

Venous Malformation Case Report

**Yousif I Eltohami,
Nour E Alim and
Amal H Abuaffan**

Faculty of Dentistry, University of Khartoum,
Sudan

Corresponding author: Abuaffan AH

✉ amalabuaffan@yahoo.com

Faculty of dentistry, University of
Khartoum, Sudan.

Tel: +249 91 778 8622

Citation: Eltohami YI, Alim NE, Abuaffan
AH. Venous Malformation Case Report. J
Hosp Med Manage. 2016, 2:2.

Abstract

Venous malformations in the maxillofacial region are difficult to manage. Sclerosing agents like hypertonic saline, ethanol, sodium tetradecylsulfate, polidocanol, are recommended for the treatment. The current case reports a venous malformation in the tongue treated with hot saline, a safe, effective and inexpensive modality for treatment of vascular malformations. Proper diagnosis and case selection are a must for the management to minimize possible risks and complications. The findings in this case suggest that sclerotherapy with hot saline is a safe and effective method for treatment.

Keywords: Venous malformation; Tongue; Hot saline; Congenital

Received: November 21, 2016; **Accepted:** November 29, 2016; **Published:** November 30, 2016

Introduction

Vascular malformations accounting for approximately 7% of all benign tumors, the majority was developing in the head and neck region [1]. Vascular malformations are subdivided into high flow and low flow malformations, the later involve the venous malformations. The overall incidence of venous malformations is about one in 10000. These lesions commonly occur in the head and neck with a predilection for the oral cavity, airway and muscle groups. These lesions will continue to grow throughout the patient's life [2]. Venous malformations (VMs) morphologically and histologically similar to veins. They are classified as superficial or deep and as localized, multicentric or diffuse. The skin or mucosa that covers such malformations varies in color according to the depth and degree of ectasia of the lesion. The most superficial ones are purple in color, whereas the deeper ones appear more bluish or greenish or may not even be visible [3]. Generally, vascular malformations in the maxillofacial region represent an aesthetic problem. Nevertheless, tongue lesions in the majority of cases can cause clinical problems like spontaneous hemorrhage from the mouth; progressive asymmetric growth of the tongue (macroglossia) can be also observed [1].

Case Report

- A 28 years old Sudanese female came to oral and maxillofacial surgery clinic complaining from painless soft swelling in the right side of the tongue presented at birth and increasing gradually in size coinciding with her age.
- No significant medical or social history.
- Clinical examinations show a non-tender warm soft

compressible dome shaped tongue swelling with intact and normal colored mucosa. No apparent discharge and thrills or bruits (**Figure 1**).

- On aspiration biopsy, there is a blood.
- Patient was treated by regular injections of hot normal saline as sclerotic agent and showed gradual regression and solidification of the swelling (**Figure 2**).



Figure 1 Shows a soft compressible dome shaped tongue swelling with intact and normal colored mucosa.



Figure 2 Shows gradual regression and solidification of the tongue swelling following hot normal saline injections.

Discussion

Venous malformations are common vascular malformations, in the head and neck region it accounts 40% approximately [4]. Present at birth and slowly growing during childhood, and may enlarge during trauma, puberty, and pregnancy; due to the hormonal changes and composed of an abnormal collection of veins, which are thin-walled, sponge-like channels of variable size, lacking in smooth muscle. In general it bluish compressible mass and tend to slowly expand with time [5-7]. Vascular malformations can be classified as: congenital: occurring as a result of lack of differentiation of arteries, capillaries, and veins during vascular development, and acquired, associated with previous history of injury/trauma.

In the oral cavity, it can present at any site, but most commonly on anterior two-thirds of tongue, leading to macroglossia and difficulty in mastication, speech, and deglutition. Other sites that may be involved are palate, gingiva, and buccal mucosa [8]. The diagnosis of vascular malformations is based on the patient's medical history and a physical examination [9]. Vascular low flow lesions have progressive increase with age, trauma, and after partial resection. We believe that our case corresponds to vascular low flow malformation due to their bluish-purple aspect, consistence, and the absence of vascular pulsation [10]. Venous malformations can be managed by observation, irradiation, electro coagulation, cry therapy, low-dose aspirin, sclera therapy, surgical excision, or combinations [11-13]. Sclera therapy is commonly the preferred treatment method for venous malformations [14]. Various agents for sclera therapy; OK-432, ethanol, bleomycin, doxycycline, sodium tetradecyl sulfate, and hypertonic saline, alone or in combination [15]. The best-known sclerosant in the United States was hypertonic saline sodium chloride 23.4%. It was nonspecific in cellular destruction it causes dehydration to endothelial cells and red blood cells. Patients preferred "saline injections," which has become synonymous with injection sclera therapy. The drug was readily available, lacks allergenicity, and was inexpensive [16,17]. Boiling water and warm hypertonic saline solutions have been variously used by Obuekwe *et al.* [18] and Oji *et al.* [19] in treating venous malformations. They act by releasing heat energy that destroys the anomalous vascular tissues. More than boiling water, boiling saline retains heat energy which can adversely affect the vascular endothelial tissues which lead to necrosis and obliteration of the vessels' Lumina, which regularly promotes coagulation of blood and death of the vessels [20]. The potential complications of sclera therapy include mucosal ulcerations, swelling, infection, transient nerve palsy, blood loss, and anaphylaxis [15,16]. In the current case study, using the hypertonic hot saline was very effective and a safe method as the lesion responds considerably and shrink in size without complications.

