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Sclerotherapy for Oral Pyogenic Granuloma – A case report

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ABSTRACT

First described by Hullihen in 1844, Pyogenic granuloma (PG) is a benign, exophytic vascular tumor. It is not infective, purulent or granulomatous but a reactive inflammatory mass of blood vessels with few fibroblasts within the mucosa or skin. Without any general agreement, there exist a variety of treatment options (complete surgical resection, cryosurgery, curettage, lasers etc). However, recurrence has been frequently reported. Sclerotherapy in PG (a vascular tumor) is not as commonly reported as in cases of hemangioma.

Herein, we present a case of twenty-eight years old female with a clinical diagnosis of PG, treated with intralesional sodium tetradecyl sulfate (STS). Intralesional injection of 0.2 ml of undiluted STS was given for three visits between 10th of January and 21st of February 2016. The lesion healed completely at the patient's fourth visit and recurrence was not reported till the patient was followed up for one year, i.e February 2017.

Key words: Pyogenic granuloma; Sclerotherapy; Sodium tetradecyl sulfate

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INTRODUCTION

Pyogenic granuloma (PG) is a benign, exophytic vascular tumor, which was first reported in english literature by Hullihen in 1844, but the term "Pyogenic Granuloma" or "granuloma pyogenicum" was introduced by Hartzell in 1904.[1] It is not infective, purulent or granulomatous but a reactive inflammatory mass of blood vessels with few fibroblasts within the mucosa or skin. The exact cause is unknown but multiple factors have been implicated in the etiology of pyogenic granuloma. Various treatment options exist without any agreement. PGs have been treated by complete surgical excision, cryosurgery, curettage, electrodessication, chemical cautery, injection of corticosteroid and lasers.[2,8,9] Many a times, recurrence has also been reported (16% in case of surgical excision).[9] Use of sodium tetradecyl sulfate (STS) has been commonly reported in cases of low flow hemangiomas. Since PG is a benign vascular lesion, use of intralesional sclerozing agent has been reported in few literatures as a least invasive medical management of PG.[2,3]

CASE REPORT

Twenty-eight year-old female reported to the department with a chief complain of mass in upper front gum area for one month. The mass was initially small but rapidly progressed to current size. It was not painful but was associated with bleeding during brushing. There was history of similar lesion twice before, one year and six months back, which was surgically excised at a local dental hospital.

On examination, there was 8 mm by 8 mm pedunculated mass with a smooth surface (Figure 1). Superior half of the lesion appeared erythematous and lower half appeared the same colour as that of adjacent mucosa. The lesion was soft in consistency, non-tender and it bled on provocation. The anterior teeth (12, 11, 21, 22) appeared radiographically normal and they were vital on electrical pulp testing. Generalized deposits of plaque, stains and calculus were also noted. On the basis of clinical features the case was diagnosed as a case of PG. The patient was advised about the treatment options but she refused for surgical excision as it was surgically excised twice before which had eventually recurred.

It was then treated by intralesional injection of STS (Figure 2). Undiluted 0.2 ml of STS (30mg/ml) was

