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ANGIOMATOUS GRANULOMA IN THE UPPER LABIAL MUCOSA- A CASE REPORT

MEENAKSHI SS[1*] AND ARJUNKUMAR R[2]

1: Post graduate student, Department of Periodontology, Saveetha Dental College, SIMATS

2: Reader, Department of Periodontology, Saveetha Dental College, SIMATS

***Corresponding Author: Meenakshi SS: E Mail: swarna.meenakshi@gmail.com;**

Phone: +918056189529

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ABSTRACT

Angiomatous granuloma is a reactive hyperplasia of connective tissue in response to local irritants, chronic irritation and hormonal changes. Clinically, it presents as a smooth, lobulated, sessile or pedunculated exophytic mass, exhibiting pink to reddish-purple color which can bleed on slight manipulation. It has no malignant potential, but recurrence is common after surgical excision. These Lesions show a female predilection, frequently involving the gingiva. Histologically, they depict excessive proliferation of vascular type of connective tissue. The most common treatment modality is surgical excision with eradication of local irritants. This case report describes a Angiomatous granuloma in an uncommon location on the upper labial mucosa in a 39-year-old male. The lesion was excised successfully with a 810 nm diodelaser as a conservative and non-stressful procedure that resulted in a bloodless surgical field with no post surgical complications with minimal pain and rapid healing.

Keywords: Biopsy, Excision, hyperplasia, Laser, Pyogenic granuloma, Wound Healing

INTRODUCTION

Soft tissue enlargements of the oral cavity are often a diagnostic challenge because of the diverse group of pathologic processes associated with such lesions. An enlargement could represent a variation of normal anatomic structures, inflammation, cysts, developmental anomalies or neoplasm. Amongst these lesions is a group

of reactive hyperplasias, which develop in response to a chronic, recurring tissue injury, which stimulates an exuberant tissue response. Pyogenic granuloma is of the most common entities causing soft tissue enlargements **[1]**. It is a benign, non-neoplastic, mucocutaneous lesion. However the name 'pyogenic granuloma' is a misnomer, since this condition is not associated with pus and as it does not represent a granuloma histologically **[2]**. It was originally described in 1897 by two French surgeons, Poncet and Dor **[3]** and are now known as Angiomatous Granuloma. In south Indian population, Shamim *et al*., found that non neoplastic lesions accounted for 75.5% of cases with oral Angiomatous granuloma being most frequent lesion, accounting for 52.71% cases **[4]**. Clinically, these lesions present as single nodule or sessile papule with smooth or lobulated surface and are red, elevated and sometimes ulcerated **[5, 6]**. The peak prevalence is in teenagers and young adults, with a female predilection of 2:16 **[6, 7]**. A higher frequency is observed in the second decade of life **[8]**, especially among women, probably due to the vascular effects of female hormones **[9]**. The gingiva is the most commonly affected site accounting for almost 75% of all cases **[9]**, although occurrence of these lesions on the lips, tongue, oral mucosa, palate **[10]** and fingers **[11]** has also been reported.

This paper presents an unusual presentation of Angiomatous granuloma of the upper lip where many lesions of the oral mucosa with similar clinical characteristics were considered before arriving at a final diagnosis through biopsy. Angiogranuloma being a non invasive, benign growth, scalpel excision is the treatment of choice but some alternative procedureslike cryosurgery, excision by using Lasers, flash lamp pulsed dye laser, corticosteroid injections, and also sclerotherapy have been proved effective **[3]**. In this report, we used a Diode Laser for excision of the lesion since Lasers are effective, well tolerated by the patients with no adverse consequences.

CASE HISTORY

A 39-year-old male patient reported to the Department of Periodontology, Saveetha dental college with a chief complaint of a growth in the upper lip for the past one-year. The patient noticed a small growth on the upper labial mucosa one year ago that had gradually increased to the present size **(Figure 1)**. The patient was systemically healthy. Hismedical, dental and drug histories were non-contributory. On Physical examination, he appeared to be healthy and of normal size and weight. Intraoral examination revealed solitary, exophytic growth on the upper labial

mucosal surface measuring 1 cm x 0.5 cm in diameter with a lobulated surface **(Figure 2), (Figure 3) (Figure 4)**. The growth was bluish red in colour, firm in consistency, non-tender and also not associated with any bleeding on palpation **(Figure 5) & (Figure 6)**. When the patient closed his mouth, the growth touched the upper sharp incisal edge of left canine. Based on the history and clinical examination we arrived at a provisional diagnosis of Traumatic Fibroma with a differential diagnosis of Angiomatous Granuloma. An excisional Biopsy was performed with Diode laser. (810 nm, in the continuous mode with a power of 1.0 watt) **(Figure 7)**. (The excised specimen was placed in 10% Formalin and then sent for histopathologic examination **(Figure 8)**.

Histopathologic Examination

The histopathologic examination showed parakeratinized stratified squamous epithelium of variable thickness with an underlying area of ulceration exhibiting fibrinopurulent membrane. The underlying connective tissue stroma showed intense vascularity and numerous proliferative endothelial cells associated with intense mixed inflammatory cell infiltrate and areas of haemorrhage **(Figure 8)**. These findings were consistent with histopathologic diagnosis of Angiomatous Granuloma.

