

Sclerotherapy as an Ultra Conservative Management of Hemangioma of Tounge

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Abstract

Haemangioma is a benign neoplasm characterised by abnormal growth of blood vessels usually occurring in head and neck region. Sclerotherapy is a simple, safe, and effective procedure for treating low flow intraoral haemangiomas.

Material and Method

Fifteen patients were enrolled from January 2019 to January 2020 in the Department of Dentistry at IGIMS, Patna. Intralesional injections of 3 % polidocanol was loaded in insulin syring and given at periphery of lesion of tounge. Patients on follow up were observed for regression of swelling , hyperpigmentation, Periphlebitis, Necrosis, discoloration of surface of Tounge. Doses of drugs were repeated after regression of lesion respectively after colour Doppler ultrasound. The lesions were treated

with favourable results. Sclerotherapy is effective in treating low flow haemangiomas as a minimally invasive alternative for surgical methods.

Results

Fifteen patients, ten male (66%) and five female (34%) were included in the 13 months study. Their ages ranged from 19 to 30 year. Eleven patients (73%) treated with single dose therapy whereas 4 patients (27%) received double doses. All patients showed complete regression of lesions.

Conclusion

Sclerotherapy is a promising method of treatment for haemangiomas of head and neck that may obviate the need for surgical intervention.

Keywords : Hemangioma, Polidocanol, Sclerotherapy, vascularity

Introduction

Hemangioma (Greek: Haima-blood; angeion vessel, oma-tumor) by definition can be defined as “a benign tumor of dilated blood vessels.” Biologically the vascular lesions ” may be broadly classified into two types (i.e., hemangioma and vascular malformation) by Mulliken and Glowacki in 1982 [1]. Historically benign vascular tumors were classified: (1) According to the type of fluid they contained as hemangioma (blood-containing lesion) and lymphangioma (lymph-containing lesion) and (2) according to the size of the vascular channels as capillary (small diameter vascular channels) and cavernous (large diameter vascular channels) .Hemangioma grows by endothelial proliferation whereas vascular malformation results from abnormal vascular or `structural abnormalities of vessels. Hemangioma and vascular malformation are common benign lesions of vessel that often occur in cephalic and cervical regions. They are classified into superficial, deep, and compound hemangioma according to the depth of the lesion. These lesions are more common in females. Craniofacial region is the most affected site (60 %) [2]. Hemangioma in oral cavity may include pain, hemorrhage, secondary infection, ulcerative lesion, and tissue transformation [3–5]. Vascular malformations can be sub-divided into two types (i.e., low and high flow) due to hemodynamic features [6]. Low-flow vascular malformations include capillary, venous, and lymphatic lesions depending on the type of vessels. High-flow vascular malformations include arterial malformation [2]. The most common regions where it occurs in the oral cavity are two thirds of the anterior tongue, palate, gingiva, and buccal mucosa [7]. It generally appears at birth and increases its size as it grows. Functional difficulty may occur such as swallowing, maintaining the respiratory tract, and obstructive sleep apnea when vascular lesion involves deep tissue such as muscle and

bone [8]. The lesions on the face cause esthetic problems, even during regression state. Various methods for the treatment of hemangioma like , radiation therapy, laser therapy, steroid treatment, sclerotherapy, and surgical resection. photocoagulation therapy, cryotherapy, thermocauterization, interferon alpha 2a have been in used.9

Aim and objectives

The aim of this study was to evaluate the efficacy of Polidocanol (3%) as sclerosant in the treatment of hemangioma of Tounge.

Material and Methods

The study was conducted in the Department of Dentistry at IGIMS, Patna. Study period was from JANUARY 2019 to January 2020. In this study, 15 patients without any systemic complications, who consented for treatment and post-operative follow up were included. The exclusion criteria were patients with history of diabetes, hypertension,. prolonged steroid therapy, immunity compromised, alcoholics , and pregnant patients. Polidocanol acts as sclerosant as well as local anaesthetic effect also, hence the reason for almost painless sclerotherapy. It effects directly into the intima of vain, which causes fibrosis of the vessel and obliteration. It causes thrombophlebitis of the vessels, thus leading to pain, tenderness and oedema at the site of the lesion. This subsides by the 4th day. There is a less possibility of the thrombus being dislodged which may lead to embolisation. All the patients were hospitalized and kept under observation for 3 days after injection in our study there was no incidence of embolism. Polidocanol is a safe drug as has been observed in our study Diagnosis was done on basis of history, clinical examination. color dopler Ultrasonography, MRI angiography was done for Tounge. Routine blood examination including

CBC,LFT,KFT,RBS,HIV,HBSAG, Anti HCV, Blood Group and Typing, PT, INR , RTPCR For Covid-19.

