



TREATMENT OF ORAL HEMANGIOMAS WITH 3% SODIUM TETRADECYL SULFATE: STUDY OF 24 CASES

Dr Naveed Gul*

PG resident otorhinolaryngology and H&N Surgery, GMC Jammu *Corresponding Auhtor

ABSTRACT Hemangiomas are often difficult to treat by surgeons and also cause dilemma for patients. Mostly hemangiomas involute spontaneously but if they don't involute or impair the vital functions, they need intervention. Present study was conducted in the department of otorhinolaryngology and H&N surgery, GMC Jammu, from June 2017 to May 2020 to evaluate response and role of sclerosing agent 3% sodium tetradecyl sulfate (STDS) in oral hemangiomas. A total of 24 patients who had hemangioma of oral cavity were diagnosed clinically in outpatient department and were treated with 3% sodium tetradecyl sulfate (STDS) intralesional injections under local anesthesia at regular intervals depending upon the size of the lesion. Hemangiomas regressed in all the 24 cases (partial regression in 2 cases) with good relief of symptoms. Minimal complication was seen in 3 patients and no major complication was noticed. When used in appropriate doses and at regular intervals, Sclerosing agent, 3% sodium tetradecyl sulfate (STD), is highly effective for treatment of oral hemangioma.

KEYWORDS : Oral hemangiomas ; Capillary hemangioma ; Sclerosing agents ; Sodium tetradecyl sulfate

INTRODUCTION

Hemangiomas are commonly present at birth but may become more apparent during later life. They look as a flat or raised reddish blue lesions and are usually solitary. Mostly Hemangiomas involute spontaneously, however at least 10–20% cases needs active intervention [1] because of their tendency to bleed and become ulcerated. Hemangiomas of the oral cavity are not common but amongst them, the head and neck is the common site [2]. Incidence of Hemangioma ranges from 1–12% depending on age and population studied [3]. Intralesional Injection of sclerosing agents can serve as therapeutic as well as a preoperative treatment for oral hemangiomas. The present study was conducted by using 3% sodium tetradecyl sulfate (STDS) intralesionally.

MATERIALS AND METHODS

The present study was conducted in the department of Otorhinolaryngology and H&N Surgery, GMC, Jammu, between June 2017 and May 2020, after taking permission from ethical committee. A total of 24 cases were included in this study. All the cases were diagnosed clinically in the outpatient department and after necessary investigations were treated with sodium tetradecyl sulfate (STDS). Local anesthesia with 2% lignocaine and surface anesthesia with 15% xylocaine spray was used before procedure. 3% sodium tetradecyl sulfate was injected intralesionally at multiple sites, first at the periphery and then into the centre of the lesion with insulin syringe. 0.1–1 ml of STDS was injected in one sitting depending upon the size of lesion. Manual compression was applied with gauze to the lesion to ensure stasis. Depending upon size of lesion, injection was repeated after an interval of 2 weeks. Up to 10 injections were given in larger lesions. Almost all the patients complained of pain and mild local inflammatory reaction following the injection of sodium tetradecyl sulfate (STDS). NSAIDS were given to treat the pain and local inflammatory reaction.

RESULTS:

In the present study, Hemangiomas regressed in all the cases with good relief of symptoms and minimal complications (Table 1). No major complication was seen. 2 patients had sloughing and ulceration of tongue that recovered within 2 weeks. 1 patient had excessive bleeding for which oral pack was kept for 12 hours (Table 2). Partial regression was seen in 2 cases and they had a residual mass on follow-up.

Table 1: Site and results

Site of lesion	Number of cases	Complete regression	Partial regression
Tongue	18	17	1
Lip	2	2	0
palate	4	3	1

Table 2: Complications

Complications	Number (n=24)	Percentage
Pain	24	100
Ulceration	2	8.4
Excessive bleeding	1	4.2

DISCUSSION

Hemangiomas are benign, vascular tumors that can lead to disfigurement or life threatening consequences. There are three types of hemangiomas; capillary, cavernous and mixed hemangiomas. In oral cavity the bone, muscles as well as the mucosa and skin are involved. The diagnoses of hemangiomas are made on the basis of history and clinical examination.

