Recurrent intraoral pyogenic granuloma: case report

Granuloma piogênico intra-oral recorrente: relato de caso

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Descritores

Granuloma piogênico, recidiva, terapia a laser, cirurgia bucal

Resumo

O granuloma piogênico é um crescimento tumoral comum da cavidade oral considerado de natureza não neoplásica. O mecanismo preciso para o seu desenvolvimento não é conhecido. O objetivo deste trabalho é apresentar um caso de uma mulher de 58 anos de idade com um nódulo de 1cm de diâmetro, coloração avermelhada, pediculado, no palato duro, próximo aos dentes 14 e 15, assintomático, com tempo de evolução de um mês e aparência vascular. Após biópsia excisional, o diagnóstico microscópico foi de granuloma piogênico. O controle pós-operatório de 15 dias revelou uma lesão recorrente com as mesmas características da lesão primária e na mesma localização, mas com 2cm de diâmetro. A paciente foi submetida a uma segunda biópsia excisional e raspagem dos dentes 14 e 15. O diagnóstico foi novamente confirmado. Concluiu-se que a excisão cirúrgica associada à raspagem dos dentes envolvidos com a lesão pode ser uma ótima opção terapêutica para o granuloma piogênico intra-oral.

Key–words

Pyogenic granuloma, recurrence, laser therapy, oral surgery

Abstract

Pyogenic granuloma is a common tumorlike growth in the oral cavity that is considered to be non-neoplasic in nature. The precise mechanism for the development of pyogenic granuloma is unknown. This study aims to present a case of a 58-years-old woman with a 1cm sized, reddish, pedículated nodule on the hard palate, next to the 14th and 15th teeth, assintomatic with one month time evolution and vascular appearance. After excisional biopsy, the microscopic diagnosis was pyogenic granuloma. Follow-up examination carried out at 15 days after surgery revealed a recurrent lesion with the same characteristics of the primary one and in the same location, but with 2cm of diameter. The patient was submitted to a second excisional biopsy next to the 14th and 15th scaling teeth. The microscopic exam confirmed the previous diagnosis. We concluded that surgical excision associated with scaling teeth may be a good therapeutic option for intraoral PG.

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INTRODUCTION

Nonneoplasic lesions are usually inflammatory or represent a reaction to some kind of irritation or low grade injury[1]. The great majority of located gingiva overgrowths are considered to be reactive and nonneoplasic lesions[2]. A few studies in different countries regarding gingival lesions have been reported[1,13]. Pyogenic granuloma (PG) is a well known oral lesion known which involves the gingiva commonly.

The precise mechanism for the development of pyogenic granuloma is unknown. Trauma, hormonal influences, viral oncogenes, underlying microscopic arteriovenous malformations, the production of angiogenic growth factors, and cytogenetic abnormalities have all been postulated to play a role.

Clinically, oral PG is a smooth or lobulated exophytic lesion manifesting as small, red erythematous papules on a pedunculated or sometimes sessile base, which is usually haemorrhagic[4], especially in children and women in reproductive age. PG is rare in children younger than 6 months. The main age of presentation is about 6.7 years. Otherwise, aside from those lesions occurring in pregnancy, the frequency declines linearly with age.

The lesion removal of the lesion is indicated to alleviate any bleeding, discomfort, cosmetic distress and diagnostic uncertainty. A number of malignant tumors may clinically mimic pyogenic granuloma, making histopathologic confirmation important if the presentation is atypical[5].

We report a case of a recurrent intraoral PG which was successfully treated with surgical excision and scaling teeth without any significant complications.

CASE REPORT

A 58-years-old woman sought our Institution complaining about a “lesion in her mouth”. She reported no trauma, infection or surgical treatment in the mouth. There was no history of dental manipulation or immunossupression and she had no systemic complaints.

Intraoral examination revealed a 1cm sized, reddish, pediculated nodule on the hard palate, next to the 14th and 15th teeth, assintomatic with one month time evo-

lution and vascular appearance. Periapical radiography showed no bone involvement (Figure 1).

Routine hematological, biochemical and serological investigations were normal. Enzyme-linked immunosorbent assay (ELISA) for human immunodeficiency virus (HIV) and Veneral Disease Research Laboratory (VDRL) test were non-reactive.

Based on the clinical and radiographic findings, the diagnosis was pyogenic granuloma. The patient was submitted to excisional biopsy of the lesion.

