

INTRODUCTION

Keratocystic odontogenic tumor (KCOT) has been considered as a neoplasm since the World Health Organization classified it in 2015 as a tumor. Recently, the latest WHO edition - in 2017- renamed KCOT as simple Odontogenic Keratocyst (OKC).

We present here a case where surgical treatment and follow-up of a OKC was achieved by a combination of minimal-invasive approaches.

OBJECTIVE

To report on how clinical reasoning and patient's collaboration during a staged treatment and long-term follow-up were of crucial importance for improved management outcomes.

METHODS-INTERVENTION

CASE PRESENTATION:

A large OKC was identified extending from tooth 3.8 through the condylar process in the mandible and staged surgical conservative approaches were performed. Total healing was achieved and followed-up over 8 years. The case was well documented via panoramic radiographs and CBCTs. 3D imaging illustrates the cortical bone destruction (before treatment) and the cortical bone healing after treatment.

ASSESSMENT 1:

2009: Clinical evaluation; Excisional Biopsy (50x20x10mm) was performed under local anesthesia associated with nitrous oxygen sedation. The friability of the lesion did not allowed a complete removal at once. The collected material was sent to histological analysis with three differential potential diagnoses: ameloblastoma, Keratocyst or dentigerous cyst. Histopathological diagnosis of Keratocyst (Figure1). Contact with patient was kept until 2010 when contact was lost.

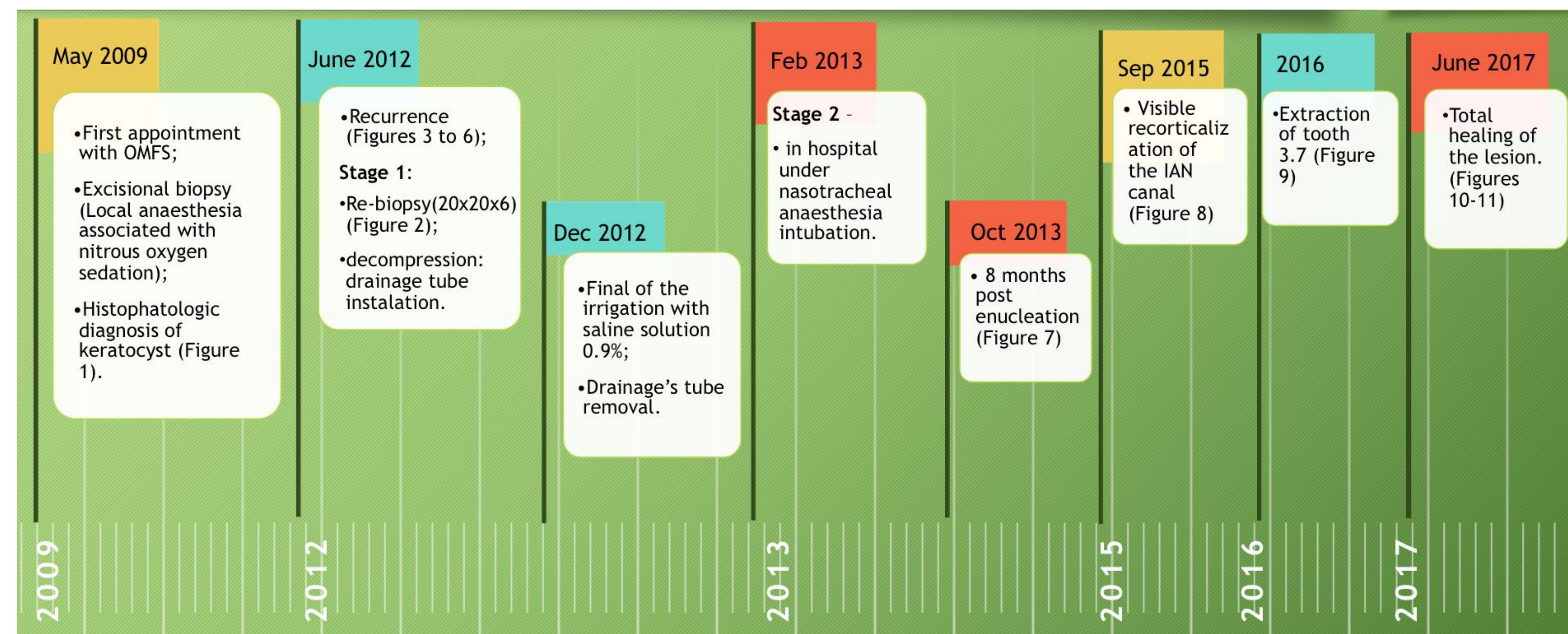
ASSESSMENT 2:

