

Saving the tongue: treatment of tongue hemangioma with 3% sodium tetradecyl sulphate injection. A case report

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ABSTRACT

Hemangiomas of the head and neck are present a few weeks after birth, but vascular malformations are present at birth. The majority of hemangiomas involute in the first few years of life and do not need any intervention. Vascular malformations rarely involute, and because of bleeding and lacerations need active intervention. Various modalities of treatments like surgery, cryotherapy and sclerotherapy are present in the literature. We report a case of a young 13-year girl with tongue hemangioma who was treated with sclerotherapy. The lesion completely disappeared without recurrence.

Keywords: Sclerotherapy; Hemangiomas; Vascular Malformations; Tongue.

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INTRODUCTION

Hemangiomas are developmental vascular abnormalities, mostly present at birth. They have a proliferative growth phase and involutive phase. The incidence is estimated to be between 1 and 10%.¹ A hemangioma can occur anywhere in the body, but about 60% to 70% of lesions are found in the head and neck area.² It is a large benign vasoformative tumor having two types, hemangiomas, and vascular malformations.³ Nowadays the term hemangioma is exclusively used to refer to the benign vascular tumor of infancy called infantile hemangioma, which is treated in large part by propranolol.⁴

Spontaneous regression can be expected in hemangiomas of infancy, especially in the first five years of life, but that of vascular malformations of the head and neck is rarely occurs.^{5,6} Vascular malformations can be low flow malformations like lymphatic, capillary, and venous malformations, or high-flow like arterio-venous malformations.⁷ Literature suggests that all symptomatic vascular malformations showing functional or aesthetic impairment, or a combination of both, require treatment.

We present a case of a young girl with hemangioma of the tongue. She was due for hemiglossectomy but sclerotherapy was commenced to save her tongue with a successful outcome.

CASE REPORT

A 13-year-old girl came to the clinic with her parents on the 4th November 2019. She presented with a large bluish lesion on the anterior two-thirds of her tongue since the past one year. She had been seen by various doctors, and was given propranolol 10 mg once a day, as part of hemangioma treatment without any improvement. Oral and maxillofacial surgeons had also seen the patient and advised hemiglossectomy as potential treatment regimen. The family decided to go for a second opinion and brought her to the clinic. The lesion had started as a small bluish area on the tongue and gradually increased in size within a year. It was more on the left side of both the dorsal and ventral surfaces (Figure 1).



Figure 1: Tongue at Presentation

She reported a few episodes of bleeding while eating. Her labs were normal. Various alternatives to surgery were discussed with the patient, which had not been communicated to her before. Sclerotherapy was the mode of treatment that was then decided upon. It was given in the form of intralesional 2 ml 3% sodium tetradecyl sulfate injection once every 2 weeks (Figure 2).



Figure 2: During Procedure

The prescribed dose was 10 injections, but the lesion completely disappeared after 6 injections (Figure 3).



Figure 3: Improvement during prescribed treatment

The shape and function of the tongue returned to normal in 12 weeks and the tongue preserved. Subsequently, the patient was seen on follow-up multiple times to know the progress of the disease. No signs of recurrence were seen on the most recent visit after 20 months of treatment (Figure 4). Verbal consent was obtained from the patient's parents.



Fig 4: On Follow-up

DISCUSSION

Spontaneous regression of hemangioma of infancy is expected in the first three years of life.

Correct terminology and classification are very important to manage the therapeutic objectives.⁸ The classification is based on the International Society for the Study of Vascular Anomalies (ISSVA).^{9,10} The vascular malformations are subdivided according to the affected vascular morphology. They are low-flow and high flow malformations. The low flow malformations are lymphatic, capillary, and venous malformations. The high

flow malformations are arterio-venous malformations. Lymphatic malformations like cystic hygroma, which are either microcystic or macrocystic, are usually present at birth and increase in size to cause huge disfigurement. Therapeutic intervention is required for lesions causing obstruction of upper aero-digestive tract or visual impairments. The therapeutic options are surgery, sclerotherapy, and laser therapy.¹¹

Surgery for an advanced lesion in the suprahyoid and facial areas is very challenging, with high rates of morbidity and recurrence. The use of sclerosing agents like OK-432, doxycycline, and sodium tetradecyl sulfate is an established treatment in Europe and other parts of the world with successful outcomes. Most of these agents cause artificially induced inflammation and inhibition of angiogenesis. CO₂ laser in defocused mode is used to vaporize microcystic lesions of the oral cavity mucosa and tongue. ND:YAG laser can be used in conjunction with CO₂ laser for deeper fibrosis.¹² Laser therapy has low risk of side effects and can be repeated for the residual or recurrent lesions.

A capillary malformation, also called port wine stain, is a typical representation of low flow vascular malformations in the head and neck region. These lesions initially affect the skin but later involve the deep subcutaneous tissue causing disfigurement and obstruction of the upper aero-digestive tract. Dye laser, especially pulsed dye laser, is the gold standard treatment for cutaneous lesions and can be started in childhood to prevent nodularity and deep tissue involvement.

Venous malformations are the most common type of vascular malformations of head and neck. Multiple modalities of treatment can be performed for them. Venous malformations involving mucosa of the upper aerodigestive tract can be treated with ND:YAG laser. Surgery can be performed in cases of severe disfigurements or dysfunctional problems.¹³ The risk in surgery is severe bleeding, but that can be controlled with electrocoagulation. In large venous malformations the risk of intravascular coagulopathy can be identified by the elevated level of dimers and lowered fibrinogen level. Those can be controlled by low molecular weight heparin derivatives for stabilization. Sclerosing agents can be used to save the shape and function of the affected part involved with venous malformations. Ethanol, bleomycin, sodium tetradecyl sulfate, polidocanol, OK432, and others are used for sclerotherapy.¹⁴ Many of these sclerosing agents have side effects like nephrotoxicity and pulmonary impairments. Conventional surgery is the treatment of choice for resectable arterio-venous malformations.¹⁵

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