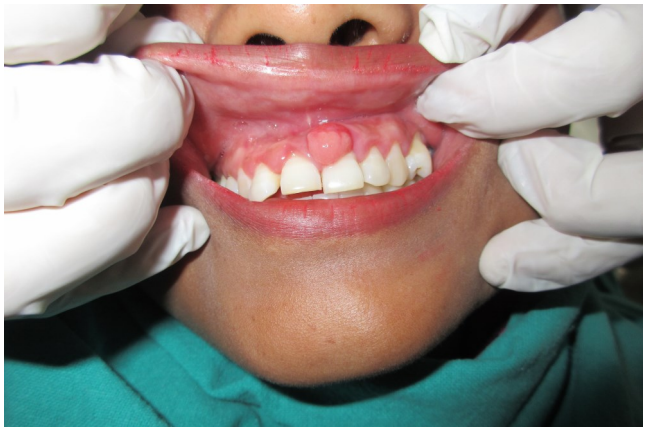

Figure 1: Clinical appearance of the PG present with respect to 21

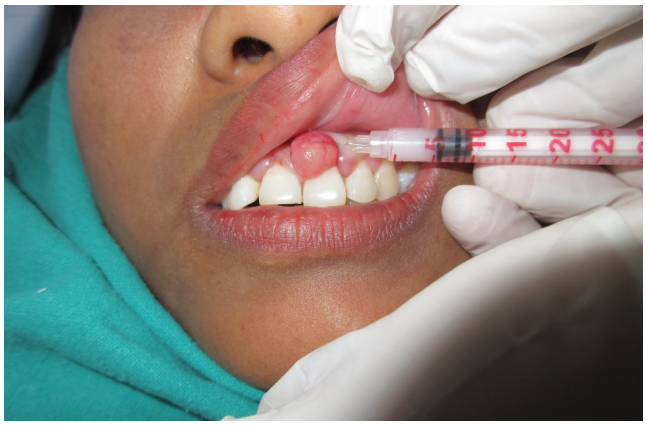

Figure 2: Intralesional STS given at the base of the pedunculated mass by the use of insulin syringe

injected into the lesion as well as its base for three visits between 10th of January 2016 and 21st February 2016. At the patient's second visit, the lesion had not regressed but at her third visit the lesion had regressed by about 50%. The lesion then healed completely at the patient's fourth visit (Figure 3). Recurrence was not reported till one year the patient was followed up, i.e till February 2017.

After complete resolution of the lesion, the patient was advised for oral prophylaxis and was educated regarding the role of calculus as a causative factor. Despite our advice, the patient refused for the treatment. The minor side effects, which were seen in the patient were, mild pain and ulceration. These were easily managed with the use of topical anaesthetic and antibiotic medication.

DISCUSSION

Pyogenic granuloma is a benign, non-neoplastic, inflammatory lesion involving the skin and oral

Figure 3: Complete resolution of the mass at the patient's fourth visit

cavity. Skin lesions are more common compared to oral mucosa. In the oral cavity, it most commonly involves the gingiva (75% of intraoral cases). It usually occurs during the second decade of life with female preponderance.[4] Pyogenic granuloma is a response to various stimuli such as low grade local irritation, traumatic injury, sex hormones or certain kind of drugs. Removal of causative irritants (plaque, calculus, foreign materials and source of trauma) remains the mainstay of treatment.[9]

Recurrent PGs may grow rapidly and manifest as a smooth or lobulated exophytic lesion, erythematous nodules or papules with sessile or pedunculated bases. They are asymptomatic, pink to red or purple in colour, variable in size, and usually hemorrhagic.[4] These features were similar in our case as well.

By using sclerotherapy, surgical intervention can often be avoided or at least minimized. In a developing country like Nepal, where it will be very difficult for all the patients to visit a tertiary care centre, introduction of a simple technique as a management of such condition will be very beneficial to patients. If dentists in rural setup are trained with such simple procedure then it will help in reducing morbidity of patients.

STS has been widely used as sclerosing agent since 1946. STS is used commonly as sclerosant for low flow vascular malformations. The mechanism of action of STS is to produce maximum endothelial damage with minimal thrombus formation leading to fibrosis of the lesion, which leads to shrinkage. The vascular luminal obliteration may or may not be permanent.[3]

Ramirez-Amador et al.[5] in 2001 compared intralesional vinblastine versus 3% STS to treat the

lesions of Kaposi sarcoma. The results of this study showed satisfactory resolution of the lesions with both the agents, indicating the effectiveness of STS in the treatment of vascular lesions. Successful use of STS in the treatment of extraoral PG has been described by Moon et al. and Rahman H.[2,6,7] There are few reported studies with successful use of STS in the treatment of intraoral PG.[4]

Side effects that can be associated with intralesional STS are pain and edema after injection, superficial ulceration and mild ecchymosis. If too much of intralesional STS is injected into the lesion it may cause thrombus formation and embolism.[2,3] A case of Nicolau Syndrome has also been reported following STS sclerotherapy in palm.[10] Treatment with STS is simple, requires minimal anesthesia, can be repeated in a consistent manner and causes no scarring.

In this case of PG we avoided histopathological evaluation through excisional biopsy because we wanted to know the therapeutic response of intralesional sclerotherapy in the management of PG.

CONCLUSION

Thus, based on our case analysis we could infer that STS can be a simple alternative to surgically challenging PG. It requires less technical expertise but caution should always be maintained regarding its side effects. Nevertheless, before drawing any conclusion regarding the clinical implication of STS in PG, a well-planned clinical trial is necessary which is lacking till date.

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