


Antipyics bilateral paradental cysts: clinicopathological correlation in two cases

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Abstract:

A paradental cyst (PC) is an odontogenic lesion, which occurs near the cervical margin of the lateral surface of the root because of an inflammatory process. Generally, they are located on the buccal and distal faces of completely or partially erupted third molar teeth. The purpose of this article is to discuss two uncommon clinical cases of a bilateral PC associated with third molars. Its diagnosed from clinical and radiographic examinations. The diagnosis of a PC was established following the correlation of radiographic, surgical, and microscopic features.

Keywords: Odontogenic Cyst; Tooth Extraction; Pericoronitis; Molar, Third

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INTRODUCTION

A paradental cyst (PC) is defined as an odontogenic cyst, which develops near the cervical margin because of an inflammatory process in a periodontal bag¹⁻⁵.

PCs are usually located adjacent to vital, partially erupted mandibular third molars, but can be found around other partially erupted teeth too. They present in the third decade in two-thirds of the cases, and they are associated with a history of pericoronitis^{6,7}.

The signs and symptoms of PCs include discomfort, tenderness, moderate pain and, in some cases, suppuration through the periodontal sulcus^{2,4,7,8,9}. They can also lead to extraoral edema, volumetric expansion, halitosis, and trismus^{2,4,10}. The size of the lesion can vary between 3 mm and 15 mm in diameter⁴.

Radiographically, the periodontal ligament space and the hard tooth surface involved are intact¹⁰. The lesion can present as a unilocular radiolucency around the tooth involved. It is rare the lesion goes around the root^{10,11}. The radiolucent semilunar, crescent or flame-shaped area is often superimposed on the adjacent root involved, and radiolucency can often simulate a pathology not inflammatory⁴.

The histopathological observations of PCs are identical to that of radicular cysts and other inflammatory odontogenic cysts⁷. Microscopically, they are covered by stratified squamous epithelium, keratinized non-hyperplastic, and supported by a wall of granulation tissue and fibrous connective tissue^{4,10,12,13}. Therefore, a histopathological diagnosis requires the union of clinical and radiographic findings¹⁴.

The frequency of the lesion reported in studies ranges from 3% to 5%^{6,15}, which suggests its rarity. PC

is not common to appear bilaterally too. However, it is believed that the actual incidence is substantially greater, as many of these lesions are diagnosed as dentigerous, radicular, or lateral periodontal cysts¹⁶.

The aim of this article is to report two cases of PCs with uncommon clinic and images findings. It is demonstrated the importance of the association of clinical, radiographic, and histopathological features of these lesions.

CASE REPORT

CASE 1

A 31-year-old woman was referred to the Oral and maxillofacial department (OMFS) outpatient clinic for evaluation of panoramic radiograph discovery. The patient presented with no complaints and a history of pericoronitis and an intraoral examination within the normal range with partially erupted mandibular third molars. In the panoramic radiographs, a unilocular radiolucent area was identified, measuring approximately 12 mm, associated distal of 38 and 48 teeth. In distal areas of 38, it was possible to see a radiolucent area smaller than the right side. In computerized tomographic (CBCT) shows images were hypodense and well-delineated in the distal cervical region of 38. However, in the region of 48 the large hypodense area extended to root until crown (Figure 1). The treatment provided was dental extraction of the elements associated with the excisional biopsy of lesions. The specimen was sent for histopathological analysis, which revealed that the cystic cavity was lined by hyperplastic, stratified squamous epithelium, with a dense, mixed inflammatory cell infiltrate (Figure 2a and 2b) compatible with a PC.