2012: Recurrence of the lesion was perceived, and a combination of conservative and aggressive approach was planned:

Stage 1: Re-biopsy (20x20x6) plus decompression - in order to allow bone neoformation and to minimise sequel if a future resection and reconstruction was needed;

Stage 2: Enucleation associated to a blurring of the peripheral bone.

TREATMENT TIMELINE



RESULTS

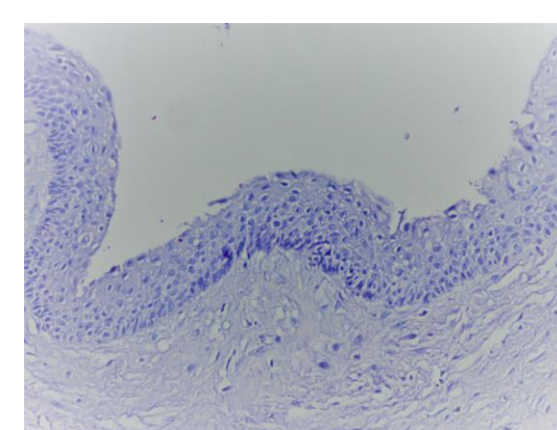


Figure 1. Histopathological view of parakeratinized 6-8 epithelium cells layer.

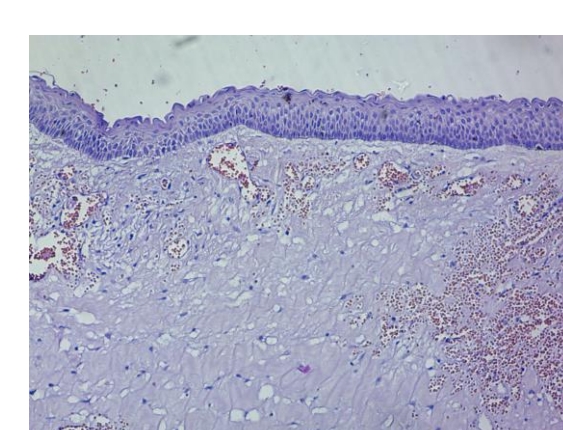


Figure 2. Histopathological view showing evident palisaded basal layer cells.

