

## KERATOCYST. A CASE REPORT WITH CHARACTERIZATION BY CT QUERATOCISTO. RELATO DE UM CASO COM CARACTERIZAÇÃO PELA TC

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### ABSTRACT

The odontogenic keratocyst, or OKC is the third most common odontogenic cyst categorized by the World Health Organization classification. It's a developmental, no inflammatory odontogenic cyst that arises from cell rests of dental lamina, although it has a difference in its mechanism of growth that gives a different radiographic appearance. OKCs have a high recurrence rate and develop more aggressively than any other jaw cysts. Patients in their second and third decades of life are affected most commonly. We present a 21-years-old female that an OKC affected in her left mandible in huge ratio.

DESCRIPTORS: Odontogenic Cyst • Radiography, dental.

### RESUMO

O Queratocisto Odontogênico ou QTO é o terceiro mais comum cisto odontogênico classificado pela Organização Mundial de Saúde. É um cisto odontogênico, não inflamatório, de desenvolvimento resultante de restos celulares da lâmina dentária, embora tenha uma diferença em seu mecanismo de crescimento, o que dá uma diferente aparência radiográfica. Os QTOs tem uma alta taxa de recidiva e desenvolve uma forma mais agressiva do que qualquer outro cisto da mandíbula. Pacientes da segunda e terceira década de vida são os mais afetados. Nós apresentaremos um caso com um paciente de 21 anos de idade da qual o QTO afeta a mandíbula esquerda em uma dimensão enorme.

DESCRIPTORES: Cistos Odontogênicos • Radiografia Dentária.

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## INTRODUCTION

Odontogenic Keratocyst (OKC) was categorized by the latest World Health Organization classification as a developmental, noninflammatory odontogenic cyst that arises from cell rests of dental lamina (White and Pharoah<sup>1</sup>, 2000; Ali and Baughman<sup>2</sup>, 2003; Madras and Lapointe<sup>3</sup>, 2008). The cysts are pathological cavities with fluid or semi-fluid contents but excluding pus, with an epithelial lining that derives from the toothforming organ epithelia: the so-called glands of Serres (rests of the dental lamina), the rests of Malassez (rests of the root sheath of Hertwig) and the reduced enamel epithelium (remnants of the enamel organ after dental crown formation) (Waldron<sup>4</sup>, 1995; Landini<sup>5</sup>, 2006; Ba *et al.*<sup>6</sup>, 2010) although for odontogenic keratocysts it has also been proposed that the lining may derive from mucosal basal cells (Landini<sup>5</sup>, 2006; Ba *et al.*<sup>6</sup>, 2010).

They occur in a wide age range, but most develop during the second and third decades, with a slight male predominance (White e Pharoah<sup>1</sup>, 2000; Ali and Baughman<sup>2</sup>, 2003; Waldron<sup>4</sup>, 1995). The OKC's most common location is posterior body of the mandible and ramus (White and Pharoah<sup>1</sup>, 2000; Ali e Baughman<sup>2</sup>, 2003; Waldron<sup>4</sup>, 1995; Chirapathomsakul *et al.*<sup>7</sup>, 2006).

Treatments for OKC may be conservative or radical, depending on the ag-

gressiveness of the lesion, the functional damage caused, and the location of the recurrence of the injury. Curettage, decompression and marsupialization are the treatments most commonly used, especially in lesions with cortical bone unicystic maintained (Maurette *et al.*<sup>8</sup>, 2006).

The OKC has a very high rate of recurrence. These recurrences may arrive by 30% to 58% depending on the authors. His relapse usually takes years and come in one size less and less aggressive (Myoung *et al.*<sup>9</sup>, 2001; Moctezuma-Bravo and Magallanes-Gonzalez<sup>10</sup>, 2009).

## CASE REPORT

Patient G.P of 21-years-old, female, came too the Maximagem Diagnósticos Médicos for accomplishment of a panoramic x-ray of routine for orthodontic purposes. It was verified an extensive lesion located in the body, angle and left mandibular ramus (Fig.1) extending itself until the mandibular incisura of the side in question.

The patient did not complain of pain on the palpation, although the region to have an apparent swell and criptation on the pressure. In her past medical history, she did not have problem of bigger relevance.