Microscopic examination showed highly vascular proliferation that resembled granulation tissue. Numerous small and large endothelium-lined channels were formed that were engorged with red blood cells. A mixed inflammatory cell infiltrate by neutrophils, plasma cells and lymphocytes was evident. The surface was ulcerated and replaced by a thick fibrinopurulent pseudomembrane. These characteristics were compatible with PG (Figure 2).

Follow-up examination was carried out at 15 days after surgery. It revealed a recurrent lesion with the same characteristics of the primary one and in the same localization, but with a bigger size, with approximately 2cm (Figure 3). The patient was submitted to a second excisional biopsy and 14 and 15 scaling teeth. The palatal mucosa around the lesion was also removed (Figure 4). The microscopic exam confirmed the previous diagnosis (Figure 5).

Follow-up examinations were carried out at 1 week, 3 months, 6 months and 1 year after surgery. No complaints and clinical or radiographic signs of recurrence have been observed.

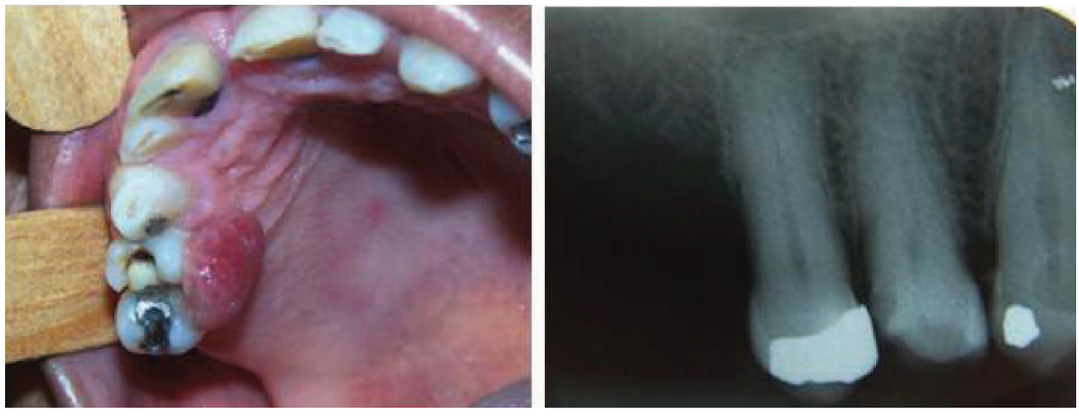

Figure 1 – Initial aspect f the lesion and periapical radiography.

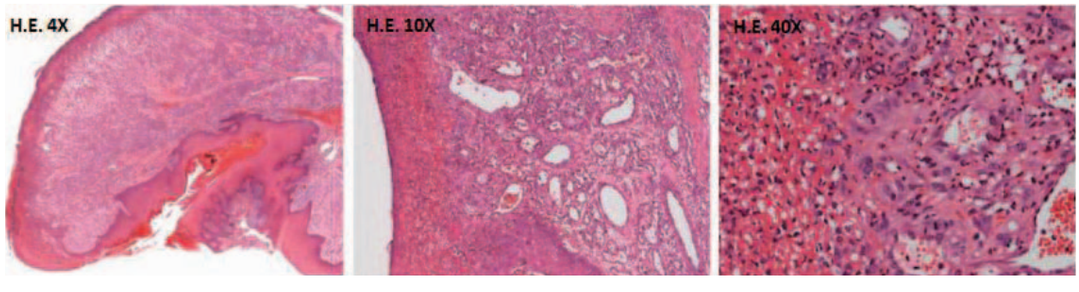

Figure 2 – Microscopic examination showed highly vascular proliferation with numerous small and larger endothelium-lined channels engorged with red blood cells. A mixed inflammatory cell infiltrate was evident. The surface was ulcerated and replaced by a thick fibrinopurulent pseudomembrane.

Figure 3 – Recurrent lesion 15 days after excisional biopsy.

Figure 4 – Second excisional biopsy associated with the 14th and 15th scaling teeth and palatal mucosa around the lesion removal.