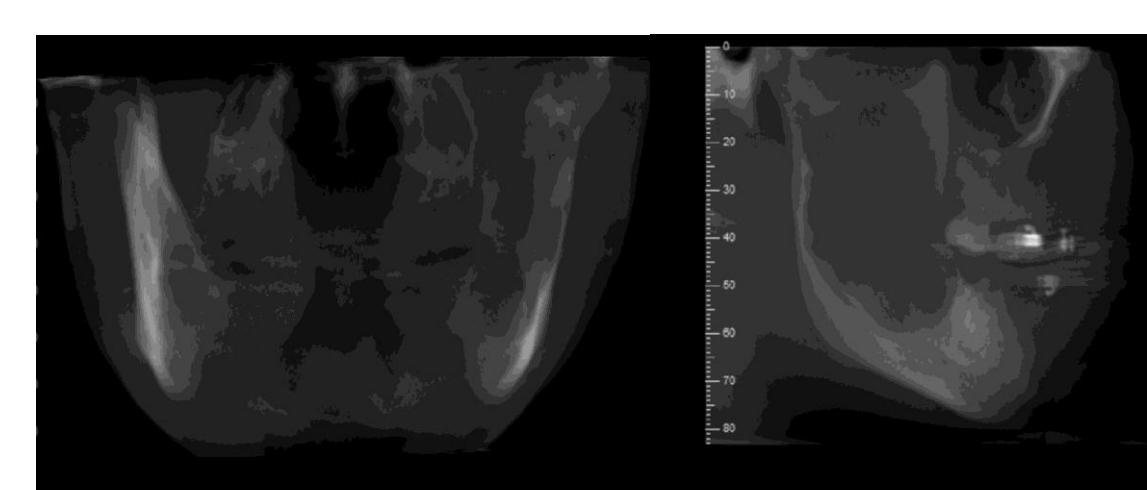


Figure 3. Coronal slice and axial slice (June 2012)



Figure 4. Secondary reconstruction of a DICOM - panoramic view (June 2012)

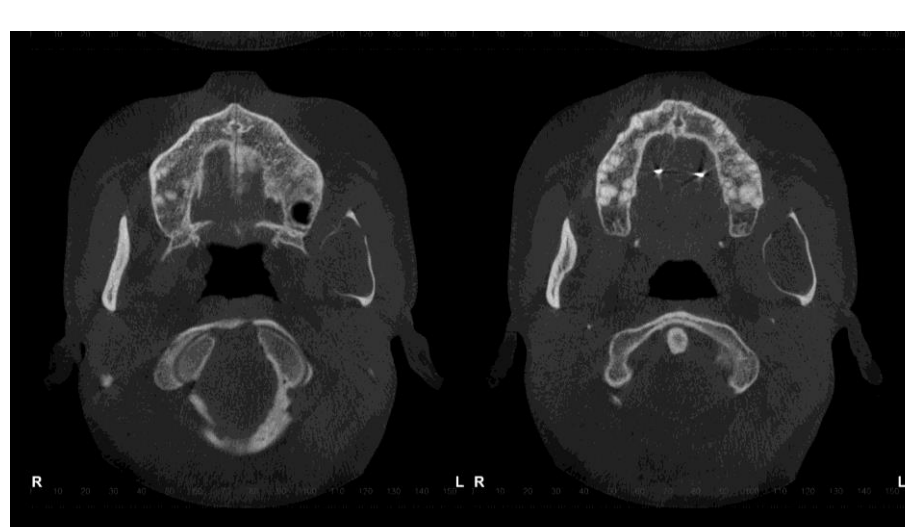


Figure 5. Axial image (June 2012)

