

EUFOTON MEDICAL LASER

FTF LASER

MEDICAL UPDATE

Abstract presented for the world congress of Phlebology UIP - 2013 Boston - USA



FTF – fiber to fiber - LASEmaR 800 laser system for aesthetic spider and reticular vein treatment

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Edited by Francesco Marangoni of Eufoton Press

Objective:

In alternative to the usual foam sclerotherapy for the treatment of reticular veins and in combination with well known transdermal 532 / 808 nm laser treatment we have evaluated also an “old” infrared 808 nm laser in intra-extra luminal procedure for the treatment of blue, violet and red aesthetic spider veins.

Endolasering at 100, 150 or 200 µm micro optical fibers can cause photothermocoagulation of the vessel wall thanks to the direct intra-extra venous contact.

808 nm being scarcely absorbed by both water and fat tissue does not harm surrounding perivenous tissues during photocoagulation.

When the firing becomes extravasal side, the first target becomes the adventitial vasa vasorum blood.

The irreversible photo-thermal process (around 80° C) induced by the laser energy results in a complete occlusion of the treated vein.

The **FTF Laser System 800** is composed by a Laser unit with 808 nm wavelength and the FTF fibers, a low cost solution to treat easily collaterals, perforators and teleangectasias even when very superficial.

Materials and Methods:

Since March 2009, around 200 patients (90% female, 10% male) presenting tortuous reticular veins and telangiectasias are treated with intra-extra luminal 808 nm Laser (**Eufoton, Italy**).

After topical anesthesia (EMLA Cream or cryogenic local therapy), a special microfiber kit of 100, 150 or 200 microns (FTF - Fiber to fiber - laser system, Eufoton, Italy) in telangiectasias are inserted intra-extra near the veins wall, using at the same time a combined skin cooling system (**Criotube or Criocompact**) during and after treatment.



We differentiate 2 types of treatments:

• **Reticular Veins (1 to 3 mm) and telangiectasias sized from 0,5 mm to 1 mm (blue, violet)**

We used a special titanium introducer for 25 G needle (FZR) to introduce easily the 200 µm fiber into the needle. Skin temperature is controlled by palpation.

The FTF(R) 200 micron fiber is pushed up where the reflux originates and the optical tip is indicated by the pilot beam at 635 nm.

Once it has reached the reflux point, it is gently withdrawn under variable pullback speed and power laser setting.

The end point is photocoagulation of the varicose blood content and wall, which immediately becomes shrank as soon as it gets touched.

The treatment of these telangiectasias requires pressure applied with a cylinder of cotton, and elastic stocking 20-30 mmHg.

Treatment was well tolerated.



courtesy: A. Crippa M.D.

• **Teleangiectasias sized less than 0,5 mm (red and purple)**

We used the direct transcutaneous impact of the naked bare micro optical fiber of 100, 150 or 200 µm.

The 808 laser emission enables us to puncture the skin penetrating the vessel wall structure and causing a photothermic damage to the vessel and connected perivenium vasa vasorum. Combined skin cooling is recommended.

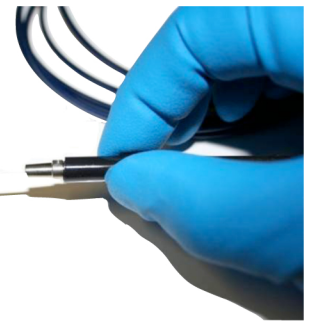
The immediate vessel bleaching is followed by micro skin burns sized 200/300 microns that disappear on approx 14/21 days after applying daily a thermal water-based soothing cream (Cicalfate; Avène, Pierre-Fabre Group, France)

Conclusions:

Effective treatment of reticular veins and telangiectasias was achieved with intra-extra luminal 808nm laser with acceptable side effects.

The vessel shrinking was achieved for:

- the selective photothermolysis of intraluminal Hb, in extraluminal procedure on vasa vasorum Hb, - direct



contact of the optical fiber on collagen of the vessel wall.

The treatment is cost effective because the low cost of the disposable micro optical fibers (**Eufoton - FTF laser system**).



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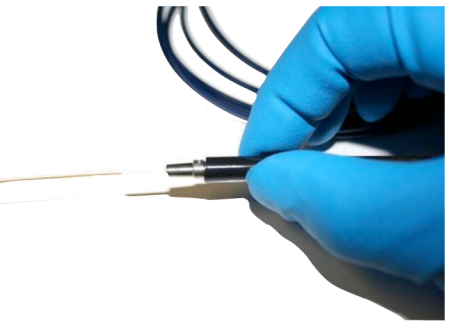
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