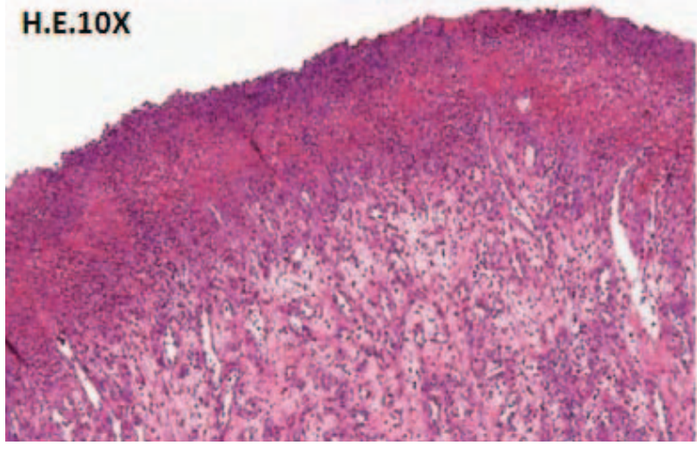

Figure 5 – The same characteristics of the first microscopic exam confirmed the previous diagnosis of pyogenic granuloma.

DISCUSSION

Pyogenic granuloma is a common, usually solitary, lobulated, benign vascular proliferation of the skin and mucous membranes, present as hemorrhagic, sessile or pedunculated growth, especially in children and women in reproductive age. Multiple PGs, developing either spontaneously or secondary to trauma, skin inflammation or systemic immunosuppression are rarely seen5. In the present case, there was no history of trauma, infection, surgical treatment in the mouth, dental manipulation or immunossupression and the patient had no systemic complaints.

According to Shamin et al., 20089, the most commonly biopsied nonneoplastic lesion was PG and this was in accordance with other studies13. In this study, a peak incidence of occurrence of all nonneoplastic lesions was noticed in patients between the ages of 20-29 years. PG occurs in younger patients more often than fibrous hyperplasia and may represent a stage in the development of fibrous hyperplasia.

In Shamin's study of et al., 2008[9], it was found that females were more frequently affected with PG and this was overall in agreement with other studies[13]. About 57.73% of cases of pyogenic granuloma were found in maxillary gingiva which were lower than those reported by Ababneh[1] (64%) and higher than those reported by Zhang et al., 2007[14] (47.10%). In the present case, the data corroborate these findings.

The lesion removal is indicated to alleviate any bleeding, discomfort, cosmetic distress and diagnostic uncertainty. The treatment consists of conservative surgical excision, which is usually curative. For gingival lesions, the excision should extend down to periosteum and adjacent teeth should be thoroughly scaled to remove any source of continuing irritation.

However, in Khandpur & Sharma study, 20085, they seek to highlight the therapeutic success achieved with the tunable pumped PDL (Pathogenica Cynosure VLS, Chelmsford, MA, USA) in multiple mucosal PGs. There are only anecdotal reports of successful treatment of mucosal PG with PDL[12]. Multiple eruptive PGs involving the trunk, limbs, oral mucosa, penis, labia major and sigmoid colon have been reported[6, 7, 8, 10,11,12]. They appeared either spontaneously or secondary to trauma, burs, surgical manipulation by excision, cauterization and curettage, oral PG developed around dental implants or in association with pregnancy while other lesions occurred in association with exfoliative dermatitis, systemic retinoid therapy and immunosuppressive disorders like Hodgkin's disease, hipogammaglobulinemia, alogenic bone marrow transplant, alcoholic cirrhosis, malignancy, decreased helper/suppressor T-cell ratio and low interleukin 2 levels[6,10,12]. In our patient, there was no history of disorders prior the development of the lesion.

According to Khandpur & Sharma, 2008[5], laser therapy using continuous and pulsed CO_2 and Nd:YAG systems have been undertaken for a variety of intraoral soft tissue lesions such as hemangioma, lynphangioma, squamous papilloma, lichen planus, focal melanosis and PG, since they carry the advantage of being less invasive and sutureless procedures that produce only minimal postoperative pain. PDL has shown excellent results in cutaneous PG with only minimal pigmentary and textural complications. Gonzales et al., 19963, demonstrated both symptomatic and clinical clearing of the lesions with excellent cosmetic results in 16 of 18 treated patients. However, there is minimal convincing proof of its efficacy in intraoral PG[3].

After surgical removal, occasionally the lesion recurs and reexcision is necessary, like in the present case. In rare instances, multiples recurrences are noted[5]. By the way, we achieved complete resolution of PG located on palate after the second surgical excision, without producing any complications. There was no scarring. Hence, surgical excision associated with scaling teeth may be a good therapeutic option for intraoral PG.

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