

CASE REPORT: MAXILLARY CYST WITH INTRASINUS EVOLUTION

Gabriel CHISĂLIȚĂ¹, Florin BÎRSĂȘTEANU², Mircea SFERDIAN¹,
 Călin CIOBANU¹, Gheorghe CIOBANU¹

¹"Vasile Goldiș" Western University Arad, Faculty of Medicine, Pharmacy and Dentistry, Romania

²"Victor Babeș" University of Medicine and Pharmacy, Timișoara, Romania

ABSTRACT. This article describes a case report of a 40 years old male who presented with pain and swelling in the left superior maxillary region with a presumptive diagnostic of tumor-like lesion. The imagistic diagnosis revealed a residual radicular maxillary cyst with an intrasinus evolution. The patient was first investigated by x-ray (lower cranial incidence and orthopantomography) and then by magnetic resonance imaging (MRI – proton density weighted).

Keywords: radicular cyst, radicular residual cyst, dental cyst, maxillary sinus, intrasinus, x-ray, magnetic resonance imaging

INTRODUCTION

A cyst is a cavity filled with fluid, surrounded by epithelial and connective tissue. It is round or oval in shape and on x-ray are radiolucent. The fluid may be secreted by the cells that line the cavity or be from the surrounding tissues. The cyst are more frequent in jaws because they originate from the odontogenic epithelium remained after tooth development. Radicular cysts are the most common jaw cysts. They grow slowly and can cause the displacement and resorption of the teeth. Radicular residual (recurrent) cyst is an odontogenic, epithelial origin, post inflammation cyst from a tooth that has been removed. The localization usually is intraosseus (maxilla, mandible) very rarely intrasinus or extraosseus (Farman A.G., 2010; Whaites E., 2007; White S.C. et al., 2009).

The radicular residual cyst may also develop after an improper surgical elimination of a radicular cyst.

The particular anatomy of the maxillary sinus allows communication between the oral cavity and the sinus (oro-antral communication) especially in the premolar and molar areas.

MATERIALS AND METHODS

40 years old male patient reported to the radiology department of Clinic County Hospital Timișoara, Romania, with pain in superior maxillary region. It started after the extraction of a decayed tooth in that region. The patient had poor oral hygiene.

Clinical findings after extraoral and intraoral examination was swelling in the superior left maxillary and the following tooth missing: left superior 2nd

premolar, 1st, 2d, 3rd molar; left inferior 2nd molar; right superior 2nd premolar; right inferior 2nd, 3rd molar. On palpation the swelling felt bony. The initial presumptive diagnostic was a tumor-like lesion at the level of the left maxillary bone.

First we performed x-rays of the skull (lower face incidence). It revealed a diffuse opacity at the level of the left maxillary sinus, with a diameter approximated to 2 cm. This means either a sinusitis or an evolution of another pathological process (maybe from the alveolar region) towards the maxillary sinus.

For the differential diagnosis with a maxillary sinusitis, and for a better localization and identification of the lesion we performed an orthopantomography. The panoramic view finding was an ovoid radiolucency, unilocular, surrounded by an opaque border (osteosclerosis) on the superior left maxillary, molar region. This shows that the opacity in the cranial x-ray, at the level of the maxillary sinus was an overlapping image. In this situation the differential diagnostic is between a cyst, benign tumor or an initial stage of a malign tumor. We consider that we should make first the difference between a cyst-like lesion or tumor-like lesion. For this we performed an MRI scan (Freidrich A. et al., 2007; Iannucci J., 2011).

The MRI was conclusive: the proton density (spin-density) weighted showed a 2.9 cm diameter ovoid hypersignal structure in the superior left maxillary, molar region. This means we have a structure full of fluid, well defined, surrounded by an intact membrane. Also, considering the fact that the patient has pain, there may also be an infection (without infection radicular cyst lacks the pain).



Fig. 1 PA X-Ray Lower Skull view – diffuse opacity of the left maxillary sinus.



Fig. 2 Panoramic view – ovoid radiolucency, surrounded by an opaque border (osteosclerosis) on the superior left maxillary, molar region.



Fig. 3 MRI – sagittal section Proton density (spin-density) weighted shows a 2.9 cm diameter ovoid hypersignal structure in the superior left maxillary, molar region.