On the axial CT (Fig 2) it is possible to observe that the lesion extended since the distal root of the third inferior molar

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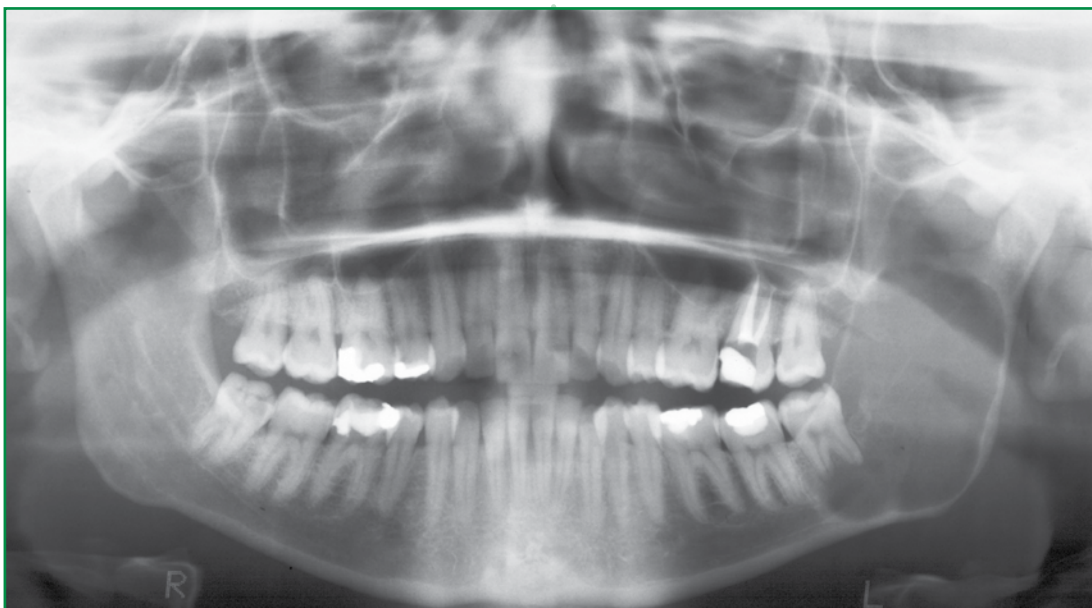


Figure 1: Routine panoramic x-ray



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until the angle of the jaw (PA direction), with bulging of cortical, that continues regular and without continuity solution, preserving the adjacent structures. It is also observed in the CT with window for soft tissue setting that in its interior similar content has the soft tissues (liquid) (Fig 3A -3B). In the coronal slices the lateral extension of the lesion is observed, where the internal osmotic pressure distend the cortical, however without breaching it (Fig 4). In the sagittal reconstruction it is possible (Fig 5) to observe the extension of the lesion in the direction AP, that extended since the base of the jaw until the incisor mandibular notch. In reconstruction 3D view (Fig 6) shows the extension of lesion and adjacent structures.

#### DISCUSSION AND CONCLUSION

It seems there not to be predilection for the format of OKC. It can appear unilocular as multilocular, and in case it doesn't happen secondary infection, their borders are smooth, however thin. It's internal content can vary it's radiopacity degree

due to the keratin presence. Of the case studied in none there were significant damages to the adjacent structures, just low expansion.

Occasionally the expansion of large cysts may exceed the ability of the cyst wall to contact soft tissue peripheral to the outer cortex of mandible (White and Pharoah<sup>1</sup>, 2000).

When it says the type of treatment chosen in keratocysts, should evaluate the size of the cyst, the affected area, the expansion of bone and soft tissue, cortical bone remaining is whether or multicystic unicystic.

Conservative treatments are the first choice, especially in cases unicystic (Maurette *et al.*<sup>8</sup>, 2006). Marsupialization is used for definite cases in unicystic or in cases of multicystic, to decompress the tumor causing the cortical bone re-forming bone adjacent may or may not transform into tumor unicystic (Pogrel and Jordan<sup>11</sup>, 2004). Radical treatment is indicated in multicystic cases in recurrent tumors and extensive tumors (Moctezuma-Bravo and Magallanes-Gonzalez<sup>9</sup>, 2009).

