



The histopathological examination of the dental follicle of asymptomatic impacted tooth: is it necessary?

Exame histopatológico do folículo dental de dente impactado assintomático: é necessário?

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Abstract

Introduction: During the development of a tooth, the pericoronal tissue may develop pathological changes. The clinical dilemma occurs in the early diagnostic of the tissue around the crown of an unerupted tooth. **Objective:** The purpose of this paper is to present a clinical case with different diagnoses of a small radiolucency area around the crown of impacted teeth on the same patient. The histological diagnosis of the follicle related to tooth 48 was of dentigerous cyst and the histological finding of follicular tissue associated to tooth 38 showed some features of unicystic ameloblastoma. The follicles of teeth 18 and 28 did not present histopathological changes. **Conclusion:** The radiographic appearance may not be a reliable indicator of the absence of disease in pericoronal tissues. We recommend histopathological analysis on all surgically extracted follicle tissue, even when radiographic and clinical findings are not indicative of pathological alterations.

Keywords: Dentigerous cyst. Unicystic ameloblastoma. Impacted teeth.

Resumo

Introdução: Durante o desenvolvimento dental, o tecido pericoronário pode sofrer alterações patológicas. O dilema clínico está no diagnóstico precoce dos tecidos em torno da coroa de um dente retido. **Objetivo:** O objetivo deste trabalho é apresentar um caso clínico em que houve diferentes diagnósticos histológicos relacionados aos tecidos pericoronários em um mesmo paciente sem a presença de alteração radiográfica característica. Os diagnósticos histológicos dos folículos dos terceiros molares sugeriram cisto dentígero relacionado ao dente 48, características de ameloblastoma unicístico ao dente 38, e os tecidos dos dentes 18 e 28 não apresentaram alterações histopatológicas. **Conclusão:** O aspecto radiográfico neste caso não foi um indicador confiável da ausência de doença em tecidos pericoronários. Logo, recomendamos que todos os tecidos pericoronários sejam encaminhados para o exame histopatológico mesmo que os achados radiológicos e clínicos não mostrem alterações patológicas.

Palavras-chave: Cisto dentígero. Ameloblastoma unicístico. Dentes impactados.

Introduction

During the development of a tooth, the pericoronal tissue may develop pathological changes such as odontogenic tumors and cysts (1, 2). These lesions usually have no symptoms but pain, swelling, teeth resorption and teeth displacement can occur (2, 3). Even though a large radiolucency associated to an impacted tooth can present clinical and radiographic features that reflect some pathological changes, these lesions are often difficult to be diagnosed based on their radiographic features only (4, 5). The clinical dilemma occurs in the early diagnosis of small pericoronal radiolucency around the crown of an unerupted tooth. It may represent either an enlarged dental follicle or an early odontogenic lesion (6).

The purpose of this paper is to present a clinical case with different diagnoses of a small radiolucency area around the crown of impacted teeth on the same patient.

Case report

A 19-year-old white woman presented in the Oral Surgical Clinic (School of Dentistry, Universidade Federal de Minas Gerais, Brazil) to remove impacted third molar teeth due to orthodontics indication. The four teeth were asymptomatic and the medical history was not significant. During intraoral examination no clinical alteration was observed. Periapical radiographies were obtained and revealed total inclusion of all third molars associated with a well delimit-

ited unilocular pericoronal radiolucency area measuring approximately 2.3 mm, with insertion in the amelo-cemental limit, suggesting pericoronal follicle (Figure 1).

The third molars were removed and the dental follicles were submitted to histopathological routine examination. During the surgery it was observed presence of yellowish liquid in the follicles of teeth 38 and 48. The histological diagnosis of the follicle related to tooth 48 was of dentigerous cyst (Figure 2-C). On the other hand, the histopathological exam of the follicle associated to tooth 38 revealed a fibrous wall lined by epithelium, showing hypochromatic nuclei with reverse polarity and basilar cytoplasmic vacuolization. A diagnosis of unicystic ameloblastoma in initial phase was suggested (Figure 2-D). No histological alteration was observed in the follicles of the teeth 18 and 28 (Figure 2-A and 2-B). The patient has been followed-up by four years and no signs of recurrence were observed.