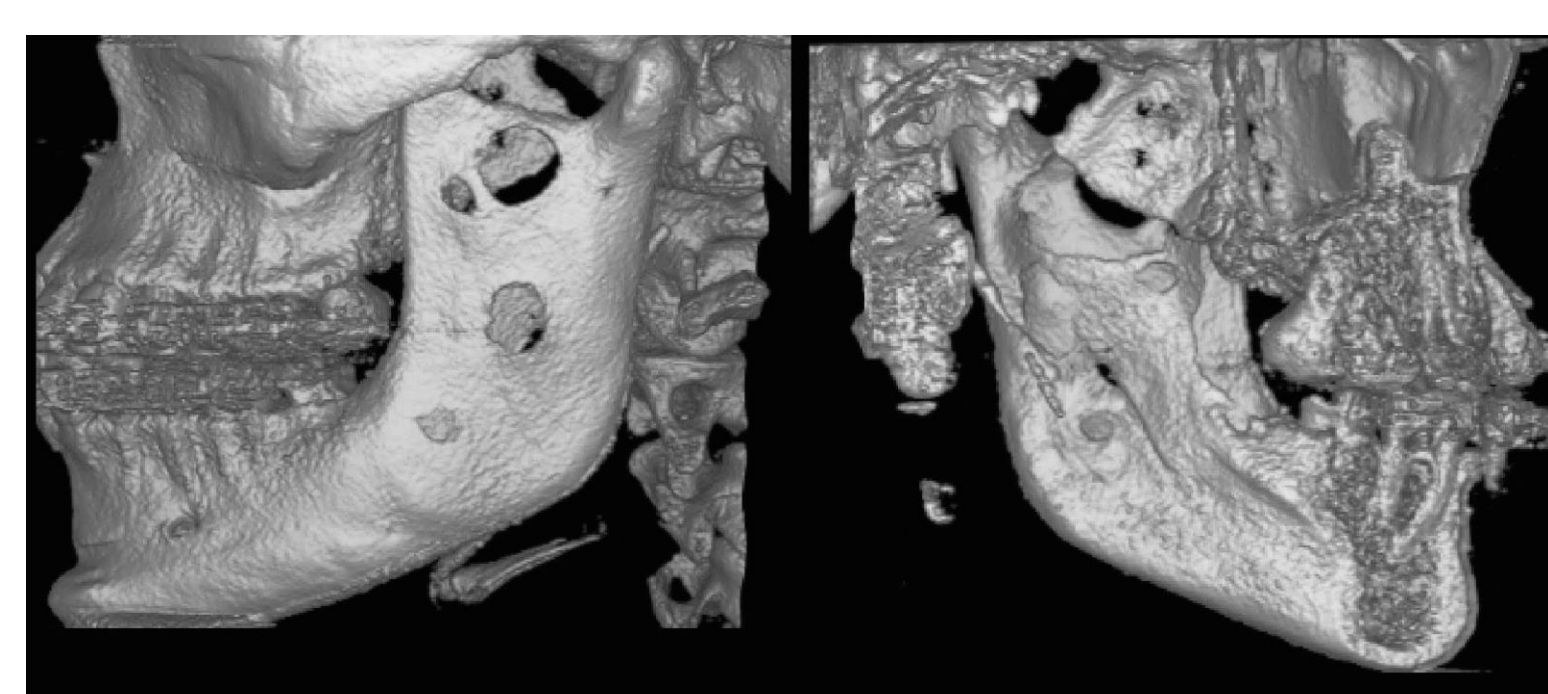


Figure 6. Hard tissue 3D DICOM reconstructions where cortical destruction can be seen (June 2012)



Figure 7. Conventional panoramic view 8 months post enucleation (October 2013)



Figure 8. Visible re-corticalization of IAN canal (September 2015)



Figure 9. Apical lesion can be seen on 3.7 tooth



Figure 10. 3D reconstruction of the mandible total healing of the lesion (June 2017)



Figure 11. Total recorticalization of the IAN canal's cortical (June 2017)

DISCUSSION

OKC common location is in the mandibular angle and ramus. Clinical symptoms are rarely observed, as it grows painless and silently through medullary bone fenestrating cortical bone. In the case that is showcased no clinical symptoms were referred by the patient.

Biopsy is the first step in any extended mandibular lesion. In this specific case, we made use of this diagnostic tool three times during the treatment: one initially (2009), one after the recurrence (2012) and the last one after the enucleation (2013).

OKC must have a long-term and careful follow-up due to the high recurrence rate, so, imaging is very important. We were able to use digital panoramic and CBCT imaging periodically. The showcased 3D reconstruction imaging allows an educational view of the healing. We have been controlling this case for over eight years.

One of the biggest challenges faced by OMS regarding OKC treatment is to meet the patient's expectations regarding minimizing the adverse functional and esthetic side effects while at the same time to fully eliminate the pathology.

In this case, a complete healing of a recurrent OKC was achieved by a minimal invasive approach.

CONCLUSION

This case suggests that a staged surgery approaches concurrent to rigorous patient follow-up could be a feasible alternative to extensive OKC treatment. And, reinforces the importance of collaboration between orthodontist, pathologist, OMS, and the patient have crucial importance in the conservative management of the lesion.

Acknowledgements

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