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RESIDUAL CYST WITH LARGE DIMENSION: CASE REPORT

Dental Science

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ABSTRACT

Background: Pulp tissue can undergo necrosis due to a number of factors, such as dental trauma or caries disease. The epithelial remains of the periodontal ligament when they are stimulated by necrosis of the pulp tissue can give rise to the radicular cyst. Residual periapical cyst is one that remains intraosseous, even after extraction of a residual tooth or root, with periapical lesion, not removed either by poorly conducted or unrecorded curettage.

Case report: A 44-year-old male patient, leucoderma. However, in the initial evaluation for rehabilitation planning, a lesion in the maxilla region, which crossed the median line and extended from the region of element 12 to element 26, was detected by CT scan of the conical bundle (CBCT). Clinical, radiographic findings and aspiration puncture helped us to choose the type of treatment, we chose cystic decompression with the aid of a drain, due to the extension of the lesion, with removal of the drain after 21 days and subsequent complete enucleation of the lesion.

Conclusion: Diagnosis and treatment of residual cysts need to be done accurately and efficiently in order to prevent this type of lesion from reaching large dimensions, which may lead to weakening of the jaws and fracture of the jaws. Cystic lesions treated surgically should be monitored radiographically, mainly to analyze the formation of healthy bone at the site previously occupied by the cyst.

KEYWORDS

Residual Cyst; Anatomy; Case report

1. INTRODUCTION

Pulp tissue can undergo necrosis due to a number of factors, such as dental trauma or caries disease. The epithelial remains of the periodontal ligament when they are stimulated by necrosis of the pulp tissue can give rise to the radicular cyst. When the root cyst remains after the loss of the affected tooth it is called the residual cyst.[1]

Residual periapical cyst is one that remains intraosseous, even after extraction of a residual tooth or root, with periapical lesion, not removed either by poorly conducted or unrecorded curettage. Usually, this lesion has no symptoms, affects more people of the male gender (53.4%) and has a higher incidence in the posterior maxilla region.[2]

The residual cyst is part of the inflammatory odontogenic cysts group and is considered a destructive bone lesion affecting the jaws. They have benign biological characteristics, slow growth and in certain cases, as long as it is not diagnosed and treated in time, can get considerable size. There are a large number of cystic lesions in the mandible and maxilla that present a series of similar clinical and radiographic features. In view of this, the diagnosis of odontogenic cysts should be made through a meticulous evaluation of the clinical, radiographic and histopathological findings. This lesion presents clinical and histological findings similar to those of a root cyst. Radiographically it is seen as a circular or oval radiolucent image, of variable size, present in sites that have undergone previous dental extractions.[3]

Usually the treatment of choice for the residual cyst is surgical enucleation, and it is often done with criterion if bone neoformation is observed in the region. The marsupialization and the decompression are other modalities of treatment that also aim at the bone repair in periapical pathologies of greater extension.[4]

It is important to note that the development of cysts, especially when they reach large sizes, can result in damage to the anatomical structures, such as maxillary sinus, nasal cavity and possible pathological fractures of the jaws. The presence of a residual periapical cyst in a toothless site precludes a possible oral rehabilitation treatment in the patient who needs to have the masticatory function restored. In this way, the surgical treatment of the residual cyst becomes necessary extremum.[5]

The objective of this chapter is to present a clinical case of a 44-year-old patient, with a residual cyst in the anterior region of the maxilla, presenting a great extension.

2. CASE REPORT

A 44-year-old male patient, leucoderma, randomly attended a private practice specialized in oral rehabilitation in the city of Irecê, Bahia, Brazil. The patient sought the service in order to obtain oral rehabilitation treatment with dental implants. However, in the initial evaluation for rehabilitation planning, a lesion in the maxilla region, which crossed the median line and extended from the region of element 12 to element 26, was detected by CT scan of the conical bundle (CBCT). On extraoral examination, no facial asymmetry was detected.

Intraoral examination, alteration of bone tissue and mucosal / gingival tissue was detected on palpation in the region of element [13]. At the tomographic examination, we can observe a radiolucent area well circumscribed by a radiopaque, unilocular line, covering a large area of the region of element 12 up to the element 26 according to figure 1.