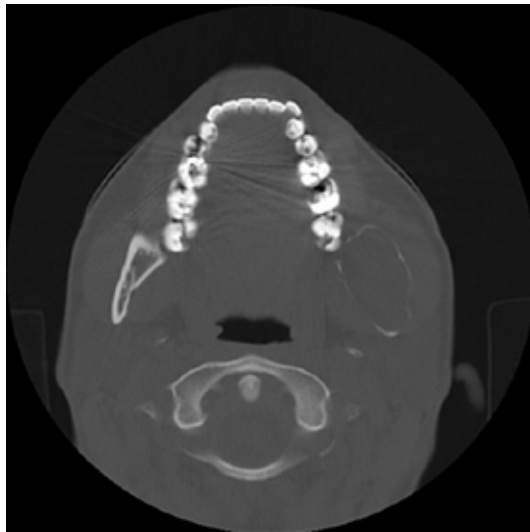


Figure 2: Axial slice



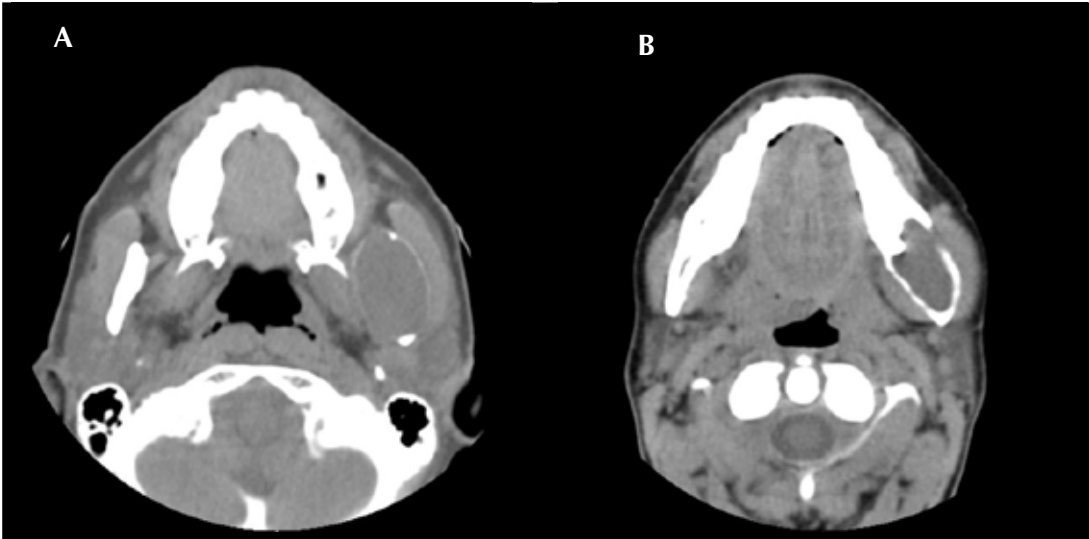


Figure 3A-3B: Axial CT with window for soft tissue

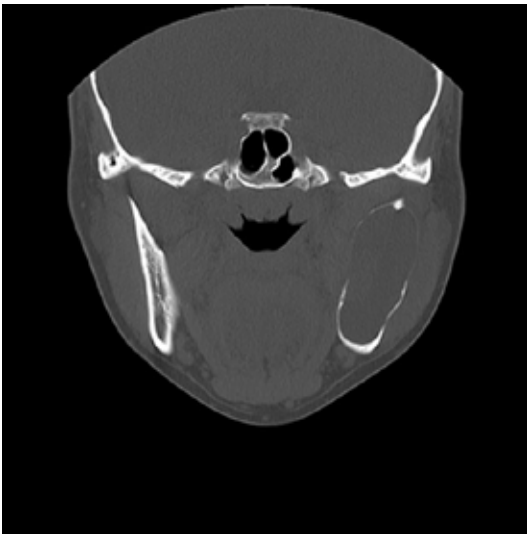


Figure 4: Coronal slice in CT

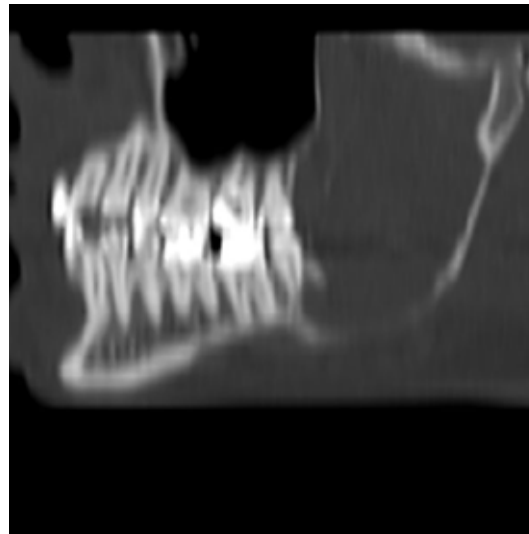


Figure 5: Sagittal reconstruction



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