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Review Article

Oral Hemangioma Management in Children: A Concise Review

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Abstract

Head and neck region bears the burden of approximately 60% of all the vascular anomalies diagnosed, affecting about 1 in 22 children. These lesions, irrespective of the size, when present on the face are a major cause of esthetic concern and patient usually seek treatment for the same. Various treatment modalities are available and sclerotherapy with intra/peri-lesional injections of 03% Sodium tetra decylsulphate remains the mainstay of treatment in most cases. This article provides a concise review regarding various management options available for smaller vascular lesions especially emphasizing the role of sodium tetradcy sulphate.

KeyWords: Hemangioma; Vascular Anomalies; Sodium Tetradecyl Sulfate; Sclerotherapy; Sclerosing Agents

Introduction

Vascular anomalies are often present at birth but usually become more obvious later in life. They are not very common in oral cavity but the head and neck is a common site [1]. Out of all the vascular anomalies diagnosed, approximately 60% constitute of the head and neck region, affecting about 1 in 22 children [2]. Even if small in size, when present on the face or lips they are a major cause of concern from the esthetics point of view and patient and parents usually seek treatment for the same. Various treatment modalities are used for the management, including medications, surgery and sclerotherapy. Sclerotherapy is the mainstay of treatment and 3% Sodium tetra decylsulphate (STS) is one of the most commonly used sclerosing agents, which is being used in treatment of varicose vein, hemorrhoids and hemangioma since years [3].

Discussion

The term hemangioma traditionally used to describe a variety of vascular anomalies, is recently used to describe benign vascular tumors of infancy characterized by a rapid growth phase, with endothelial cell proliferation, followed by gradual self-involution. Whereas, the other type, termed Vascular malformations, are described as structural anomalies of vascular tissue without endothelial proliferation, composed of dysplastic arterial, venous and/or lymphatic vessels rather than proliferating endothelial cells. They are present at birth, grow proportionately with the child and generally do not involutes spontaneously [2,3]. The vascular malformations can further be classified as Low flow lesion and High flow lesion. Low-flow vascular malformations can be divided into capillary, venous, and lymphatic types, while High-flow lesions are comprised pre-dominantly of arteriovenous malformations that follow a more aggressive clinical course [4].

Capillary malformations are a type of low flow lesion which are sporadic, congenital, persisting post capillary venule malformations that affect the head or neck [2]. Other than physical and physiological problems, they are also a major cause of concern for es-

thetics, especially when present on facial region. The management of these anomalies depends upon the type, location and extent of involvement of lesion along with its proximity to vital structures and esthetical concerns. For infantile hemangiomas systemic propanol and steroids give satisfactory results and are commonly used [5-7]. In other cases , when the lesion is accessible, surgical excision is considered the golden choice, however it has various limitations such as complete excision may not be possible, chances of excessive bleeding, recurrence and impairment of vital functions [1]. Hence alternative approach as cautery, cryotherapy, electrocoagulation, laser therapy, sclerotherapy, radiotherapy etc is considered. Due to fear of complications such as scarring or hyper-pigmentation, skin atrophy and high cost laser and cryotherapy are not commonly used [1-8].

Sclerotherapy is the mainstay of treatment and is the injection of a liquid sclerosing agent to induce inflammation and obliteration of affected veins. Intralesional sclerotherapy, which is a palliative treatment in most types of vascular anomalies, produces good outcomes in smaller lesions [9]. Various sclerosing agents used are Detergents such as Sodium tetradecyl sulfate, Polidocanol, Sodium morrhuaten and Ethanolamine oleate which disrupt cellular membrane of vein (protein theft denaturation); Osmotic agents such as Hypertonic sodium chloride solution and Sodium chloride solution with dextrose, which damage the cell by shifting the water balance through cellular gradient (osmotic) dehydration and cell membrane denaturation; and Chemical irritants such as Chromated glycerin and Polyiodinated iodine, which damage the cell wall by direct caustic destruction of endothelium [9].

Sodium tetra decylsulphate is one of the most commonly used sclerosing agents. It has been used in the treatment of varicose vein, hemorrhoids and hemangioma since years. Intravenous injection causes intima inflammation and thrombus formation. This usually occludes the injected vein and subsequent formation of fibrous tissue resulting in partial or complete vein obliteration [1]. It has also been used successfully in the management of pyogenic granulaoma [10]. A 3% sodium tetradecylsulphate (STS) solution has been successfully used by various authors for the management of oral vascular malformations and has been considered treatment of choice for smaller lesions [1,7,8]. Satisfactory results have been reported with minimum side effects and disappearance of the lesions without scarring. The number of injections varies depending upon the size of the lesion. The usual interval between the injections is usually 2–4 weeks, which allows the indurations and inflammatory reaction to subside [1].

Conclusion

Though there are various treatment modalities available, they come with their own riders. By and large systemic medications like beta blockers are commonly used for infantile hemangiomas, while sclerotherapy chiefly using sodium tetradecylsulphate is the mainstay in the other cases especially when the lesion is small in size and easily accessible.

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