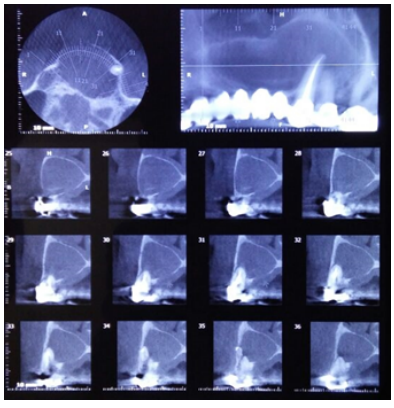

Figure 1. Tomographic examination showing axial, transversal and panoramic reconstruction. Own Authorship.

According to the clinical and radiographic characteristics, a possible cystic lesion was diagnosed. Therefore, as an adjuvant diagnostic method it was decided to perform aspiration puncture, resulting in the presence of yellowish liquid with traces of blood, these characteristics of cystic fluid according to figure 2.

Figure 2. Aspiration puncture. Own Authorship.

Clinical, radiographic findings and aspiration puncture helped us to choose the type of treatment, we chose cystic decompression with the aid of a drain, due to the extension of the lesion, with removal of the drain after 21 days and subsequent complete enucleation of the lesion.

During the surgical decompression, incisional biopsy was performed for anatomopathological analysis. Two fragments of brown and elastic tissue were collected, the largest being 1.5 x 1.5 cm and fixed in 10% formaldehyde. Pathologic examination confirmed the diagnosis of cystic lesion compatible with residual periapical cyst. In the microscopic cut stained with hematoxylin and eosin (HE), we can observe stratified squamous epithelium, fibrous capsule with inflammatory infiltrate, islands of odontogenic epithelium scattered in the specimen (Figure 3).

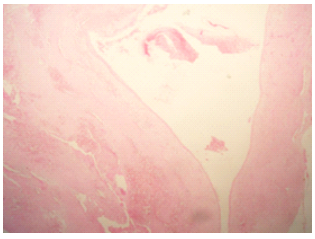

Figure 3. Histological section of the biopsied material. Own Authorship.

3. DISCUSSION

The radicular cyst is inserted within the group of odontogenic cysts of inflammatory origin, being considered the most common pathological lesion affecting the jaws. The most common form of treatment for the root cyst is surgical enucleation, but when the enucleation of this cyst is made in the wrong way or the alveolar curettage phase associated with the exodontia of a tooth with this lesion is not performed, there is a margin for a possible development of the periapical residual cyst.[6-7]

The patient of this clinical case report did not present all the dental elements in the maxilla and when she was asked about the reasons for dental loss, she reported information that made us believe that the missing teeth were affected by the caries and periodontal disease. This fact is important because it signals the development potential of pulp necrosis and cystic lesions.

Probably, the residual periapical cyst that affected the right to left anterior part of the maxilla of this patient was originated by failure of the enucleation of an already existing root cyst or the alveolar curettage phase associated with the exodontia of an element with periapical lesion not being performed the procedure as recommended in the literature.[5] The residual periapical cyst is usually asymptomatic, presenting painful symptoms in cases of secondary infectious processes or when, due to its size, it causes nervous compression in the region that develops, causing the patient to present painful symptomatology.[8]

The cystic lesion, presented in this case report, developed adjacent to the maxillary sinus on the left side and involving the left palate and incisive foramen, which could lead to compression of the incisive nerve and generate painful symptomatology. In this case report the patient did not present painful symptoms, which made us discard possible nerve compression caused by the development of the lesion or secondary infectious processes.

