

## Gingival Cyst of the Adult Involving Alveolar Mucosa and Gingiva: Case Report

*Cisto Gingival do Adulto Envolvendo Mucosa Alveolar e Gingiva: Relato de Caso*

*Quiste Gingival del Adulto con Compromiso de Mucosa Alveolar y Gingiva: Reporte de un Caso*

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### Abstract

The gingival cyst of the adult is an uncommon odontogenic cyst, etiologically related to the dental lamina. The aim of this study was to report a clinical case of gingival cyst of the adult. A 60-year-old male patient was referred to evaluate a lesion located in the anterior region of the left maxilla, close to the teeth #21 and #22. The patient's medical history was not remarkable. Intraoral examination showed a nodular lesion covered by normal-appearing oral mucosa, asymptomatic, well-defined, with evolution of approximately 5 months. Since the periapical radiograph examination did not reveal any bone changes, the main diagnostic hypothesis was gingival cyst of the adult. By microscopy, typical features of gingival cyst of the adult were observed. The patient was monitoring and, after 3-year follow up, no signs of recurrence were demonstrated. Although rare, the gingival cyst of the adult should be considered in the differential diagnosis of any swelling involving the gingival region.

**Descriptors:** Odontogenic Cysts; Gingiva; Diagnosis, Differential.

### Resumo

O cisto gengival do adulto é um cisto odontogênico incomum, sua etiologia está relacionada à lâmina dentária. O objetivo deste estudo foi relatar um caso clínico de cisto gengival do adulto. Paciente do sexo masculino, 60 anos, foi encaminhado para avaliação de uma lesão localizada na região anterior da maxila esquerda, próxima aos dentes 21 e 22. O histórico médico do paciente não era digno de nota. O exame intraoral evidenciou uma lesão nodular recoberta por mucosa oral de aspecto normal, assintomática, bem delimitada, com evolução de aproximadamente 5 meses. Como o exame radiográfico periapical não revelou alterações ósseas, a principal hipótese diagnóstica foi cisto gengival do adulto. Ao exame microscópico, foram observadas características típicas de cisto gengival do adulto. O paciente estava em acompanhamento e, após 3 anos de acompanhamento, não havia sinais de recorrência. Embora raro, o cisto gengival do adulto deve ser considerado no diagnóstico diferencial de qualquer tumefação envolvendo a região gengival.

**Descritores:** Cistos Odontogênicos; Gingiva; Diagnóstico Diferencial.

### Resumen

El quiste gingival del adulto es un quiste odontogénico poco común, su etiología está relacionada con la lámina dentaria. El objetivo de este estudio fue reportar un caso clínico de un quiste gingival del adulto. Paciente masculino de 60 años de edad fue remitido para valoración de una lesión localizada en región anterior del maxilar izquierdo, próximo a los dientes 21 y 22. La historia clínica del paciente no era destacable. El examen intraoral mostró una lesión nodular cubierta por mucosa oral normal, asintomática, bien delimitada, con una evolución de aproximadamente 5 meses. Como el examen radiográfico periapical no reveló alteraciones óseas, la principal hipótesis diagnóstica fue un quiste gingival del adulto. En el examen microscópico, se observaron las características típicas de un quiste gingival del adulto. El paciente estaba siendo monitoreado y, después de 3 años de seguimiento, no había signos de recurrencia. Aunque raro, el quiste gingival del adulto debe considerarse en el diagnóstico diferencial de cualquier hinchazón que afecte la región gingival.

**Descritores:** Quistes Odontogênicos; Encía; Diagnóstico Diferencial.

### INTRODUCTION

The gingival cyst of the adult (GCA) is a rare odontogenic cyst of developmental origin, with an incidence of 0.3% among all odontogenic cysts. Clinically, it appears as a small, single asymptomatic swelling covered by mucosa of normal appearance or bluish hue due to the cystic fluid, the most common location is the canine and premolar area of the mandible and less frequently in the maxilla<sup>1-3</sup>. Rarely, it may occur in multiple locations, either unilaterally or bilaterally, or on the lingual surface of the alveolar process<sup>1-3</sup>. In some cases, an alveolar bone resorption may be present with a scoop-like pattern, frequently noted during surgical excision of the

cyst<sup>4</sup>. Histopathological evaluation demonstrates non-keratinized epithelial lining with or without focal areas of acanthosis containing clear cells of glycogen-rich cytoplasm<sup>4</sup>. The GCA is considered the counterpart that reaches soft tissue of the lateral periodontal cyst (LPC) and its prognosis is good<sup>5</sup>.

