

Pyogenic granuloma: Clinical case report

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Abstract:

Pyogenic granuloma is a vascularized lesion, common in the oral cavity, not neoplastic, caused by trauma, local irritants or hormonal factors, with a higher prevalence in women, present more frequently in the mandible than in the maxilla. The first-choice treatment consists of removal of the local irritant factor, if any, and complete excision of the lesion. The objective of this work is to perform a clinical case report (CAEE n° 92256218.0.0000.5020) evidencing the clinical and histopathological characteristics of the pyogenic granuloma in a 36-year-old male, melanoderma, who attended the Department of Stomatology of the Faculty of Dentistry of the Federal University of Amazonas (FAO-UFAM). Intraoral examination, exfoliated, lobulated lesion with an increased volume of painless growth, softened consistency, with whitish borders, measuring approximately 2 centimeters, sessile base, highly vascularized appearance, ulcerated, bleeding when provoked, localized in the palatine gingiva, limited to the tooth region 23 to 26. Considering the characteristics of the lesion, anamnesis and the literature, the pyogenic granuloma and giant cell granuloma were defined as diagnostic hypotheses. We chose to perform supra and subgingival coronary scaling and excisional biopsy, and the piece was sent to the Pathology and Legal Medicine sector of the Faculty of Medicine of UFAM. In the histopathological examination, the lesion presented with epithelium characterized by areas of ulceration in its extension, a proliferation of endothelial cells in which they open in vascular spaces of varied sizes and most are obliterated by red blood cells. Fibroblastic proliferation with moderate deposition of collagen fibers and presence of exuberant chronic inflammatory cells characterized mainly by plasma cells and lymphocytes and also areas of hemorrhage, confirming the diagnosis of pyogenic granuloma. The patient is undergoing prosthodontic treatment, showing no signs of relapse after nine months of surgical excision.

Keywords: Gingiva; Mouth; Pathology; Oral

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INTRODUCTION

Non-neoplastic proliferative processes constitute a group of pathological entities that are relatively common in the oral cavity, among them the pyogenic granuloma¹.

It is a benign lesion consisting of granulation tissue originating in the connective tissue of the skin or mucous membrane, with extensive vascularization, probably due to low-intensity chronic irritation such as traumas, local irritants or factors soft and hard tissues²⁻⁷.

It is characterized by the nodular volumetric increase of the connective tissue and can be pedunculated or sessile, smooth, granular or lobulated, and can be ulcerated and necrotic or not surface^{8,9}. It is a solitary lesion most of the time, its consistency can be soft or firm and the coloration, bright red or purplig¹⁰⁻¹².

It is found predominantly in the maxillary gingiva, but can also be found in the mandibular gums, skin and lip mucosa, as well as throughout the oral mucosa, varying from a few millimeters to a few centimetres¹³. The differential diagnosis depends on the anamnesis and, mainly, of the histological analysis¹⁰.

It can be compared to other mucosal lesions, such as giant cell granuloma, hemangiomas, Kaposi sarcoma, Inflammatory fibroepithelial hyperplasia, basal cell carcinoma, leiomyoma, metastatic tumor and hemangioendothelioma^{2,10,14,15}.

The treatment consists in the removal of the causal factor and, in the accomplishment of excisional biopsy.

CASE REPORT

According to resolution 466/12 - National Health Council, this report was approved by the Ethics Committee for Research with human beings of the Federal University of Amazonas, under the CAAE N° 92256218.0.0000.5020.

A 36-year-old male patient, Melanoderma, was referred to the Stomatology Outpatient clinic of the dental School of the Federal University of Amazonas (FAO-UFAM) for clinical evaluation of the lesion found in palatine gingiva. During the anamnesis, the patient presented as the chief complaint: "The skin of the sky of my mouth is dropping." In the history of the current disease the patient reported that the lesion had evolution of two months, had no complaint of painful sensation and, bleeding only when provoked. He reported history of poor oral hygiene, anterior trauma, sensitivity to cold and heat of teeth close to the lesion. In personal history, the patient did not present information worthy of note.

No relevant data were found in the extraoral exam. The intraoral examination showed an exophytic lesion, lobulated, with an increase in painless growth volume, softened consistency, with whitish edges, measuring approximately two centimeters, sessile base, highly vascularized appearance, ulcerated, bleeding when provoked, localized in the palatine gingiva, limited to the tooth region 23 to 26 (Figure 1).



Figure 1. On intraoral examination, lobulated exophytic lesion, soft consistency, with whitish edges, measuring approximately two centimeters, sessile base, highly vascularized, ulcerated appearance, located in the palatal gum, limited to the region of the teeth 23 to 26.

The presence of supra and subgingival calculus was also observed in all quadrants and pockets up to 7 mm deep. There were no findings on periapical radiographic examination of the region. Taking into account the characteristics of the lesion at intraoral examination, data from the anamnesis and the literature consulted, we defined as diagnostic hypotheses the pyogenic granuloma and giant cell granuloma.

