

CASE REPORT



Pyogenic granuloma of lower lip – A rare case report

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Abstract

Pyogenic granuloma is a pathological entity which is developed in response to the chronic trauma or irritating stimulation and is characterized by an excessive granulation tissue production as a result of that trauma/irritation. This lesion is most commonly seen in adult females of young age group and mostly being found on the gingiva. On clinical examination, it manifests as lobulated or smooth red nodular lesion, which bleeds easily and can also be ulcerated occasionally. The present article reports a rare case of pyogenic granuloma on the lower lip, with the emphasis on the clinical as well as the pathologic features which are important for the diagnosis.

Introduction

The pyogenic granuloma is a proliferative lesion of non-neoplastic nature. It has an unknown etiology, which is mainly characterized by the increased synthesis of the connective tissue due to trauma, local factors, or chronic irritating stimuli. These lesions are mostly encountered in young adult females and children. Pyogenic granulomas are found mostly on the anterior region of maxillary gingiva. These lesions are pinkish to red in color and pedunculated, which mostly bleed spontaneously on palpation.^[1]

In the present case report, the pyogenic granuloma is seen on the lower lip, which is not a very common site for this pathological entity. The emphasis in the present article was made on the clinical as well as the pathological features important for diagnosis.

Case Report

A 36-year-old female patient [Figure 1] reported with the chief complaint of a swelling on the lower lip for 1 month. History revealed that of slowly growing without pain symptoms, with about 1 month of evolution, which was small in size and gradually increased to the present size. She also gave a history of occasional bleeding. The patient had also revealed the history of lip bite 1 month back and she was constantly manipulating lip on the same site.

On the physical examination, there was a reddish colored round and sessile nodular lesion in the lower lip, it was not bleeding on palpation, with the fibrous consistency, which was measuring approx 1 cm in diameter [Figure 2]. Clinical findings and history gave rise to the provisional diagnosis of mucocele on lower lip. Excisional biopsy under local anesthesia was performed. Postop instructions were given. The specimen was sent for histopathological examination, which revealed parakeratotic stratified squamous epithelium with atrophy. The underlying fibrovascular connective tissue is composed of numerous endothelial lined capillaries with extravasated red blood cells and dense chronic inflammatory cell infiltrate predominantly lymphocytes. On the basis of these features, diagnosis of the pyogenic granuloma was confirmed. The patient was followed up for 1 week and the biopsy site was healing [Figure 3a and b].

Discussion

A study was done by Avelar *et al.* according to which, the pyogenic granuloma is a commonly occurring disease entity, which represents almost 4–7% of all the lesions of the oral cavity.^[1,2] The studies conducted by and Avelar *et al.*^[1] and Leal *et al.*^[3] shown that the obtained average ages were 33.8 years and 35.5 years, respectively. The term pyogenic granuloma is a



Figure 1: Female patient reported with small growth on the right side of lower lip



Figure 2: Reddish round sessile growth on the right side of lower lip

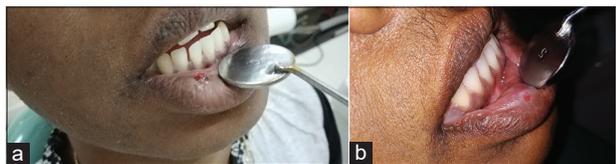


Figure 3: (a and b) Follow-up after 1 week and showing healing biopsy site

misnomer because neither there is granulomatous inflammation in this lesion nor there is any discharge of purulent exudates. Earlier, it was thought that the infectious agents were responsible for the injury, although it is now in general agreement that lesions are related to aggressive stimuli of low intensity.^[4]

There are many factors which are associated with the development of these lesions, among which some are: Defective restorations, chronic irritation, residual roots, previous extractions, prosthetic trauma, poor oral hygiene,^[5] graft rejection, brushing trauma as well as natal and neonatal teeth.^[6]

The development of these lesions is commonly observed during pregnancy; therefore, they are termed as pregnancy tumors.^[7] Such situations can also be found in females during puberty.

The hormones such as progesterone and estrogen are high in levels, which causes the dilatation and the proliferation of the gingival microvasculature, although there is also release of vasoactive substances as a result of mast cells destruction, which will result in the further worsening of the pre-existing inflammatory conditions, like gingivitis.^[7] Mostly, the lesions occur in the second, third, and fourth decades of life.^[8] The pyogenic granuloma is frequently seen in women due to the vascular effects of the female sex hormones and the contraceptive therapies. In our case, the patient had lesion on the lower lip which is the unusual site for the pyogenic granuloma. The most common intraoral site of pyogenic granuloma is the gingiva as this area is most commonly subjected to the action of trauma and irritating agents. The sites other than gingiva which may be frequently involved are lips and tongue.^[8]

Although the trauma commonly occurs on lips; however, according to some authors, pyogenic granuloma lesions are not usual in this location.

A case of involvement of the upper lip in a 12-year-old female was reported by Gonçalves *et al.*^[8] China *et al.* reported a case of a 53-year-old female patient, the site affected was the lower lip. Similarly, in the present case report particular interest is the involvement of an unusual site of the lower lip. Pyogenic granuloma commonly presents as an erythematous exophytic lesion which can be pedunculated or sessile, commonly bleed to touch and sometimes ulcerated.^[9,10] They are slow-growing lesions.

Pyogenic granuloma are commonly slow-growing as in the present case report, but occasionally these can also present with rapid growth and clinician can get confused with a malignant neoplasm. Various literatures have reported that the microscopic analysis of the lesion which is characterized mainly by vascular proliferation, are also seen in the present case. Lobular capillary hemangioma can also be used to describe the pyogenic granuloma due to the common histopathological features of the vascular channels, which are separated by the fibrous septa and organize themselves in the lobular pattern.

In the present case, the consistency of the lesion was firm possibly due to chronic manipulation of the lesion by the patient. Various pathological entities can be given as differential diagnosis with pyogenic granuloma; among them are fibrous hyperplasia, irritational fibroma, Kaposi's sarcoma, hemangioma, and metastatic tumors. Biopsy is needed for the diagnosis of the lesion as well as it is also required to rule out the other serious entities like malignant neoplasms. The most suitable therapeutic approach is surgical excision and the elimination of the associated etiologic factors. Other alternative treatment modalities are laser

therapy and cryosurgery; however, the effectiveness of these therapeutic measures has not been well established.^[9,10]

Conclusion

Taking into consideration the aberrant site of pyogenic granuloma on lower lip, the present article describes the importance of having knowledge about these lesions for the, so that the patient can be provided with an accurate diagnosis and appropriate treatment. It is the fact that surgical excision is the safest method for diagnosis and treatment of pyogenic granuloma of the lip.

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