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Large Venous Malformation Treatment Using Nd:YAG – A Case Study

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A 42-year old male was referred to our department with a large venous malformation located on the right side of the lower lip and the oral vestibule. The patient's concerns were mainly aesthetic. From a medical viewpoint, the lesions could be accidentally bitten, initiating excessive bleeding.

We decided to treat the lesion with a Fotona Nd:YAG laser because the procedure is fast and minimally invasive with good long-term results. The Nd:YAG laser procedure puts the least amount of strain on the resources available to our busy surgical department. Furthermore, the laser's wavelength allows it to penetrate deep into the tissue and the lesion, where its energy is absorbed by hemoglobin. Alternative therapies include chemical sclerotherapy which requires radiological control, excision which is time-consuming, cryotherapy which is hard to control and electro-cauterization, which poses a significant risk of excessive bleeding and procedural complications if the lesion in penetrated into.

The procedure was completed under local anesthesia; bilateral mental nerve block with Ultracain. With the fiber tip in near contact with the tissue surface the lesion's borders was first outlined with the laser. The lesion was then systematically covered with consecutive passes across the entire lesion's surface. Immediate shrinking and blanching of the mucosa was observed. Varying the distance between the fiber tip and the mucosa can to a certain degree alter and control the shrinking and blanching effect. When initiating the treatment the fiber tip is held slightly further from the target, once the clinical effects of the parameter settings have been confirmed visually, the target is closed in on with the fiber. This procedure was completed, without any complications, within 10 minutes.

Laser source:	Nd:YAG (1064 nm)
VSP Mode:	SP
Power:	12 W
Frequency:	50 Hz
Handpiece:	R21 with 300 µm fiber
Water/Air Spray Setting:	None

The patient was placed on a soft diet and oral non-steroidal analgesics for 7 days after the procedure. The patient spent two days in hospital care. Healing proceeded normally with re-epithelization starting from the wound margins. Complete wound healing and return to normal function was achieved within 5 weeks after the procedure.

Before

Before

Immediately after

4 weeks after

7 weeks after

Complete recovery

Dr. Vesnaver is a specialist in maxillofacial surgery. He currently practices at the Department of Maxillofacial & Oral Surgery of the University Medical Center Ljubljana, where he is also an assistant professor.

He has been involved in the research and development of several oral laser surgical procedures including laser photo-coagulation of intra- and extra-oral vascular lesions and laser ablation of intra-oral leukoplakia.

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