The residual periapical cyst affects more people of the male gender and has a predilection for the maxilla, which corroborates with the presented report.[7-9-10]

Radiographically, the periapical residual cyst usually shows a radiolucent unilocular image, circumscribed by radiopaque halo and of variable size. The image may have a circular or oval shape and present central radiopacity.[9] Another important point to note in radiographic images of residual cysts is the lack of the dental element associated with the development of the lesion.[3-6]

The radiographic characteristics presented by the lesion in this report are in accordance with these characteristics. Odontogenic keratocystic tumor, unicystic ameloblastoma and traumatic bone cyst are lesions that are part of the differential diagnosis in relation to the periapical residual cyst.[8]

Histologically, the residual periapical cyst presents characteristics similar to the radicular cyst. It presents a pathological cavity lined by stratified squamous epithelium, fibrous capsule with regions of inflammatory infiltrate, cholesterol crystals and dystrophic calcifications.[1-7-9] In the case reported histologically, fragments of odontogenic cystic lesion coated by stratified squamous epithelium, capsule of dense fibrous connective tissue with mononuclear inflammatory infiltrate and areas with red blood cells.

The treatment of residual periapical cysts by surgical enucleation is, where possible, the most indicated technique. This technique is characterized by the detachment of the cystic membrane from the surrounding bone cavity, after this detachment the lesion is removed. There are other treatment techniques for the residual cysts, for example, marsupialization and decompression. The purpose of marsupialization is to transform the cyst into an accessory cavity of the oral cavity, aiming at reducing the lesion and subsequently performing its removal. Decompression is performed with the help of drains, seeking regression of cystic pathology.[4-5-10]

In the present case, cystic decompression was chosen because of the extension of the lesion, since this type of technique avoids bone fractures and less trauma to the patient. It is important to emphasize that after the enucleation of the lesion, the patient did not present paresthesia related to the incisive nerve and we observed new bone formation of repair of the surgical store.

4. CONCLUSION

Diagnosis and treatment of residual cysts need to be done accurately and efficiently in order to prevent this type of lesion from reaching large dimensions, which may lead to weakening of the jaws and fracture of the jaws. Cystic lesions treated surgically should be monitored radiographically, mainly to analyze the formation of healthy bone at the site previously occupied by the cyst.

REFERENCES

1. Saunders WP. A prospective clinical study of periradicular surgery using mineral trioxide aggregate as a root-end filling. Journal of Endodontics, n. 34, p. 660-665. 2008.
2. Sridevi K, Mandan SRKN, Ratnakar P, Srikrishna K, Pavani BV. Residual cyst associated with calcifications in elderly patient. J Clin Diagn Res. 2014; 8(2): 246-9.
3. Jamdade A, Nair GR, Kapoor M, Sharma N, Kundendu A. Localization of a peripheral residual cyst: diagnostic role of ct scan. Case Rep Dent. 2012;2012:760571. doi: 10.1155/2012/760571
4. Karam N, Karam F, Nasseh I, Noujeim M, Residual cyst with a misleading clinical and radiological appearance. J Oral Maxillofac Radiol. 2013; 1(1): 17-20.
5. Oliveira DHIP et al. Residual Cyst with Large Dimension: Case Report and Literature Review. Rev. Cir. Traumatol. Buco-Maxilo-Fac., Camaragibe v.11, n.2, p. 21-26, abr./jun. 2010.
6. Grossmann, SM, Machado VC, Xavier GM. et al., Demographic profile of odontogenicc and selected nonodontogenic cysts in a Brazilian population. Oral Surg., Oral Med., Oral Pathol., Oral Radiol., Endod., v. 104, p. 35-41, 2007.
7. Nogueira AS, Sampieri MBS, Gonçales ES, Gonçales AGB, Soares ECS. Ocorrência simultânea de cisto dentígero e cisto residual na maxila. Braz. j. otorhinolaryngol. 2014; 80(1): 88- 9.
8. Núñes-Urrutia S, Figueiredo R, Gay-Escoda C. Retrospective clinicopathological study of 418 odontogenic cysts. Med Oral Patol Oral Cir Bucal. N, 2844, p.767-773, sept., 2010.
9. White SC, Pharoah MJ. The evolution and application of dental maxillofacial imaging modalities: Dent Clin North Am. 2008. 24:689–705.
10. Oliveira DHIP, Lima ENA, Araújo CRF, Germano AR, Medeiros AMC, Queiroz, LMG. Cisto residual com grande dimensão: relato de caso e revisão da literatura. Rev cir traumatol buco-maxilo-fac. 2011; 11(2): 21-26.