We opted for the treatment plan, the performance of subgingival and supragingival scraping for removal of the causal factor, prescription of chlorhexidine digluconate 0.12%, request of complementary exams such as blood count, coagulogram, glycemia, TGO and TGP, urea and creatinine, INR, for performing excisional biopsy. In order to perform the surgical procedure, anesthesia was used with 2% lidocaine with adrenaline 1:100000 for nerve block of the upper middle, palatine and nasopalatine nerves to avoid sensitivity during exeresis and bleeding excessive. A wedge-shaped incision was performed with cable support and a 15C scalpel blade with complete removal of the lesion (Fig. 2).

The area was covered with surgical cement to reduce the risk of contamination. The surgical specimen was forwarded to the pathology and Legal medicine

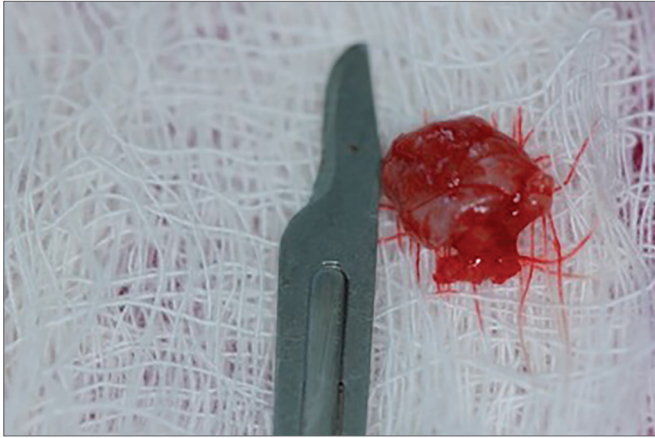


Figure 2. Lesion after exercise with lobulated appearance, softened consistency, whitish edges, measuring, approximately one centimeter, vascularized, ulcerated appearance.

sector of the UFAM Medical school, immersed in a 10% formalin solution, to confirm the diagnostic hypothesis. Macroscopic examination showed a lobulated lesion, softened consistency, with whitish edges, measuring approximately two centimeters, vascularized, ulcerated appearance. Microscopic examination, lesion with epithelium characterized by areas of ulceration in its extension, proliferations of endothelial cells in which they open in vascular spaces of varying sizes and mostly are obliterated by Erythrocytes.

It is also noted that fibroblastic proliferation with moderate deposition of collagen fibers and presence of exuberant chronic inflammatory cells characterized mainly by plasmocytes and lymphocytes (Figs. 3 and 4), areas of hemorrhage complete the picture Histological examination (Fig. 5). Confirming the diagnosis of pyogenic granuloma. The patient is in proservation of 9 months, without recurrence (Fig. 6).

DISCUSSION

Pyogenic granuloma is a prevalent entity in the oral cavity, especially in pregnant women, receiving, in these cases, the denomination of Gravid granuloma, between the second to the fourth decade of life due to the interference of factors in the proportion of 2 to 4 times more prevalent in women^{3,6,16-18}. A large part of the studies reveals that the gingiva is the predominant place for its emergence, representing 75% of the cases and, affecting more the vestibular face than the lingual face, especially due to the presence of receptors for hormones. They may also affect the skin, lips, tongue, jugal mucosa and palate^{1,19,20}.

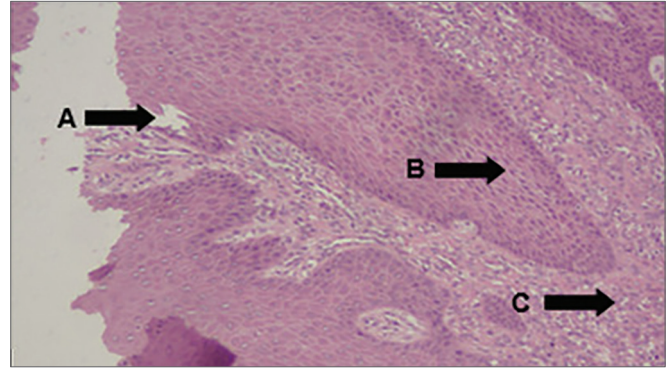


Figure 3. Microscopic examination it is possible to observe areas ulceration from the epithelium (A) with the presence of fibrous tissue (B) and the presence of lymphocytes and plasmocytes (C). (40x, H.E.).

