

Treatment of Venous Lake with Intralesional Diathermy

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Abstract: Venous lake is a fairly common change that can often be seen on the lower lip. Venous lake can cause bleeding and be a cosmetic nuisance. Here we describe a quick and simple treatment technique using intralesional monopolar diathermy.

Background: We describe a simple and effective treatment for patients with venous lakes.

Materials and methods: The article is based on non-systematic research found in PubMed and the authors' own experience.

Results: Intralesional diathermy was found to result in a good cosmetic outcome in a patient with venous lake on their upper lip.

Interpretation: We describe a simple, fast and safe technique for the removal of venous lakes using intralesional diathermy. The procedure takes a short time and the equipment is less expensive than lasers or surgical interventions. It provides a good cosmetic result. The technique can be an alternative to wedge excisions and it avoids scarring.

Keywords: Venous lake, treatment, diathermy, intralesional diathermy.

A HISTORY

A man in his late 60s presented with an annoying venous lake on the upper lip. Treatment was required because of episodic bleeding. The patient had had the change in his lip for at least one year. Upon examination a 5.0 mm long hemangioma of the upper lip was found. The hemangioma faded with diascopy compression.

DESCRIPTION OF PROCEDURE

The area was placed under local anesthesia, with a combination of conduction anesthesia and infiltration anesthesia. An infraorbitalis block was achieved with about 1-2 ml of lidocaine agent 1% with adrenaline. Another 0.5 ml 1% was placed in the lesion. The patient was then prepared for treatment with monopolar diathermy. An IV line, in this case a Optiva TM 20 G, was modified by removing the plastic on one side so that it could be used as an isolated diathermy needle. This heated up the lesion without damaging the epidermis. The modified line was inserted in the tissue very proximal to the venous lake. It was convenient to insert the needle at an angle of about 45 degrees and manipulate it horizontally when reaching the submucosa. When the line reached the middle of the venous lake treatment began. We used our coagulation

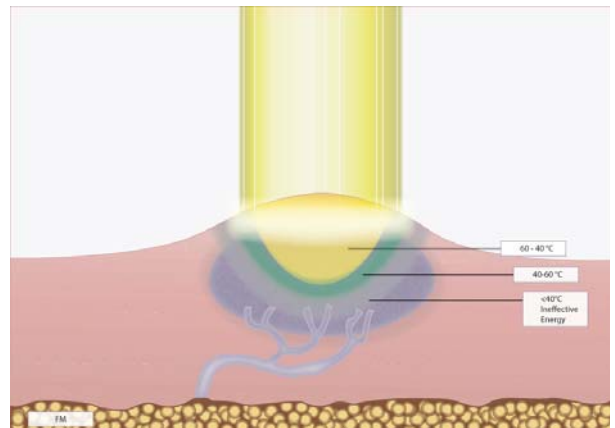


Figure 1: Short comment on attached illustrations.

This illustration shows the effects of laser energy on venous lakes, in particular the excessive superficial heating and lack of deep heating.

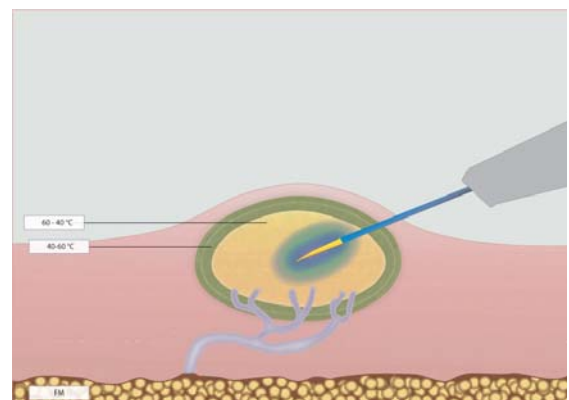


Figure 2: This image illustrates the intralesional heating of a venous lake with an insulated electrode and more optimal heating inside the lesion.

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mode diathermy with a magnitude of 5 (scale 1-10) and applied 4-5 short treatment pulses (each one second in duration). The end point of the treatment saw a color change in the venous lake, showing denaturation. This heating technique made the color change from blue to a brownish color.



Figure 3: Pre-op.



Figure 4: A typical venous lake on the upper lip
The IV cannula is prepared to be used as an insulated electrode by removing the plastic coating on one side.

DISCUSSION

A venous lake can be seen as a 2-10 mm blue lump on the lip or ear. The term venous lake means a "lake" of veins. Pathogenetic changes result from to a localized dilation of the veins in the papillary dermis which remain untreated over a lifetime. The incidence of venous lake increases with age, and one suspects that sun exposure is also a contributing cause. Venous lakes are primarily a cosmetic problem, but can bleed if punctured.