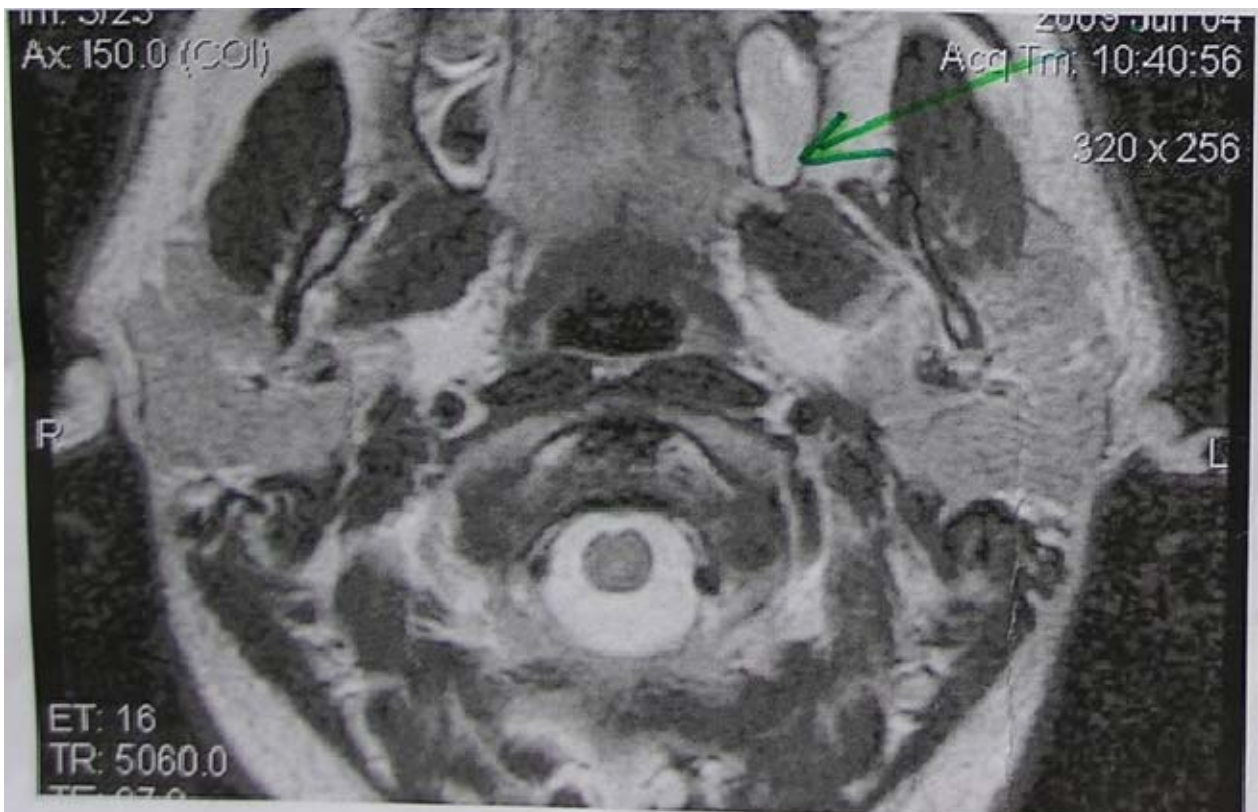


Fig. 4 MRI – axial section Proton density (spin-density) weighted shows an ovoid hypersignal structure in the superior left maxillary, molar region.

