

# Treatment of lymphatic malformations of the tongue: review of the literature including 305 cases.

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## Background:

Lymphatic malformations are regarded as vascular malformations and are counted among the low-flow lesions. They are normally present at birth and 90% are diagnosed during the first two years. Most of them are located in the head and neck area. The affection of the tongue due to a lymphatic malformation causes a great challenge in case of functional, esthetic and care of the teeth. We have done a literature review where we focused on the treatment of lymphatic malformations of the tongue, because there are no state-of-the-art concept.

## Methods:

Medical Database search focussing on treatment options for lymphatic malformations in the tongue, use of different sclerosing agents, lasers and specific indications. Surgical concepts were evaluated regarding indication, technique, complications and outcome.

## Analyses of the literature:

49 publications were studied comprising a total of 305 cases. Available data and homogeneity are fragmentary. In all papers lymphatic malformations are subclassified in microcystic and macrocystic. Among the surgical concepts at least two techniques were described. Bleomycin was the most common sclerosant, followed by Picibanil (OK-432) and Ethibloc. Of all laser strategies the CO<sub>2</sub> laser was mostly used, followed by Nd:YAG-laser and pulsed-dye-laser. Four authors stated that Picibanil seems to be profitable as pretreatment in combination with surgery.

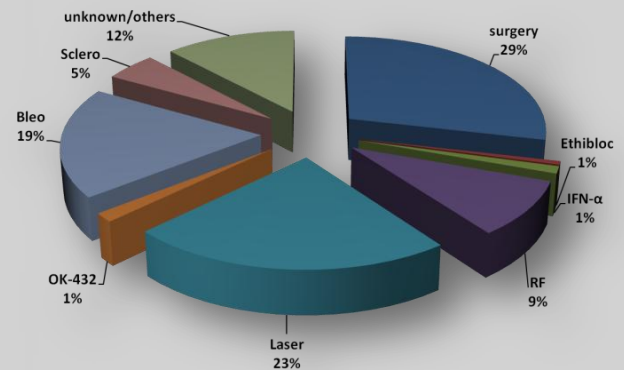


Fig.1: treatment-options (often more than one type of treatment per patient)

## Results:

Surgical reduction is indicated when the lymphatic malformations of the tongue is so huge that the patient is not able to keep the tongue in the oral cavity or if earlier treatment did not lead to the required outcome. All these surgical reductions include high risks like losing the tongue motility.

The Nd:YAG laser can be recommended in interstitial areas. The CO<sub>2</sub> laser minimizes bleeding in superficial vesicles. Also, the pulsed dye laser can be used to eliminate lymphatic cysts which are located one or two millimeters beneath the surface of the tongue.

Bleomycin is not recommended as a first line therapy in the treatment of lymphatic malformations in the tongue. If a surgical excision is too hazardous Bleomycin is recommended as a safe and alternative therapy.

So far OK-432 played an underpart in the treatment of lymphatic malformations of the tongue.

Radiofrequency ablation (RF), Ethibloc and Interferon-alpha (IFN-α) played a minor role.



Fig.2: patient with LM in the tongue pre- and post repetitive sclerotherapy

## Conclusion:

With respect to the complications and recurrence, surgical reduction is only recommended as first-line treatment in cases of significant impairment of speech and feeding problems. Sclerotherapy is the most common treatment for both types of lymphatic malformations in the tongue with an acceptable complication/outcome ratio. Overall early diagnosis, well weighed indications and consistent follow-up in an interdisciplinary team approach are mandatory.