



Clinical evaluation at two-year follow-up control of pregnancy granuloma

Avaliação clínica de acompanhamento após dois anos de controle de granuloma gravídico

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Abstract

Introduction: To report the treatment and follow-up (24 months) of a periodontal plastic surgery for excision of a maxillary pyogenic granuloma. **Case report:** This case report describes a patient who presented a lesion diagnosed as a pyogenic granuloma in the region of maxillary incisors and was submitted to surgical excision. The study emphasizes the clinical follow-up after the treatment of patients that present pyogenic granuloma that should be based on surgical excision and histopathological confirmation of clinical diagnosis combined with the treatment of the specific periodontal disease. **Conclusion:** Follow-up over two years of surgical procedures demonstrated the maintenance of a periodontal health.

Keywords: Periodontics. Pyogenic granuloma. Treatment. Follow-up.

Resumo

Introdução: Relatar o tratamento e o acompanhamento clínico de 24 meses de uma cirurgia plástica periodontal para excisão de um granuloma piogênico maxilar. **Relato de caso:** Este relato clínico descreve uma paciente que apresentava uma lesão diagnosticada como granuloma piogênico na região de incisivos superiores

e que foi submetida à excisão cirúrgica. O trabalho enfatiza o acompanhamento clínico após o tratamento de pacientes que apresentem granuloma piogênico, e que deve basear-se na excisão cirúrgica e na confirmação histopatológica do diagnóstico clínico, combinado com o tratamento da doença periodontal específica.
Conclusão: *O acompanhamento clínico de dois anos dos procedimentos cirúrgicos indicou a manutenção da saúde periodontal.*

Palavras-chave: *Periodontia. Granuloma piogênico. Tratamento. Acompanhamento.*

Introduction

The pyogenic or gravidarum granuloma is a benign lesion of the gingival mucosa that affects the skin and mucosa. These are generally associated with periodontal disease inflammatory and hormonal factors such as pregnancy (1-4). This lesion is characterized by localized polypoid growth, which is exophytic, sessile or pedunculated erythematous to brownish, and usually ulcerated with spontaneous bleeding. The surface of the oral pyogenic granuloma ranges from pink to red to purple, depending on the age of the lesion (5).

Hormones and other factors may modify the response and promote development of hyperplastic tissue or granulation. Hormonal changes in both the gestational period and puberty modify the clinical course (6), since the levels of estrogen and progesterone is high, exerting a markedly enhanced proliferative effect at the level of the endothelium (2).

The treatment usually used is surgical excision of the lesion, including all tissue where the disease appears. This is performed in combination with the removal of local irritating factors such as dental plaque and calculus (4, 5, 7-10). However, recognition and identification of these factors are not always possible and the rate of recurrence of the injury is relatively high due to incomplete removal of the lesion or failure due to the intervention of etiological factors (11).

Case report

A 22-year-old female in the fourth month of pregnancy was referred to the Dental Clinics of our institution. She presented a polypoid sessile gingival mass on the palatal and buccal aspect of teeth 21 and 22. She also complained of gingival bleeding upon brushing (Figure 1). Clinical intraoral examination

revealed an area with gingival hyperplasia of a reddish color with irregular surface and pedunculated mass lesion extending to the buccal and palatal area of the permanent maxillary left incisors (Figure 2). Periodontal examination revealed a 5-mm pocket on the buccal and proximal aspects of 21/22 and bleeding on probing. Light presence of dental plaque was detected during initial clinical examination of the gingival margin, especially around the incisor area.

We observed a significant distance (diastema) between 21 and 22; however, the patient reported



Figure 1 - Approximate clinical aspect of pyogenic granuloma



Figure 2 - Palatal aspect of pyogenic granuloma

that diastema existed before appearance of the lesion. She also reported that this lesion was relapsing (recurrent) because she had the same type of lesion removed a year ago. The patient was sufficiently informed about her oral health status, as well as the proposed treatment, and signed a consent form that outlined the ethical and legal principles of clinical care.

After basic periodontal treatment, the main body of the gingival mass, which also involved the interproximal and buccal aspects of teeth 21 and 22, was completely excised and submitted for histopathologic examination (Figures 3 and 4). At the time of the procedure under local anesthesia with Mepivacaine 2% and 1:100,000 epinephrine, incisions were made in the external bezel by removing the lesion. The lesion appeared macroscopically as a fragment measuring 21.0 × 10.0 × 7.0 mm, which was smooth, shiny, and elastic, covered with whitish mucosa with small ulcers in some parts (Figure 5). After removal of the lesion, the scraping technique was performed with castroviejo surgical scissors and with the back of a scalpel blade, to restore the aesthetic contour of the affected gingival region.

After surgical excision, the area was protected with surgical cement. The patient was advised to use 0.2 percent chlorhexidine digluconate solution twice a day for ten days for periodontal maintenance. Histological analysis revealed the presence of vascular proliferation, and similar to granulation tissue, numerous small and large canals lined by endothelium, and obliterated by hematic and inflammatory cell infiltrate comprising neutrophils, plasma cells and lymphocytes (Figure 6).