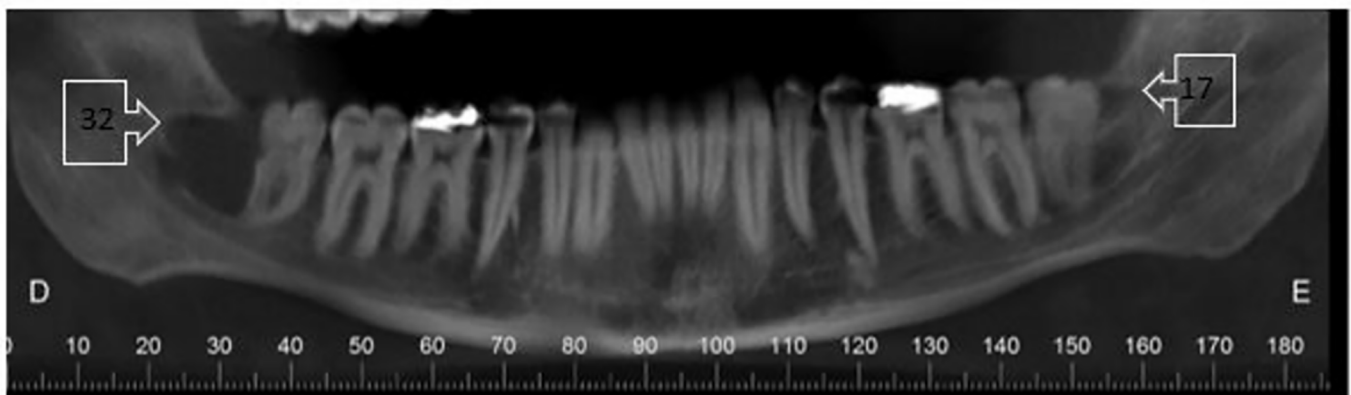


Figure 1. 32, Large hypodense image with extension to the root until crown. 17, Hypodense image well delineated in the cervical region of the distal crown of 17.

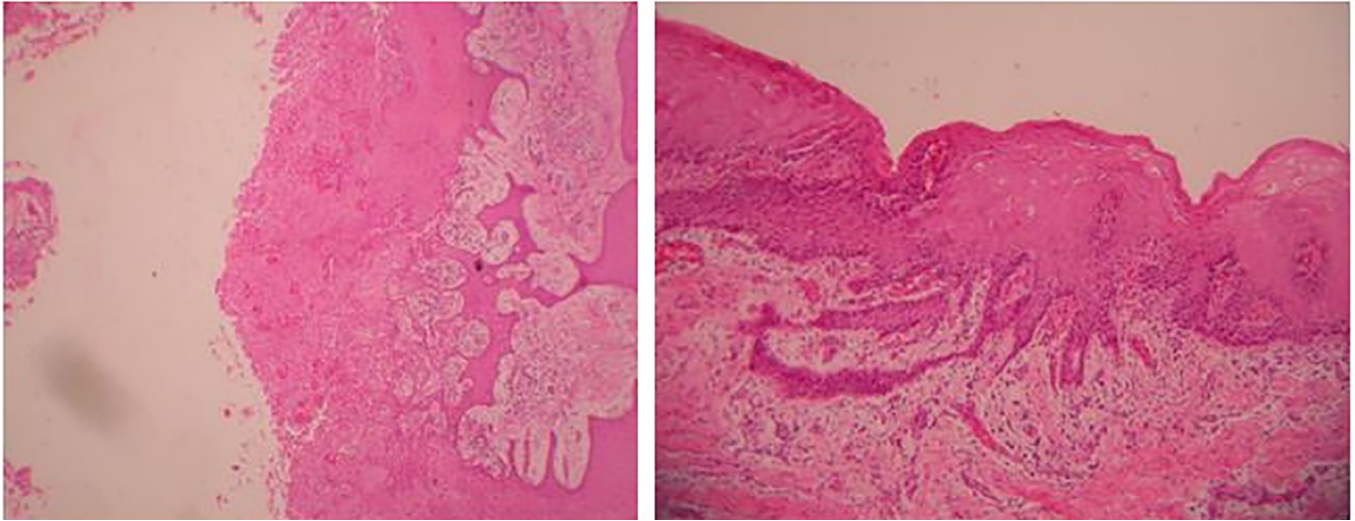


Figure 2. a, Cystic cavity was lined by hyperplastic, stratified squamous epithelium, with a dense, mixed inflammatory cell infiltrate.

CASE 2

A 29-year-old man presented to the OMFS outpatient clinic with a chief complaint of pain in the mandible bilaterally. The patient presented with normal adjacent mucosa and few signs of infection in the posterior area of the mandible. His third molars are not present in the mouth. In the panoramic radiograph (Figure 3), a well-defined, unilocular radiolucency was identified, measuring approximately 10 mm in the region of the 38 and 48 teeth. The treatment provided was dental extraction of 48 and 38, associated with cystic enucleation and biopsy. The specimen was sent for pathological analysis, which revealed a hyperplastic, stratified epithelium lining the fibrous capsule, with a dense inflammatory infiltrate (Figure 4a and 4b), confirming the diagnosis of a PC.