Figure 5: Intra operative.

Treatment performed. The IV cannula functions as an electrode. The diathermy electrode is placed on the exposed area of the IV cannula. The tip of the IV cannula is placed in the center of the lesion, and five short bursts are delivered. The coagulating effects are immediately visible with graying and shrinking of the venous lake.

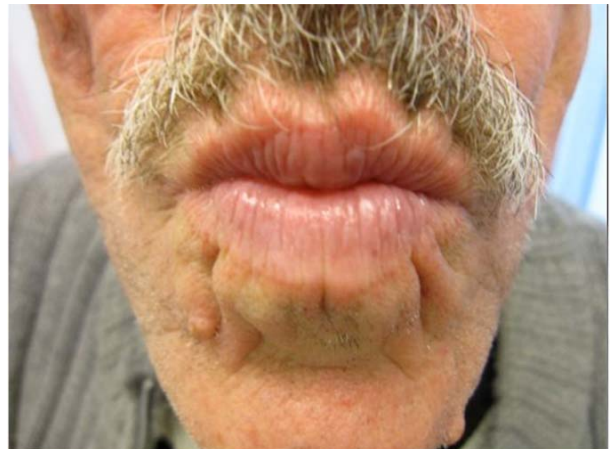


Figure 6: Results / Follow up.

Follow up 3 months later showed the disappearance of the lesion without sequelae.

There are few studies on the optimal treatment of venous lakes on the lips. This new technique was first described by a group of Italian doctors [1]. In clinical practice, patients are often offered no treatment, or are referred to a dermatologist for evaluation. The most common laser surgical intervention is a pulsed color laser. The effect of laser therapy is variable, and repeated treatments are often necessary in the authors' experience. In 2007 Cheung *et al.* published an article in which only 3 of 8 patients responded to pulsed dye laser treatment [2]. Other interventions described include cryotherapy [3], diode laser [4], CO₂ laser [5], Nd: YAG laser [6], IPL [7], sclerotherapy [8] and surgical excision [9].

We describe a simple, rapid and reliable technique for the removal of venous lake with intralesional

diathermy. The technique takes a short time, is less expensive than laser surgical interventions and provides a good cosmetic result.

REFERENCES

- [1] Guarneri GF, De Biasio F, Semprini G, Cracco S, Parodi P. A Simple Method to Treat Venous Lakes. *Dermatologic Surgery* 2010; 36: 1586-7.
<http://dx.doi.org/10.1111/j.1524-4725.2010.01687.x>
- [2] Cheung ST, Langian SW. Evaluation of the treatment of venous lakes with the 595-nm pulsed dye laser: a case series. *Clin Exp Dermatol* 2007; 32(2): 148-50.
<http://dx.doi.org/10.1111/j.1365-2230.2006.02323.x>
- [3] Suhonen R, Kuflik EG. Venous lakes treated by liquid nitrogen cryosurgery. *Br J Dermatol* 1997; 137(6): 1018-19.
<http://dx.doi.org/10.1111/j.1365-2133.1997.tb01575.x>
- [4] Azevedo LH, Galletta VC, Eduardo C de P, Migliari DA. Venous lake of the lips treated using photocoagulation with high-intensity diode laser. *Photomed Laser Surg* 2010; 28(2): 263-5.
<http://dx.doi.org/10.1089/pho.2009.2564>
- [5] Majamaa H, Hjerpe M. Treatment of venous-lake angiomas with a carbon dioxide laser. *J Eur Acad Dermatol Venereol* 2003; 17(3): 352-3.
<http://dx.doi.org/10.1046/j.1468-3083.2003.00792.4.x>
- [6] Bekhor PS, Long-pulsed Nd:YAG laser treatment of venous lakes: report of a series of 34 cases. *Dermatol Surg* 2006; 32(9): 1151-4.
- [7] Jay H, Borek C. Treatment of a venous-lake angioma with intense pulsed light. *Lancet* 1998; 10; 351(9096): 112.
- [8] Kuo HW, Yang CH. Venous lake of the lip treated with a sclerosing agent: report of two cases. *Dermatol Surg* 2003; 29(4): 425-8.
- [9] Bu J, Shi H, Hu M, *et al.* Oral venous lakes: a clinicopathologic analysis of 20 cases. *Zhonghua Kou Qiang Yi Xue Za Zhi* 2002; 37(1): 33-5.

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