Figure 3 - Initial incision of the lesion with Kirkland scalpel

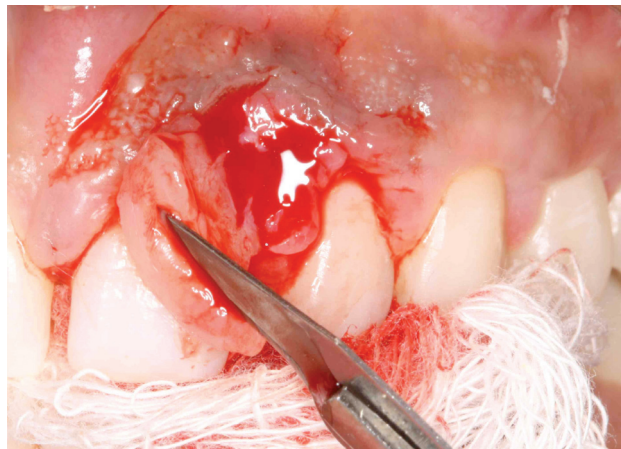


Figure 4 - Surgical access by buccal aspect with 15c blade



Figure 5 - Appearance and dimensions of excised tissue

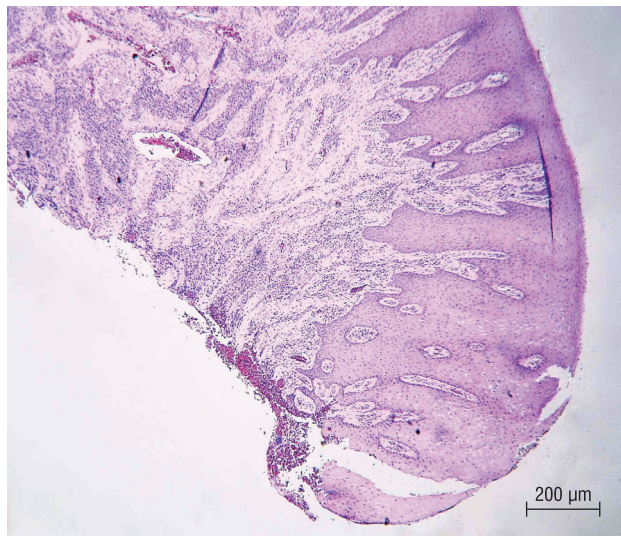


Figure 6 - Microscopic view of pyogenic granuloma with hyperplastic epithelium and fibrous connective tissue with chronic inflammatory cells (hematoxylin-eosin stain)

After three weeks, the gingival tissue showed a beginning of healing within the expected normality. After two months of the periodontal surgery was noted the symmetry and tissue pigmentation with the right side; it was determined that the patient could maintain adequate plaque control.

After six months of healing, the patient was pleased with the aesthetic results that addressed and at the 2-years postoperative visit, the periodontium and anterior dentition appeared to be healthy, and there was no recurrence of the pyogenic granuloma (Figure 7). A follow-up examination showed satisfactory resolution of the clinical case and suggested a favorable progression in the periodontal tissues involved.

Discussion

Granuloma gravidarum (pregnancy tumor) is a term used to describe a pyogenic granuloma that develops in pregnant women. The condition typically occurs in the first trimester of pregnancy and rapid growth follows the steady increase in circulating estrogen and progesterone (1-4).

Granuloma gravidarum has a preference for gingival tissue, in the anterior maxilla, presumably due to the presence of biofilm and calculus. About 50% of pregnant women have gingival changes, although only a small proportion develop tumors in the gingival tissue (12). Atypical situations may be observed, such as a pyogenic granuloma concomitant with drug-induced gingival hyperplasia in renal transplant patients under cyclosporin therapy or, alternately, in association with external dental resorption (13, 14).

Studies show that the gingival tissue has receptors for steroid hormones (2) and thus the increase in estrogen and progesterone can cause changes in the physiology of gingival tissue (1). Such changes can enhance the response of gingival tissues to local irritants such as plaque and calculus.

In this case, the clinical examination showed low, however present, accumulation of plaque and a small amount of tartar on the teeth, mainly related to the lesion. Presumptive clinical diagnosis was pyogenic granuloma, taking into account the clinical features of the lesion. It should be noted that the definitive diagnosis of lesions in oral soft tissues can only be



Figure 7 - Two-year follow-up of the clinical case

made after histopathological examination which, in this case, confirmed the diagnosis (4).

In the case of a benign lesion, adequate excision usually leads to cure (9, 10). To avoid the possibility of recurrence, the lesion should be excised under the periosteum and the predisposing factors for the lesion should be removed (4).

Periodic preventive maintenance is essential for periodontal health in the long-term. Therefore, one can conclude that the therapy used in this case has the potential to achieve a framework of periodontal health. Therefore the patient was fully treated to facilitate the control of systemic conditions, surgical removal of the lesion and appropriate periodontal treatment.

Conclusion

Granuloma gravidarum is a frequent injury of the mouth where the gingival tissue in females is affected. The clinical treatment protocol is based on surgical excision and histopathological confirmation of clinical diagnosis combined with the treatment of any periodontal disease present.

Acknowledgements

The authors gratefully thank to Mr. Sam Mahfoudh for the assistance with the specific permission from Elsevier.

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Received: 04/09/2012

Recebido: 09/04/2012

Approved: 06/01/2012

Aprovado: 01/06/2012