DISCUSSION

The prevalence of PC is low, compared with other cysts, representing 3–5% of all odontogenic cysts^{6,7,13,17,18} which classifies them, within a rare group of lesions⁵. Bilateral occurrence is particularly rare⁷ although it was presented here in the two cases, with different clinic characteristics.

However, it is considered that PCs have been erroneously diagnosed as radicular cysts, dentigerous cysts, lateral or pericoronitis, or other entities related to inflammatory conditions of the dental follicle¹⁹. Another possible reason for the limited diagnoses of a PC is that histopathological analysis of the follicle removed is limited⁷.

PCs occur most commonly associated with erupted or partially-erupted third molar teeth¹³. However, the cases related here we found in one of the different clinic aspects. In patient 2 the complete impacted teeth were associated with large radiolucent, one uncommon sign. But, in patient 1 the common signs described in the literature were found. The PC can be associated with impacted teeth why there is a communication between the oral cavity and the dental follicle. The constant stimulus penetrates in the gingival sulcus of the tooth involved, and the proliferation of the dental follicle occurs^{7,9}. It shows the etiology of PC be inflammatory. However, although the etiopathogenesis of PCs has been discussed extensively, the origin of PCs requires further investigation¹³.

These cysts are usually associated with periodontal inflammatory processes, such as pericoronitis¹³. In the two case reports discussed here, both patients presented with the absence of signs of infection and normal overlying mucosa. In the first case, no discomfort or previous episodes of infection were reported. In the second case, the patient reported discomfort during chewing and previous light episodes of pericoronitis. In both cases, the lesion was identified with the support of images examinations. It is confirming that, in some cases, the patient may not report any discomfort or episodes of pericoronitis⁶. In these cases, the discovery of lesions was done during routine radiographic in case 1 and after light discomfort in case 2.

The histological characteristics of PCs are identical to those of radicular cysts and other inflammatory

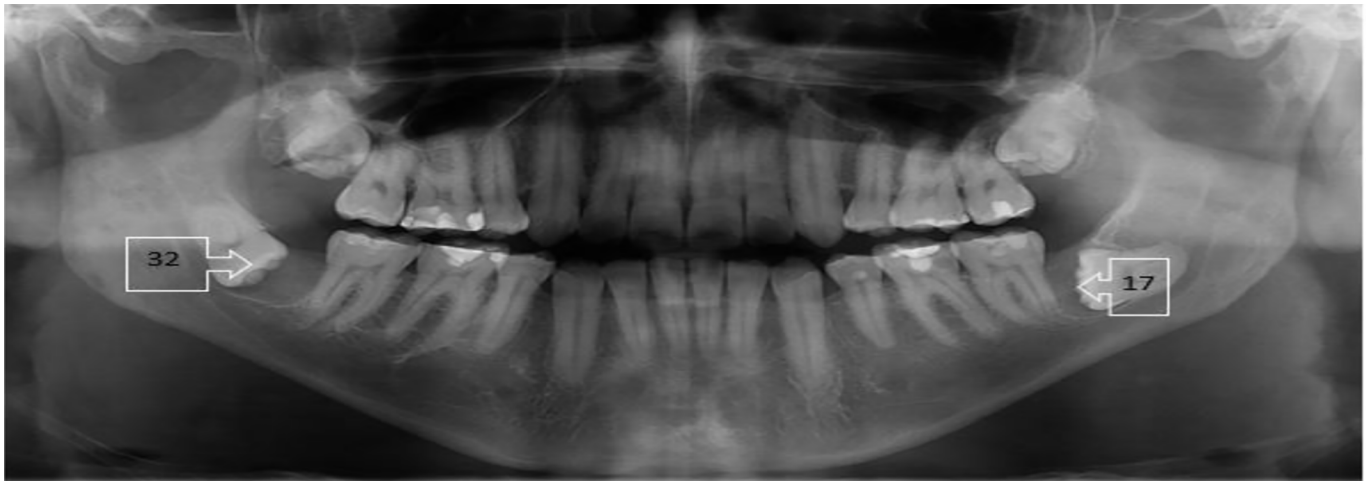


Figure 3. Panoramic radiograph.