Procedure: All patients of hemangioma were prepared for injection with 3% Polidocanol in Department of Dentistry at IGIMS Patna. Inferior alveolar nerve block, long Buccal and Lingual nerve block with local Anesthesia (2% lignocaine hydrochloride with 1:80,000 adrenaline was given. Intralesional injections of 3 % polidocanol was loaded in insulin syring and given at periphery of lesion of toungue. Patients on follow up were observed for regression of swelling , hyperpigmentation, periphlebitis, necrosis, discoloration of surface of Toungue. In 4 patient wound ulceration develops at 4th post operative day (fig-2), which were managed with surgical debridement of wound followed by betadine, and normal saline irrigation. on further followed up wound healing was completed (fig3,4)



FIG-2: Wound managed by surgical debridment followed by betadiene and normal saline irrigation



Fig. 3: wound Healing on further followed up)



Fig, 4: complete healing of lesion)



Fig.1: Intralesional injections given at periphery of lesion of Toungue

Results

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Graph1: Showing sex wise distribution of lesion

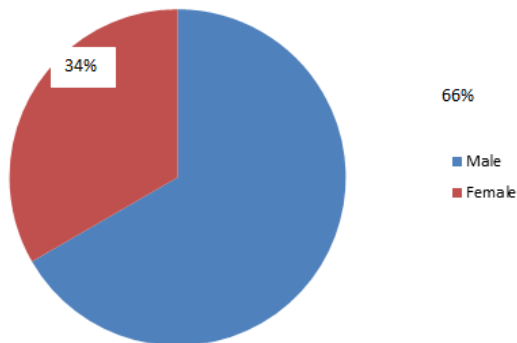


Table 1: Complete Regression of lesion

No of patients	site	No of doses
06	Lateral border of Tounge	Single dose
05	Dorsal surface of Tounge	Single dose
04	Ventral surface of Tounge	Double dose

Discussion

Tongue hemangioma is a rare benign vascular tumor that causes bleeding, difficulty in breathing, chewing and speaking and pain. Hemangiomas commonly seen on skin, 80% of these appear as single lesions, while 20% are bilateral lesions. Male to female ratio is 1:3. Hemangiomas are seen most commonly on cheeks, upper lip and upper eyelids and Tounge. [9].Histologically, haemangiomas show plump endothelial cells with multilaminated basement membranes and numerous mast cells; immunohistochemistry demonstrates increased vitronectin, perlecan. The use of the immunohistochemical

marker GLUT-1 to accurately distinguish haemangiomas (GLUT-1 positive) from vascular malformations has been advocated. Up to 93% of haemangiomas are easily diagnosed without additional diagnostic tests. An ultrasound in experienced hands is a portable and available tool that can easily confirm a suspected haemangioma without additional testing. Doppler colour flow imaging is notable for its ability to distinguish between high-flow and low-flow lesions. In our study majority of the lesions were between 1-4 cm and mostly uncomplicated, however ulceration and infections were observed . The present study was conducted on 15 patients. all patients had completed the treatment and turned up for follow up. Bhadoria et al have reported a case where they injected Polidocanol after diluting it with normal saline and observed regression with no complications [10]. In our study we did not dilute the drug. The study of Patel et al in 2015 on 10 cases of oral cavity haemangioma, shows satisfactory results with no severe complications, that is comparable to our study [11] .Singh et al in 2012 reported a case of haemangioma tongue who was injected with polidocanol diluted with distilled water in the ratio 1:3. The patient experienced pain which was dealt with by giving oral analgesics. There was regression of swelling with no recurrence.12 The surgical treatment has its own risks and advantages, similar to other treatment modalities.13 Advantage of surgical treatment is that, it allows for a complete surgical excision of the lesion and microscopical diagnosis but with the risks of excessive bleeding, functional impairment of vital functions such as swallowing, speech and airway.13 Recurrences are fairly common if complete excision is not done and hence the need for non-surgical modalities. Another treatment option for treatment of hemangioma is the laser therapy and Crisan et al (2010) demonstrated laser therapy as a more effective treatment

of vascular lesion than sclerotherapy procedure¹⁴ but Witman et al (2006) demonstrated the different complications from laser treatment of hemangiomas, including pain, ulceration, scarring or hyperpigmentation, skin atrophy and even life threatening bleeding [15] Sclerotherapy with polidocanol is a minimally invasive modality of treatment with negligible side effects. Patient compliance is high with very little or no morbidity. Also with sclerotherapy there are no risks of scarring when we compare with surgical management. In our study, there were variations in number of injections according to the type and size of lesions, single dose therapy was given to 11 cases and five cases received double dose therapy.. Resmije A.A. et al (2016) mentioned two sessions of injections for the treatment of superficial hemangioma. The quantity of the drug and number of applications (doses) during the sclerotherapy treatment depend on the size and location and involvement of adjacent structures and results should be evaluated before the next dose.[1,4]

Conclusion

It is apparent that sclerotherapy is a valuable treatment option in the management of head and neck hemangiomas. As experience grows, its use will become more commonplace. Sclerotherapy with 3% polidocanol is a safe, effective and inexpensive method. It is a valuable and promising treatment of hemangiomas and may obviate the need for any surgical treatment.

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