow, by which the incoming blood in the deep system flows to the superficial veins, dilating them and becoming varicose. As is well known, the prevalence of vein pathology, in our environment, is extraordinarily elevated. This contributes a diversity of factors that are not congenital, but can be acquired in other ways, such as multiple pregnancies, injuries, standing for long periods of time, etc. From this point of view, the illnesses included in this category, as in other similar ones, show evidence of the strong presence of factors related to educational and cultural order. The surface veins are dilated and twisted with defective valves. Commonly, this is a problem that involves the interior and exterior saphenous veins. The highest incidence of this appears at the age of 20 and is three times more frequent in women than in men because of the intervention of PRE factors related primarily to pregnancy, menopause, and genetics. This also is a consequence of deep thrombophlebitis with vein re-channeling.

Biography

Aristides Arellano is working as a medical surgeon in the University of New York. He served as a Director General of Dermatological clinic and Aesthetic surgery of Puebla s.a. de c.v. 1999 – 2015. He was a member of the evaluation committee of the State Award in the area of Technology and Medical Sciences. 2003 – 2005.

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