Discussion

Some studies showed the difficulty in the early diagnosis of pathological changes in dental follicle because the radiographic appearance may not be a reliable indicator of the absence of disease in pericoronal tissues (1, 5). Furthermore, unicystic ameloblastoma and dentigerous cysts may show identical clinical and radiographic appearance (7). In the future, immunohistochemical and molecular patterns may be tools used for diagnosis of these follicular

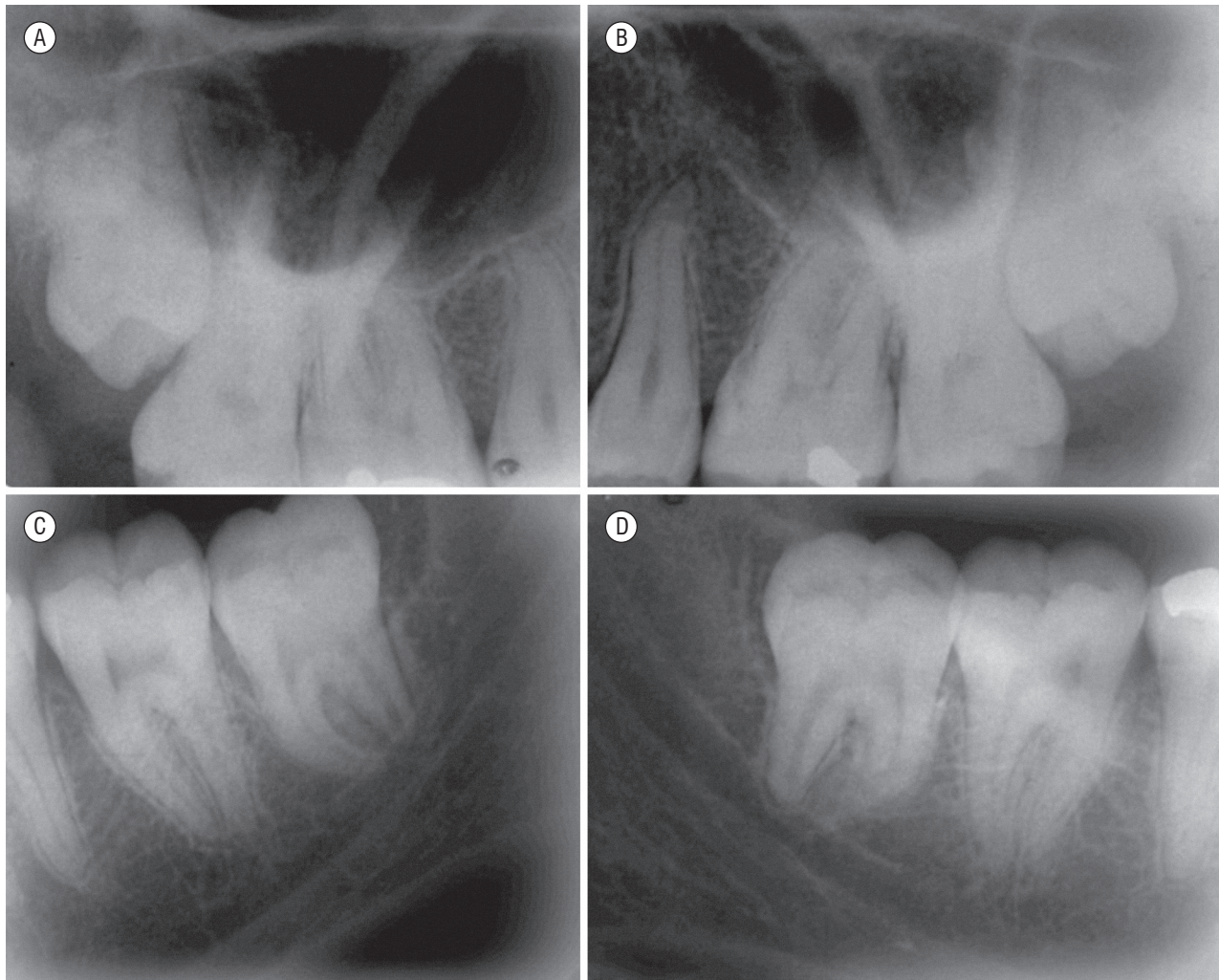


Figure 1 - Periapical radiographies of third molars presenting a delimited well unilocular pericoronal area, suggesting pericoronal follicles

alterations in the jaw following the routine practice (8, 9).

Although a pericoronal radiolucency greater than 2.5 mm should raise the suspicion of pathologic alteration (10), an odontogenic tumor may be found in lesions with less than 2.5 mm. The presence of cystic liquid in the follicles of teeth 38 and 48, as observed in the present case, is suggestive of pathological change, but histopathological examination is imperative, even when no increased radiolucency associated with an impacted tooth is found. This case did not present all the characteristics of ameloblastoma at histopathologic examination, but the changes found are suggestive of an ameloblastoma unicystic in its initial phase (figure 2-D). This observation is important because the patients with a diagnosis of unicystic ameloblastoma need a long-

term follow-up at regular intervals after the surgery (11, 12).

Therefore, clinicians should be aware that histopathological changes could be found in dental follicles without clinical and radiographic alterations.

Finally, we agree with others (13, 14) who recommend histopathological analysis on all surgically extracted follicle tissue, even when radiographic and clinical findings are not indicative of pathological alterations.

Informed consent statement

The patient signed an informed consent, kept in the records in the archives of the Faculdade de Odontologia, Universidade Federal de Minas Gerais.