Conclusion

Venous malformations of the tongue may associated with several complications, proper diagnosis and case selection are a must to for the management and conservative treatment is preferred, in this case sclera therapy with hot saline is a safe and effective method for treating venous malformations in the oral region.

References

- 1 Cappabianca S, Del Vecchio W, Giudice A, Colella G (2006) Vascular malformations of the tongue: MRI findings on three cases. *Dentomaxillofac Radiol* 35: 205-208.
- 2 Buckmiller LM, Richter GT, Suen JY (2010) Diagnosis and management of hemangiomas and vascular malformations of the head and neck. *Oral Dis* 16: 405-418.
- 3 Redondo P (2007) Vascular malformations (I). Concepts, classification, pathogenesis and clinical features. *Actas Dermosifilogr* 98: 141-158.
- 4 Scolozzi P, Laurent F, Lombardi T, Richter M (2003) Intraoral venous malformation presenting with multiple phleboliths. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 96: 197-200.
- 5 Garzon MC, Huang JT, Enjolras O, Frieden IJ (2007) Vascular malformations: part I. *J Am Acad Dermatol* 56: 353-370.
- 6 Rosbe KW, Hess CP, Dowd CF, Frieden IJ (2010) Masseteric venous malformations: diagnosis, treatment, and outcomes. *Otolaryngol Head Neck Surg* 143: 779-783.
- 7 Tan ST, Bialostocki A, Brasch H, Fitzjohn T (2004) Venous malformation of the orbit. *J Oral Maxillofac Surg* 62: 1308-1311.
- 8 Shetty DC, Urs AB, Rai HC, Ahuja N, Manchanda A (2010) Case series on vascular malformation and their review with regard to terminology and categorization. *Contemp Clin Dent* 1: 259-262.
- 9 Mulliken JB, Glowacki J (1982) Hemangiomas and vascular malformations in infants and children, A classification based on endothelial characteristics. *Plast Reconstr Surg* 69: 412-422.
- 10 Redondo P (2004) [Classification of vascular anomalies (tumours and malformations). Clinical characteristics and natural history]. *An Sist Sanit Navar* 27: 9-25.
- 11 Bowman J, Johnson J, McKusick M, Gloviczki P, Driscoll D (2013) Outcomes of sclerotherapy and embolization for arteriovenous and venous malformations. *Semin Vasc Surg* 26: 48-54.
- 12 Nguyen JT, Koerper MA, Hess CP, Dowd CF, Hoffman WY, et al. (2014) Aspirin therapy in venous malformation: a retrospective cohort study of benefits, side effects, and patient experiences. *Pediatr Dermatol* 31: 556-560.
- 13 Rubin BA, Brunswick A, Riina H, Kondziolka D (2014) Advances in radiosurgery for arteriovenous malformations of the brain. *Neurosurgery* 74:S50-S59.
- 14 Lee B, Do Y, Byun H, Choo I, Kim D, et al. (2003) Advanced management of venous malformation with ethanol sclerotherapy: mid-term results. *J Vasc Surg* 37: 533-538.
- 15 Richter GT, Friedman AB (2012) Hemangiomas and vascular malformations: current theory and management. *Int J Pediatr* 2012: 1-10.
- 16 Wiegand S, Eivazi B, Zimmermann AP, Sesterhenn AM, Werner JA (2011) Sclerotherapy of lymphangiomas of the head and neck. *Head Neck* 33: 1649-1655.
- 17 Dietzek CL (2007) Sclerotherapy: Introduction to Solutions and Techniques. *Perspect Vasc Surg Endovasc Ther* 19: 317-324.
- 18 Obuekwe ON, Ojo MA, Akpata O, Saheb BD (2002) Haemangioma of the maxillofacial region in Benin City, Nigeria. *Ann Biomed Sci* 1: 18-22.
- 19 Oji C, Chukwuneke FN, Mgbor N (2005) Tobacco-Pouch suture technique for the treatment of vascular lesions of the lip in Enugu, Nigeria. *Br J Oral Maxillofac Surg* 44: 245-247.
- 20 Ketan RB, Sunny S, Shahid MN (2006) History of bipolar coagulation. *Neurosurg Rev* 29: 93-96.