

Pyogenic granuloma on the lower lip: An unusual location

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ABSTRACT

Pyogenic granuloma is a lesion characterized by excessive production of granulation tissue in response to trauma or chronic irritating stimulation. This pathological entity affects more often children and young adult females, being found mainly in the gum. Clinically, the lesions appear as smooth or lobulated red nodules with easy bleeding, occasionally ulcerated. The present work aims to report a case of pyogenic granuloma, emphasizing the clinical and pathologic features important for diagnosis.

Keywords: Pyogenic granuloma, pathology, mouth mucosa.

Granuloma piogênico em lábio inferior: uma localização incomum

RESUMO

Define-se granuloma piogênico como uma lesão reacional caracterizada pela produção excessiva de tecido de granulação em resposta a um trauma ou estímulo irritante crônico. Esta entidade patológica acomete, com maior frequência, crianças e adultos jovens do sexo feminino, sendo encontrada principalmente em gengiva. Clinicamente, as lesões apresentam-se como nódulos avermelhados, de fácil sangramento, com superfície lisa ou lobulada, ocasionalmente ulcerada. O presente trabalho tem por objetivo relatar um caso de granuloma piogênico de localização incomum, enfatizando os aspectos clínicos e histopatológicos importantes para o diagnóstico.

Palavras-chaves: Granuloma piogênico, patologia, mucosa oral.

INTRODUCTION

Pyogenic granuloma is a non-neoplastic proliferative lesion of unknown etiology, characterized by excessive production of connective tissue due to chronic irritating stimuli or local trauma (1-3). These lesions are more common in children and young adult females and are frequently found in the anterior maxillary gingiva (1,4,5). In most cases,

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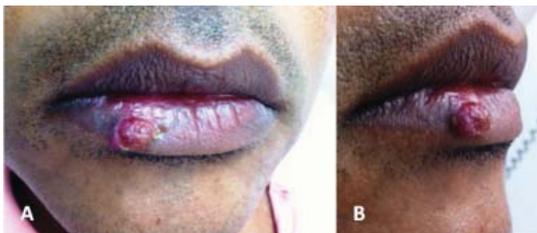
these lesions are red and pedunculate or sessile, and tend to bleed spontaneously during palpation (5-7).

The present study aimed to report a case of pyogenic granuloma on the lower lip, emphasizing the clinical and pathologic features important for diagnosis.

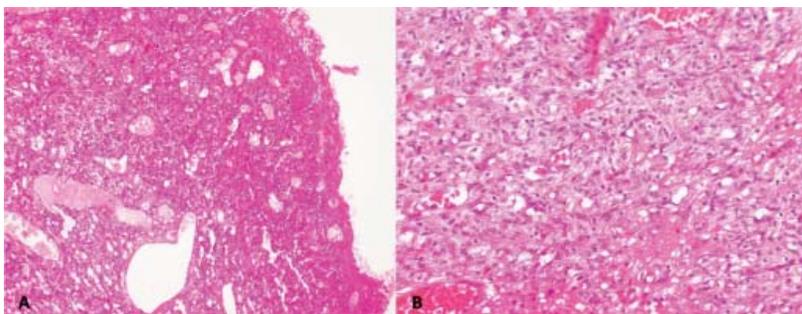
CASE REPORT

Male patient, 44 years old, melanoderm, attended the Stomatology Clinic complaining of slow growth swelling on the lower lip without pain symptoms, with about 3 months of evolution. The patient denied the habit of biting his lip or a history of trauma. He also reported that, during growth of the lesion, he manipulated the nodule. On physical examination, there was a reddish round sessile nodular lesion in the lower lip vermilion, bleeding on touch, with ulcerated surface and fibrous consistency, measuring 1 cm in diameter (Figure 1A and 1B). Clinical findings gave rise to the diagnosis of pyogenic granuloma. Excisional biopsy was performed.

Microscopic studies revealed a fragment of lip mucosa coated with keratinized stratified squamous epithelium, with hyperplasia and areas of ulceration. Underlying the labial mucosa, there were numerous vascular channels. In between, we found mixed inflammatory infiltrate composed of neutrophils, lymphocytes and plasma cells (Figure 2A and 2B). Based on these findings, the diagnosis of pyogenic granuloma was confirmed. The patient is under observation for 8 months without signs of recurrence.



FIGURES 1A and 1B – Pyogenic granuloma. Increased volume in nodular and ulcerated lower lip lesion.



FIGURES 2A and 2B – Surface ulcerated lesion with a thick serofibrinous membrane showing numerous vascular channels of varying caliber associated with intense inflammatory infiltrate (H/E-100x) (A). View showing the greatest increase in blood capillaries and diffuse inflammation (H/E-400) (B).