### CLINICAL CASE

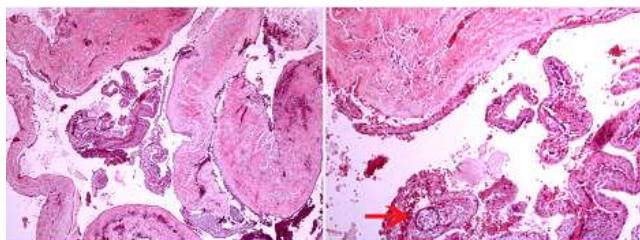
A 60-year-old male patient was referred to evaluate a lesion located in the anterior region of the left maxilla, close to the teeth #21 and #22. The patient's medical history was not remarkable. Intraoral examination showed nodular lesion covered by normal-appearing oral mucosa, asymptomatic, well-defined, with evolution of approximately 5 months (Figure 1).



**Figure 1:** Clinical aspect of the swelling involving alveolar mucosa and gingiva, located in the anterior region of the left maxilla, close to the teeth #21 and #22 with 5-month duration.

Since the periapical radiograph examination did not reveal any bone changes and pulp testing of the #21 and #22 indicated positivity for this test, the main diagnostic hypothesis was GCA and an excisional biopsy was performed.

Microscopically the lesion revealed a cystic nature lined by squamous epithelium of approximately 1–4 cuboidal to flat cell layer thicknesses, being supported by a fibrous capsule. Epithelial thickening areas were also present with focal areas of acanthosis containing clear cells of glycogen-rich cytoplasm (Figure 2A, 2B). The final diagnosis was GCA. The patient was monitoring and, after 3-year follow up, no signs of recurrence were demonstrated.



**Figure 2-** Microscopic examination revealed a cystic lumen covered by a flat epithelium composed of 2-3 layers of cuboidal cells, it is noted that these cells have a clear cytoplasm (red arrow), in another area it is noted that this epithelium is detached from the capsule fibrous and forms nests within the cystic lumen. The fibrous capsule has a mild inflammatory infiltrate (hematoxylin and eosin; A, x10 and B, x20).

## DISCUSSION

The GCA is an uncommon odontogenic cyst of developmental origin, derived from the dental lamina<sup>3,6</sup>. These cysts are round to oval, well-circumscribed swellings, usually less than 1cm in diameter and may occur either in the attached gingiva or the interdental papilla. The surface is smooth and may be the color of normal gingiva or bluish. The lesions are soft and fluctuant, and the adjacent teeth are usually vital, the most common location is the canine and premolar area of the mandible and less frequently in the maxilla<sup>6,7</sup>. The differential

diagnoses include the LPC, gingival abscess, parulis (dentoalveolar origin), oral focal mucinosis, peripheral odontogenic tumor, mesenchymal neoplasm, and fibrous hyperplasia, which can be excluded by radiographic examination, subgingival probing and pulp vitality test. Regarding this latter, the current case presented a positive result. Brod et al.<sup>4</sup> reviewed the literature findings of 195 cases of GCA, of which only 42 (21%) cases affected the maxilla, such as shown in the present report case<sup>4</sup>.

In cases of GCA, there may be no radiographic changes or only a faint round shadow indicative of superficial bone erosion which is not usually detected in conventional radiographic imaging, but it may be noted during tomographic examination and/or surgical excision of the cyst<sup>4,6</sup>. Noteworthy, in a Moskow et al.<sup>8</sup> study, which assessed 46 cases of GCA, 41% of them demonstrated radiolucency on radiographic examination<sup>6,8</sup>. This lesion usually affects patients between the fifth and sixth decades of life, with a slight female preference. The racial predilection is greater in Caucasians than in Asiatics<sup>7</sup>. Histopathological analysis shows an uninfamed cystic capsule surrounding a lumen lined by squamous or cuboidal epithelium of 1–4 cell layer thickness, which may exhibit some areas of thickening and containing clear cells of glycogen-rich cytoplasm<sup>1-8</sup>. These histopathological features show similarity with LPCs, and the differential diagnosis between LPC and GCA should be supported by clinical and imaginological examinations to verify the extraosseous (GCA) or intraosseous (LPC) location. Interestingly, rare cases may occur in edentulous alveolar ridge of adult patients, being the term "alveolar cyst of the adult" considered more appropriate<sup>7</sup>.

Treatment by excisional biopsy is definitive. In the current case, after 3-year follow up, no signs of recurrence were presented, demonstrating that recurrence of this lesion is practically absent<sup>3,7</sup>. Although rare, the GCA should be considered in the differential diagnosis of any swelling involving the gingival region.

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#### **CONFLICTS OF INTERESTS**

The authors declare no conflicts of interests.

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