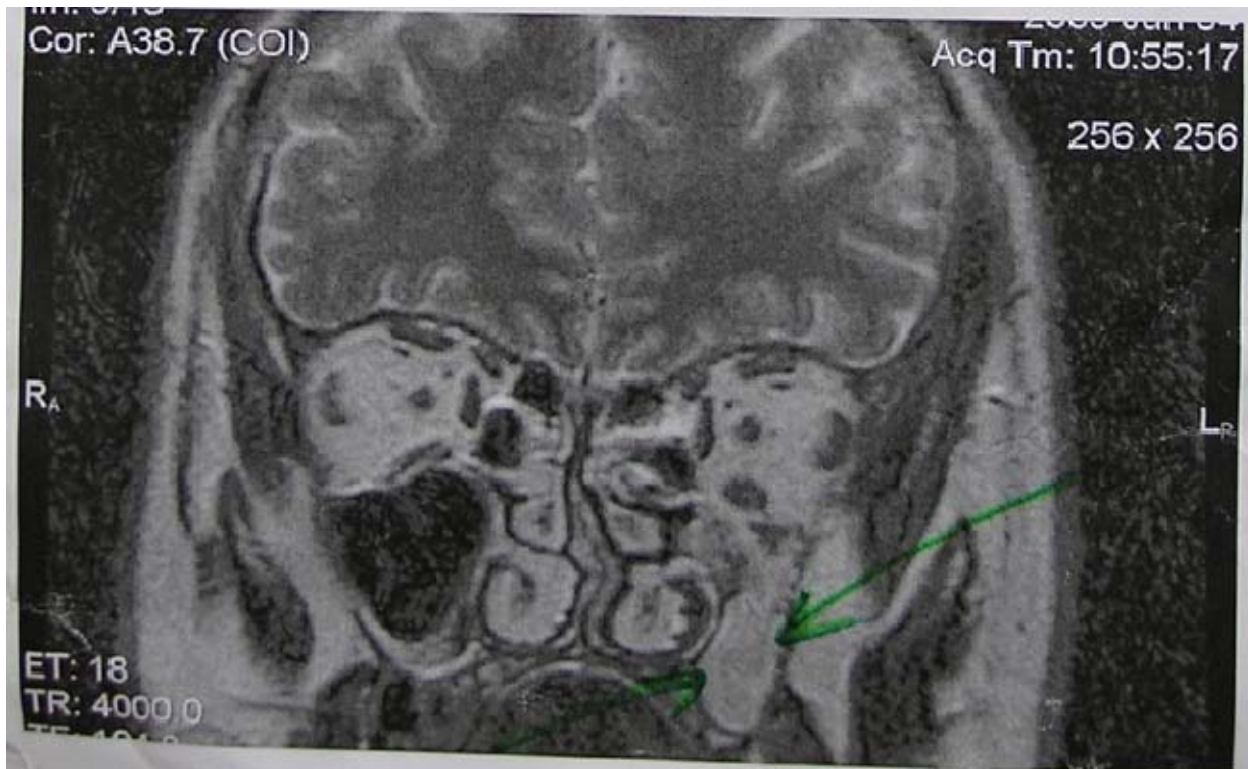


Fig. 5 MRI – coronal section Proton density (spin-density) weighted shows hypersignal structure in the left superior maxillary molar region

RESULTS AND DISCUSSIONS

For the differential diagnosis, in this case, were considered the following: radicular residual cyst, keratocyst, maxillary sinusitis, ameloblastoma (which may develop in elders following tooth extraction), apical granuloma. The malign tumor was excluded because of the following reasons: age, lack of specific clinic symptoms.

The diagnostic is residual left maxillary cyst with intrasinus evolution.

CONCLUSIONS

The differential diagnosis in maxillary lesions is difficult, sometimes almost impossible using only conventional x-ray (for example differentiating radicular cyst and apical granuloma).

When there is a unilocular radiolucency on a panoramic view x-ray, radicular residual cyst should be included in the differential diagnostic list.

This case report demonstrates the importance of advanced imaging techniques (MRI scan) in differential diagnosis and in detecting the precise location and the dimensions of the maxillary cyst and the extension in the maxillary sinus.

REFERENCES

- Allan G. Farman, *Panoramic Radiology: Seminars on Maxillofacial Imaging and Interpretation*, Springer, 2010.
- Eric Whaites, *Essentials of Dental Radiology*, 4th Edition, Churchill Livingstone, 2007.
- Freidrich A. Pasler, Heiko Visser, *Pocket Atlas of Dental Radiology*, Thieme, 2007.
- Joel Iannucci, Laura Jansen Howerton, *Dental Radiography, Principles and Techniques*, 4th edition, 2011.
- S. C. White, M. J. Pharoah, *Textbook of Oral Radiology Principles and Interpretations*, Elsevier, New York, NY, USA, 6th edition, 2009.