DISCUSSION

Pyogenic granuloma is a relatively common disease entity, representing 3.81% to 7% of all lesions of the oral cavity, according to a study of Avelar et al. (3).

It is assumed that the term pyogenic granuloma is inadequate, since in this lesion granulomatous inflammation does not occur nor is there production of purulent exudate (3,8). Initially it was believed that the injury was caused by infectious agents (1,9); however, it is now a consensus that the lesion is related to aggressive stimuli of low intensity (1,4,8,10).

Among the many factors associated with the development of these lesions, we can mention: defective restorations, residual roots, prosthetic trauma (3,4), poor oral hygiene (5,9), previous extractions, graft rejection, natal and neonatal teeth, and brushing trauma (6).

During pregnancy, it is common to observe the development of lesions in the gum, which are called pregnancy tumors (1,7). A similar situation can be found in females at puberty (7,8). In these circumstances, the hormones estrogen and progesterone are found at high levels, causing dilatation and proliferation of gingival microvasculature, as well as destruction of mast cells with release of vasoactive substances, which results in the worsening of pre-existing inflammatory conditions, such as gingivitis (1,4,7).

With respect to age, pyogenic granuloma lesions occur more frequently in the second, third and fourth decades of life (2,8,10). In epidemiological studies conducted by Leal et al. (1) and Avelar et al. (3), the average ages obtained were, respectively, 33.8 years and 35.5 years. Pyogenic granuloma is more prevalent in women, possibly due to vascular effects of female sex hormones and contraceptive therapies (1,4,8). In our case, the patient was male and had 44 years of age, characteristics that differentiate him from the usual profile of patients affected by the injury.

There is a consensus that the region of higher occurrence of intraoral pyogenic granuloma is the gum, probably because the area is the most subject to the action of traumatic and/or irritating agents (9). Other sites that may be affected include tongue and lips (3,5,6,8). Although the lips are common areas of occurrence of trauma, some authors consider that pyogenic granuloma lesions are unusual in this location (3,4). Gonçalves et al. (8) reported a case of involvement of the upper lip in a 12-year-old female patient. In another unusual case, described by China et al. (4), the site affected was the lower lip, in a 53-year-old patient. Similarly, the present report is of particular interest in the involvement of an unusual area.

Overall, pyogenic granuloma presents as an erythematous exophytic lesion with sessile or pedunculated implantation, commonly ulcerated surface, and easy bleeding (1,5,7,8,10). In our case, the clinical aspect of the lesion showed agreement with data reported in the literature. As in the present report, the evolution of these lesions is usually slow. But occasionally pyogenic granuloma can present rapid growth and be confused with a malignant neoplasm (6,7).

The results of the microscopic analysis of the lesion, mainly characterized by vascular proliferation, are also in agreement with the literature. Commonly, the vascular channels present themselves organized in lobules separated by fibrous septa, which is why some authors employ the term lobular capillary hemangioma to describe pyogenic granuloma lesions (1,9).

Over time, the pyogenic granuloma tends to reduce its inflammatory component and increase collagen deposition (1,9,10). For this reason, old injuries often have pale pink color and more fibrous consistency (4,9). In the pathology of the present case, fibrotic maturation was the only phenomenon observed, possibly due to relatively short time of evolution, which may also explain the reddish clinical aspect.

In lesions, the epithelium surface commonly shows adaptive changes, such as atrophy and hyperplasia, and is frequently ulcerated (7). It is likely that manipulation of the lesion by the patient acted as a secondary trauma, contributing to the formation of the ulcerated areas.

In peripheral lesions of giant cells and peripheral ossifying fibroma, various pathological entities can be confused with pyogenic granuloma, among which we can cite fibrous hyperplasia, fibroma, hemangioma, Kaposi's sarcoma, and metastatic tumors (7,8). Biopsy is mandatory not only for diagnosis but also to rule out other more serious entities such as malignant neoplasms (8).

The most appropriate therapeutic approach is surgical excision associated with the elimination of etiologic factors (3). Other alternatives are cryosurgery and laser therapy, although the effectiveness of these measures has not been well established (5,9).

FINAL CONSIDERATIONS

Considering the unusual frequency of pyogenic granuloma on the lower lip, this study emphasizes the importance for the dentist to have knowledge about these lesions, in order to provide the patient with an accurate diagnosis and appropriate treatment. We call attention to the fact that surgical excision is the safest method for diagnosis and treatment of pyogenic granuloma of the lip.

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