Post excision period was uneventful with a regular followup of 1-month interval, which showed no evidence of recurrence for the past 3 months **(Figure 9)**.

Figure 1: Growth on the upper labial mucosa

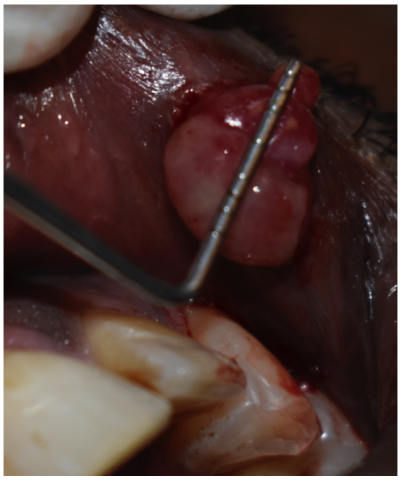

Figure 2: measurement in length of the growth

Figure 3: Measurement in width

Figure 4: Measurement at the tip

Figure 5: Measurement at the base

Figure 6: Post excision with diode laser

Figure 7: Excised specimen

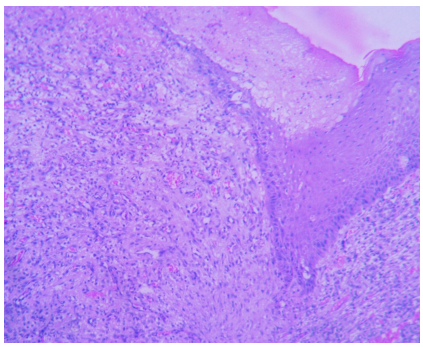

Figure 8: Histopathologic section

Figure 9: Post treatment review at three months

DISCUSSION

Angiogranuloma is a well-recognized inflammatory hyperplastic oral lesion, which comprises about 1.85% of all oral pathologies **[12]**. Usually the growth is neither symptomatic nor painful but minor trauma can induce significant bleeding and may also cause functional problems with mastication, swallowing, speaking as well as esthetic problems **[13, 14]**. Even though Angiogranuloma is seen in a wide age range, the incidence culminates during the second decade of life, and shows a female predilection, common site is on the gingiva, but can also be encountered on the lips, tongue, buccal mucosa and rarely like this case, it may appear on the upper labial mucosa **[13, 15, 16]** it is most commonly treated by surgical excision; but numerous other treatment modalities, including excision by lasers, have also been successfully used **[14, 15, 17-23, 25, 26]**. Laser application offers various advantages such as relatively bloodless surgery as it seals the blood vessels and nerve bundles while cutting thereby aiding in better visualization of the site and a sutureless procedure with very minimal postoperative pain. Additionally, also provides instantly disinfection of the surgical wound with minimal chances of postoperative infection, minimal edema, better aesthetics and faster healing **[6]**. Meffert *et al* **[22]** used flash lamp pulsed dye laser to treat an intraoral mass of granulation tissue. Powell *et al*., **[27]** and Kocaman *et al* used Nd: YAG laser for excision of Angiomatous granuloma, and reported superior coagulation characteristics. White *et al* **[26]** used Nd: YAG and CO_2 lasers for the excision, which was well endured by patients without intraoperative or postoperative side effects. Fekrazad *et al* **[18]** preferred Er: YAG laser for excision stating that it causes less damage to the lesion, hereby the remaining tissue has more pathological value. Rai *et al* **[28]** used diode laser for excision. Iyer and Sasikumar **[29]** highlighted the effectiveness of 940 nm Diode laser over conventional treatment modalities for excision. Diode laser wavelengths are highly absorbed by pigmented tissue whereas they are poorly absorbed by hard tissues such as the teeth and bones; furthermore they can be used in continuous or gated pulse mode in contact or at an extremely close distance to the tissue thereby avoiding damage, because it prevents the 'beam escape' in an open field and makes this laser safer than other laser sources. Since the angiomatous granuloma was present in the upper labial mucosa, aesthetics are of prime importance and hence we chose diode laser for excision because of its above mentioned benefits, and also because it ensures a relatively

bloodless surgical field, which is a crucial factor in these haemorrhagic lesions, improves haemostasis and coagulation, and leaves minimal swelling and scarring after surgery.Several studies have reported recurrence rates of up to 16 % with simple excision **[1, 12, 30, 31]**. Recurrence can be due to insufficient excision, failure to eliminate etiologic factors or repetitive trauma. Recent research has showed that angiopoietin 1 and 2, other agents such as *Bartonella henselae*, *B. Quintana* and human herpesvirus-8 involved in vascular tumors, viral oncogenes, microscopic Arterio venous malformation and gene depression in fibroblasts are said to play a role in recurrence of such reactive lesions. Generally the recurrence rate is much higher in gingival cases than other oral mucosal sites **[15, 28, 32]**.

CONCLUSION

Although the use of diode laser in the management of intraoral Angiomatous granuloma is a safe technique with several clinical benefits, the clinician should eliminate all the causative irritant or source of trauma, to prevent the recurrence of this lesion. Even so, due to its high recurrence rate maintenance of proper oral hygiene and long-term follow-up is recommended.

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