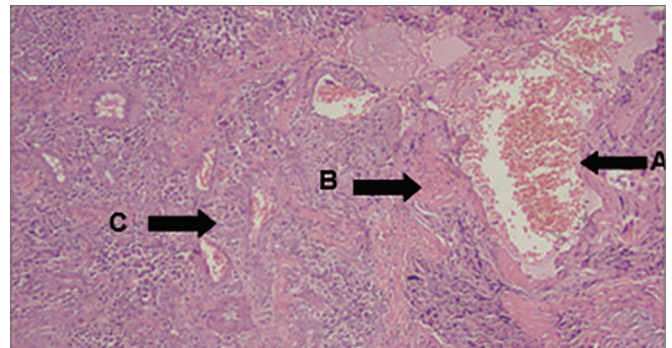


Figure 4. Microscopic examination it is possible to observe proliferation of endothelial cells opening in vascular spaces obliterated by hemacias (A), with deposition of collagen fibers (B) and presence of lymphocytes and plasmocytes (C). (60x, H.E.).

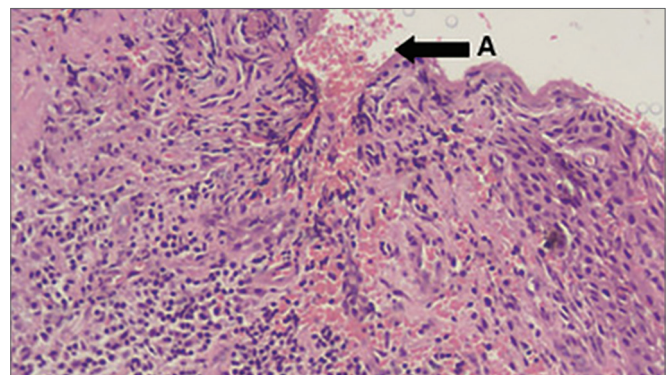


Figure 5. Areas of hemorrhage near lumen with presence of infiltrated hemacias (A). (100x, H.E.).

In the present clinical case, we evidenced some aspects considered relevant as the region of occurrence and in male patient. Other characteristics, such as association with local irritants and anterior trauma corroborate data from the literature, the patient being male and not presenting recurrence after nine months of proservation. Approximately 77% of the pyogenic granulomas occur



Figure 6. 9-month prosthodontic preservation with no lesion recurrence.

in the gingiva, with the foregoing preferential incidence in the anterior region, and most of the cases, by vestibular, presumably by the presence of biofilm, calculations and material in the gingival sulcus. Differently from that reported in the literature, in the present case, the lesion was found in the Palatine region, posterior of the jaw between the teeth 23 to 26^{7,21}.

Studies indicate that the distribution of pyogenic granuloma when in gum has a predilection for the anterior region of the mandible (23.6%) and anterior maxillary region (20.9%) Which together represent 44.5% of the cases, differing statistically ($p < 0.05$) of the posterior region, with 33.4% of the cases studied²².

Authors consider as differential diagnosis of pyogenic granuloma, inflammatory gingival hyperplasia, peripheral giant cell injury, peripheral ossifying fibroma, hemangioma, lymphoma, Nevus Flameus, Kaposi's sarcoma, metastatic tumor, Parúlide, Hemangioendothelioma, Hemangiopericytoma, Leiomyoma, cytomegalovirus infection, gingival lesions by bacilli, periodontal abscess and fistula^{1,2,6,10,14,15}. In the present study, we considered as diagnostic hypotheses the pyogenic granuloma and the peripheral lesion of giant cells, due to the clinical characteristics of the lesion, such as the growth of tumor-like volume, occurrence in the gingiva, diameter of approximately 2 cm, sessile base, ulceration. Besides

its etiology is associated with the local irritant or trauma and, by the age group most affected, as the present case. For conclusive diagnosis, biopsy and histopathological examination were performed, and the same showed proliferation of connective tissue and vascular-associated with ulceration and neutrophilic exudate, terminating the case with the diagnosis of pyogenic granuloma.

Surgical removal is the recommended treatment usually combined with removal of local irritative factors such as primary periodontal therapy (scraping sessions, straightening and Corono-radicular polishing and oral hygiene guidance) being the Procedure performed and reported in the present study^{4,7,16,21,23-26}. The literature states that adequate excision, utilizing biopsy, usually causes healing of the lesion, and the clinical diagnosis without histopathological confirmation could lead to misinterpretation²⁷. Other non-surgical treatments are described in the literature, such as cryotherapy, laser and ethanol injection, however, its efficacy regarding recurrences is still uncertain⁸. The follow-up of patients is indispensable to detect recurrences of the lesions²⁸, since in a study that followed 43 cases of pyogenic granuloma treated in surgical form 23% had recurrences²⁰.

FINAL CONSIDERATIONS

Pyogenic granuloma is a prevalent lesion in the oral cavity, benign, with high prevalence in women, multifactorial etiology, and typical clinical and histopathological characteristics. The treatment should consist in the removal of the causal factor and subsequently in the excision of the specimen for histological evaluation in order to complete the diagnosis, and should perform the patient's attendance due to the high incidence of recurrences.

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