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BOTRIOMYCOMA - CASE REPORT OF A TONGUE LESION

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ABSTRACT

Rationale: Benign vascular neoplasms are frequently encountered clinical conditions in primary dental care settings. Pyogenic granuloma or Botriomycoma is one of the most common benign vascular lesions in young and middle-aged individuals. Although the physio pathological mechanism for the development of this condition is still not well understood, it has been commonly associated with several triggers such as treatment with retinoids, biological agents, invasive cutaneous therapies and trauma. **Patient concerns**: Literature reports rare presentations in other sites oral cavity, including the lips, tongue, palate, and oral mucosa. Present case of a middle-aged women with an appearance pedunculated growth in dorsum of tongue without any history of triggers or risk factors. Aesthetically unappealing lesion from the patient's perspective. **Diagnosis** Excision of the lesion was done, and histopathological report confirmed the diagnosis. **Interventions** The objective of this manuscript the possible mechanisms involved in the development of this uncommon presentation to remove exophytic growth preventive strategies implemented. **Outcomes**: Complete healing of lesion blended with adjacent mucosa. **Lessons:** Thus, regular follow-up helps in early detection of recurrence to summarize the current literature related to this clinical scenario.

KEYWORDS: Dental Care, Granuloma, Mouth Mucosa, Tongue, Vascular Neoplasms.

INTRODUCTION

Pyogenic granuloma (PG), also known as a lobar haemangioma, is a common benign vascular neoplasm that is characterized histologically by numerous lobules of arranged capillaries and venules within fibrous and oedematous stroma. Pedunculated exophytic growth that is considered an inflammatory response to minor trauma or trauma to the oral tissue. The term PG is based on heterogeneous skin lesions thought to be caused by pyogenic organisms.[1] Though the term PG means a lesion associated with infection or pus formation, it does not actually resemble a true granuloma histologically.[2] Although the etiology of PG is not yet explained clearly in literature, it is considered an exaggerated inflammatory hyperplastic reaction in response to any stimuli, physical or mechanical trauma, or hormonal factors. Any age group may be at risk of being affected by PG, but young adults and adolescents are among the most frequently affected, with a greater proportion of females than males (female: male = 2:1).[3] It is quite common for the occurrence of PG in females at puberty and pregnancy due to hormonal changes combined with an increased response of marginal gingiva to any local irritants like plaque and calculus. PG is rarely present on the lips, tongue, oral mucosa, and palate, with the gingiva accounting for the majority of documented instances.

Usually slow-growing and asymptomatic, oral PG is a frequent haemorrhagic lesion that is raised, pedunculated, or sessile and ranges in size from a few millimetres to several centimetres. However, ulceration and bleeding may develop.[4] Clinically, these lesions present as dull red soft single nodules with smooth or lobulated surfaces. This is a case report that presents a case of PG, a condition that seldom affects the tongue.

Case History

A 52-year-old female patient presented to the department of periodontology with the chief complaint of overgrowth on the tongue 4 weeks back. The present history of the lesion revealed that the growth was slow, and initially, it began as a pea-sized lesion which grew to its present size gradually. The patient had no symptoms except irritation from the growth during mastication. The medical and family history was not significant. A solitary exophytic, palpable growth was found intraorally on examination in the anterior two-thirds of the dorsum of the tongue [Figure 1]. On clinical examination, the growth was found to be pale with a lobulated surface and greyish-white borders. The growth was nontender and

pedunculated, and the dimensions were about 1 × 1 cm in diameter. Its consistency varied from soft to firm, showing no signs of blanching under pressure, but there was bleeding slightly on provocation. Pus discharge was not evident from the growth, and no regional lymphadenopathy was observed. Irritational fibroma, PG, and capillary haemangioma, fibrolipoma was considered under provisional diagnosis.

Routine laboratory blood investigations were found to be normal; an excisional biopsy of the lesion was performed under local anaesthesia. 2% lidocaine solution with 1: 200,000 adrenaline was administered as ring block anaesthesia at the base of the lesion. The lesion was stabilized using dental floss [Figure 2]. Excision was carried out with a No. 15 scalpel blade to ensure complete removal of the lesion [Figure 3]. Tissue have been measured using UNC15 probe [Figure 4]. The excised tissue was immediately placed in 10% formalin and transferred for microscopic examination [Figure 5]. Proper wound healing was observed, postoperatively. The patient was provided with oral hygiene instructions and primordial preventive measures advised to avoid further irritation to the tongue. Recall follow-up was scheduled postoperatively. At the follow-up visit, the mucosa at the lesion site appeared clinically normal, exhibiting continuity with the adjacent mucosa and showing no signs of inflammation at 12 weeks [Figure 6].

HISTOPATHOLOGICAL FINDINGS

H&E-stained tissue section shows the presence of hyperparakeratinised stratified squamous epithelium with underlying connective tissue stroma [Figure 7]. The connective tissue stroma shows numerous small and large endothelial lined blood vessels with endothelial cell proliferation; chronic inflammatory cell infiltrate chiefly composed of lymphocytes & plasma cells along with collagen fibre bundles [Figure 8]. Correlating clinically, the above histopathological features are suggestive of Pyogenic granuloma.