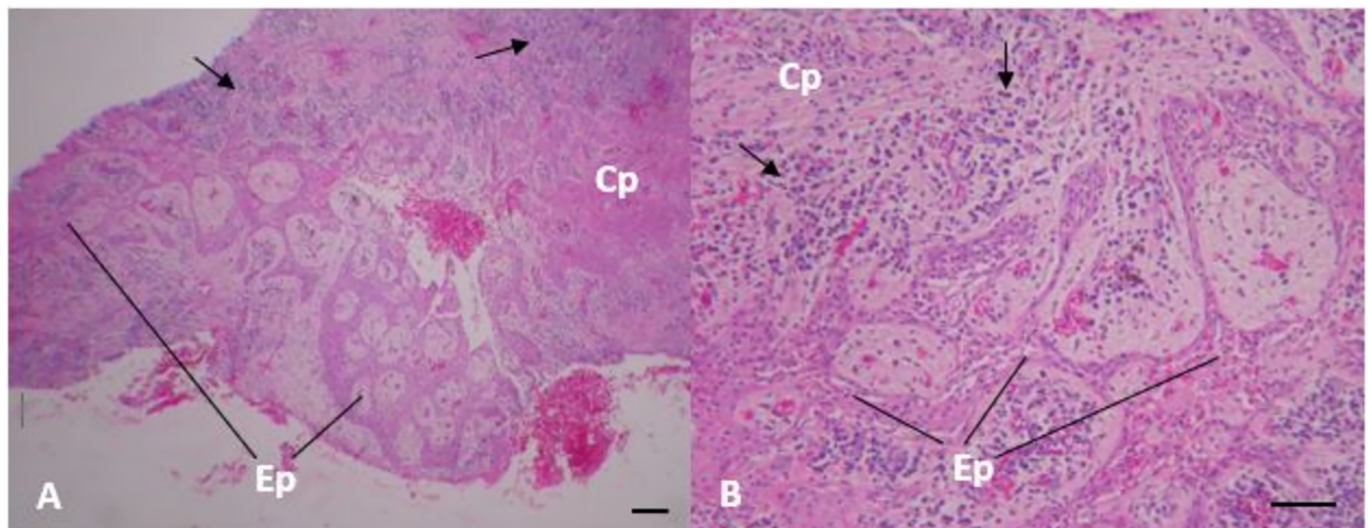


Figure 4. A, B: The pathological analysis, which revealed a hyperplastic, stratified epithelium lining the fibrous capsule, with a dense inflammatory infiltrate.

odontogenic cysts^{9,15,18,19,20}. The features include dense connective tissue and infiltration of chronic inflammatory cells, and they are covered by a stratified squamous epithelium, which is not thick or keratinized, and the morphology varies, according to the degree of inflammation⁷. The histopathological characteristics of the cases presented here correspond to the literature, as noted on microscopic examination of the lesions, which were curetted with dental extraction of the third molars, revealing a cystic cavity lined by squamous epithelial hyperplastic and the presence of a fibrous capsule with moderate mononuclear inflammatory infiltrate.

A PC may present with significant clinical and radiographic changes^{7,15} as different cases reported here. For a correct final diagnosis, the combined interpretation of clinical, radiographic, and microscopic findings is important.

The differential diagnosis of PCs includes radicular cysts, lateral periodontal odontogenic cysts, keratocysts, gingival cysts, dental follicles, and dentigerous cysts^{3,13}. In the two reported cases, the clinical and radiographic features can be a challenge in forming a clinical diagnosis, because they were lesions completely different from each other. In the case 1 signs presented could opinion to PC however, case 2 the same lesion could appoint to one different clinic diagnostic, like dentigerous cysts. The diagnostic was definite after histopathological examination.

Surgical removal of the tooth and the CP is considered the treatment of choice when the tooth involved is a third molar^{2,4,21}. The enucleation of the lesion with the tooth involved may be indicated when the first or second molar is involved^{2,4,7,22}. In all cases, relapse is rare, assuming the lesion has been completely removed^{5,11,23,24}.

It is possible to consider with this study that the PCs are usually related to partially erupted teeth with a history of pericoronitis as shown in case 1. However, lack of knowledge regarding the existence of different clinic characteristics of PCs can lead to errors in diagnosis and treatment as seen here the clinic signs of case 2. The confirmation of the diagnosis should be made through the histopathological exam.

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