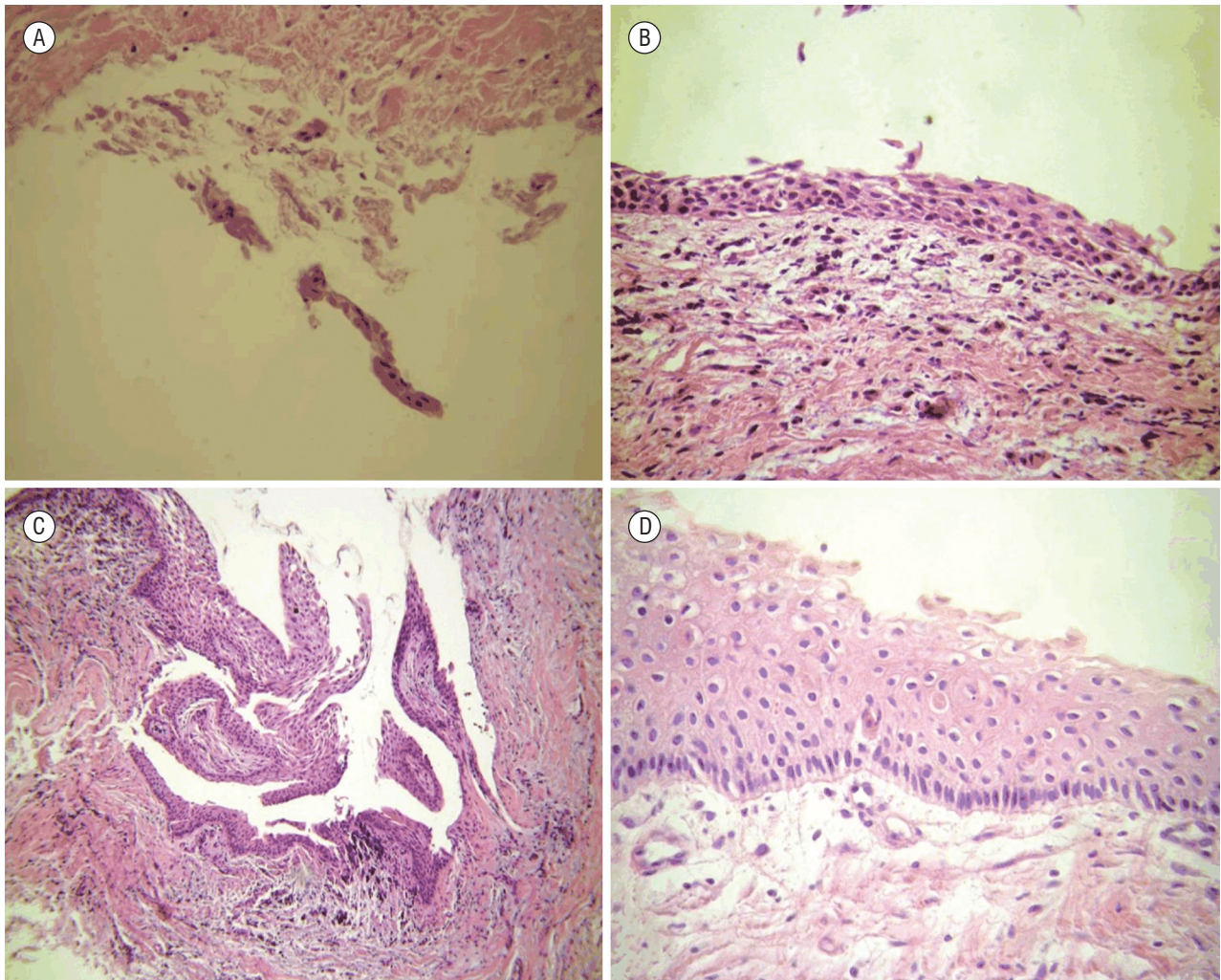


Figure 2 - Histopathological findings. A and B: Fragments of fibrous connective tissue cellularized partially coated of tissue squamous epithelium with a few layers, suggesting dental follicle. C: Fragment of cystic capsule coated by hyperplastic stratified pavement not keratinized epithelium. In capsule there is fibrous connective tissue with vessels and collections of inflammatory mononuclear cells, suggesting dentigerous cyst. D: Capsule cystic covered by stratified pavement not keratinized epithelium, exhibiting cells in the basal layer with columnar shape, hyperchromatic and polarized nuclei; a capsule was formed by fibrous connective tissue cellularized with vessels and no invasion areas were observed. This change suggested an early stage of unicystic ameloblastoma. Hematoxylin-Eosin (H&E) Stain. Magnification x50 (A), x100 (B and C), x400 (D)

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Received: 12/08/2011

Recebido: 08/12/2011

Approved: 03/05/2012

Aprovado: 05/03/2012