DIAGNOSIS: Pyogenic granuloma.

DIFFERENTIAL DIAGNOSIS

Differential diagnoses included traumatic fibroma, hyperplastic gingival inflammation, peripheral ossifying fibroma, postextraction granuloma, peripheral giant cell granuloma, haemangioma, and Kaposi's sarcoma, fibro lipoma. An irritational fibroma consists of dense, collagenous connective tissue stroma with few blood vessels in histopathological sections, unlike PG, which is characterized by numerous blood capillaries. Hyperplastic gingival

inflammation is a generalized condition of gingiva with chronic inflammatory cells, oedema, and fibrosis, whereas PG appears in a localized area. Postextraction granuloma is characterized by granulation tissue formation both clinically and histologically postextraction. Peripheral ossifying fibroma occurs most commonly on the gingiva with minimal vascular component and is characterized by the presence of calcified structures within the fibrous connective tissue, unlike PG. Peripheral giant cell granuloma was diagnosed histologically due to the presence of numerous multinucleated giant cells and the lack of a source of infection. Endothelial cell proliferation without acute inflammatory cell infiltrate differentiated haemangioma from PG.

As Kaposi's sarcoma commonly occurs in acquired immune deficiency syndrome due to the proliferation of dysplastic spindle cells, and intracellular hyaline bodies, PG was differentiated.[5] Fibro lipoma (FL) is made up of lobules of benign mature adipocytes with a component consisting of broad bands of dense collagen, PG was differentiated.[6]

Figure I: 1) Exophytic growth on dorsum surface of tongue, 2) Dental floss attached to the base of the lesion, 3) Immediate post operative, 4) Excised lesion, 5) Specimen in transport medium, 6) 12 weeks follow up picture, 7) Histopathologic image, 8) Small and large endothelial lined blood vessels.

DISCUSSION

The term pyogenic granuloma was considered improper because this tumour is not associated with pus and doesn't resemble histologically to granuloma It is therefore called Botriomycoma. PG can be found anywhere in the oral cavity, it can be found on the gingiva (60%), lip (14%), tongue (9%) and the buccal mucosa (7%). Although it may occur in all ages, it is predominant in the second decade of life in young adult females, possibly because of the vascular effects of female hormones.[7] It has now been accepted that the lesion is an exaggerated localized connective tissue reaction to minor injury or irritation.[8] Affected most commonly are Individuals with poor oral hygiene and chronic irritants in the oral cavity.

Tongue involvement was found to be about 4% of all PG.[9] Saravana, in his study, reviewed 137 cases of PG, of which only 23 reported cases were located extra gingivally, and the mean age of occurrence was 30 years.[9] In a case report by Verma et al., PG was the most common hyperplastic lesion occurring on the gingiva.[9] Peters et al., in their case report, reported that the occurrence of PG is more in females.[3] The present case was reported in a female patient at a rare location, such as the tongue. PG is diagnosed clinically based on characteristic history and clinical findings. It is a rapidly growing lesion with either a smooth or lobulated surface, pedunculated or sessile, with an erythematous surface that becomes pale on maturation and varies in size.[10] The exact pathogenesis of the PG is not yet evidently established. Trauma, infection, and hormonal influences were suggested to have a role in its causation.

Chronic irritation may cause granulation tissue formation in large amounts.[10] In our case also, there was local irritation due to biting of the tongue could have been the cause of the lesion. As gingiva overlying the mandibular anterior teeth is where PG most frequently manifests itself, long-standing trauma and gingival irritation caused by faulty tooth brushing may be one among the contributing factors.[11] There are two types of PG, differentiated clinically and histologically. They are LCH and Non-LCH.[12] LCH type often presents as a sessile lesion with diffuse blood capillaries, whereas non-LCH presents as a lesion with a stalk and fibrosis. Non-LCH could be a lesion of long-standing irritation of the mucosa. Present case of LCH because of the rich invasion of blood capillaries.[13] On histopathological examination, the surface epithelium is stratified squamous epithelium with plenty of blood vessels with dilatations in the connective tissue stroma. These blood vessels are sometimes organized, giving the appearance of lobules, called a lobular hemangioma. PG can be

differentiated from clinically similar conditions based on etiology and histopathological picture.[5]

Surgical excision of the lesion, involving 1–2 mm of surrounding normal tissue, remains the treatment of choice to prevent the recurrence of PG.[14] Other conservative treatment modalities include excision by CO2 laser ablation, excision using Nd: YAG laser, cryosurgery, curettage, electrical cautery, and chemical cauterization. In our case, we have done surgical excision using scalpel blade after the administration of local anaesthesia. A total of 1 mm of the surrounding tissue was also removed along with the lesion to prevent a recurrence.

CONCLUSION

Pyogenic granuloma of tongue can result from poor oral hygiene, especially an uncleaned tongue and a traumatic bite to the tongue while eating. The clinical features of pyogenic granulomas that are very characteristic, help in making a differential diagnosis but are inadequate for a definitive diagnosis. They require a thorough histopathological diagnosis to differentiate them from true tumours of the oral cavity.

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