There are limited differential diagnoses for hemangioma [2]. In a superficial, localized lesion such as one in the tongue, imaging study is usually not indicated [4]. If the lesion is accessible surgically, surgical excision is the gold standard treatment [5]. However there are several obstacles when considering surgery

1. Complete excision is not possible.
2. Dissection is often complicated by excessive bleeding.
3. Recurrence.
4. Functional impairment of vital functions like swallowing.
5. Morbidity of surgical procedure.

Due to these reasons, alternative treatment of these malformations like cautery, cryotherapy, radiotherapy and sclerosing agents [5] are considered. Sclerosing agent causes marked tissue irritation and/or thrombosis with subsequent local inflammation and tissue necrosis. The inflammation and tissue necrosis result in fibrosis with tissue contracture [5]. Various sclerosing agents are—absolute ethanol, boiling contrast media, polidocanol, sodium morrhuate, sodium tetradecyl sulfate, OK432 and bleomycin. Absolute ethanol causes strong endothelial damage. Response rate is high, less expensive and easy to obtain but the injection is very painful and has high complication rate. Penetrative effect on deep vascular layer is also high. Polidocanol leads to overhydration of endothelial cells and is almost painless but it may induce irreversible cardiac arrest [6]. Sodium tetradecyl sulfate (sotradecol) is the sclerosing agent which has been used for years in the treatment of varicose vein, hemorrhoids and hemangioma [7]. Intravenous injection causes intima inflammation and thrombus formation. This usually occludes the injected vein and subsequent formation of fibrous tissue results in partial or complete vein obliteration that may or may not be permanent. Minkow used a technique of intralesional injection of 0.1–0.5 ml of 3% sodium tetradecyl sulfate (STDS) in intraoral hemangioma at the interval of 2–4 weeks [7]. Satisfactory results were reported in all patients. In the present study of 24 patients 0.1-1 ml of 3% sodium tetradecyl sulfate was used at an interval of 2 weeks and 10 such injections were given in large lesions.

In the present study of 24 patients, partial regression was seen in 2(8.4%) cases, ulcerations and sloughing was seen in 2(8.4%) cases and excessive bleeding was seen in 1(4.2%) cases. Agarwal S [8] in her study on 20 patients with oral cavity hemangiomas, treated with 3% sodium tetradecyl sulfate, reported partial regression in 2 cases, ulcerations in 2 cases and Palatal perforation in 1 case.

CONCLUSION:

From the present study it is concluded that 3% sodium tetradecyl

sulfate is highly effective in the treatment of oral cavity hemangiomas with very less complication rate. The dose and number of doses required, depends on the size of lesion.

Conflict: No conflict of interest declared.

Ethical statement:

Informed consent was taken at the time of procedure and permission was taken from ethical committee.

REFERENCES

1. Waner M, Suent Y, Dinehat S (1992) Treatment of hemangioma of the head and neck. *Laryngoscope* 10:1123–1132
2. Mulliken JB, Glowacki J (1982) Hemangiomas and vascular malformations in infants and children: a classification based on endothelial characteristics. *Plast Reconstr Surg* 69(3):412–422
3. Chang J, Most D et al (1999) Proliferative hemangioma—analysis of cytokine gene exposure and angiogenesis. *Plast Reconstr Surg* 103:1–10
4. de Lorimier A (2003) Sclerotherapy for venous malformations. *J Pediatr Surg* 30:188–195
5. Govrin-Yehudain J, Moscona AR, Calderon N, Hirshowitz B (1987) Treatment of hemangioma by sclerosing agents: an experimental and clinical study. *Ann Plast Surg* 18:465–469
6. Hydoh H, Hori M et al (2005) Peripheral vascular malformations, imaging, treatment approaches and therapeutic issues. *Radiographics* 25(special issue):159–172
7. Minkow B, Laufer D, Gutman D (1979) Treatment of oral hemangioma with local sclerosing agents. *Int J Oral Surg* 8:18–21
8. Agarwal S (2012) Treatment of oral hemangiomas with 3% sodium tetradecyl sulphate: Study of 20 cases. *Indian J Otolaryngol Head Neck Surg* 64(3):205–207