MASSIVE RADICULAR CYST IN THE MAXILLARY SINUS, CASE REPORT

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INTRODUCTION
A Cyst is defined as a benign pathologic cavity that is filled with fluid, lined by epithelium, and surrounded by a connective tissue wall.

Cysts of the jaw can be classified as follows:
Odontogenic Cysts
- Radicular cyst
- Residual cyst
- Dentigerous cyst
- Para Dental cysts
- Odontogenic Keratocyst
- Basal cell nevus-bifid rib-OKC syndrome
- Lateral periodontal cyst
- Calcifying odontogenic cyst

Non-Odontogenic cysts
- Nasopalatine cyst
- Nasolabial cyst
- Dermoid cyst
- Epidermoid cyst
- Branchial cyst

Odontogenic cysts are the most common Odontogenic cysts in the jaws, approximately 62%; they usually occur when a tooth becomes infected leading to necrosis of the pulp.

The purpose of this article is to report a case of a massive radicular cyst that has displaced forward the maxillary sinus floor involving lateral wall of the nose and almost reaching the orbital floor.

CASE REPORT
A 44 year old male patient, presented to the Oral Maxillo-Facial surgery clinic at Al Habeeb Hospital,
Riyadh/ KSA with a complaint of left sided facial swelling of more than three months duration.

The swelling increased gradually over time. The patient didn’t recall any recent trauma.

Past medical history was unremarkable and the patient was nonsmoker.

On examination, there was moderate swelling of the left side of the face with obstruction of the left nasal side. The swelling was reaching the orbital floor yet, not affecting the globe.

Intra oral examination revealed gross mobility of teeth number 23, 24, 25, 26, 27 and reaching the left maxillary sinus with buccal bony expansion with pain and tenderness on percussion.

On the same day, the patient was sent to the Radiology Dept. for cone beam CT scan, which revealed a massive lesion involving the whole left maxillary sinus extending to the lateral left nasal wall and reaching the orbital floor without eroding the orbital rim.

Patient was scheduled for incisional biopsy under local anesthesia next day. Prior to the procedure, the patient was sent to the endodontist to evaluate the vitality of the involved teeth. The teeth were non vital and root canal treatment of teeth number 21, 22, 23 was done while the rest were non restorable.

The biopsy was sent to the histopathology department to R/O malignant lesion.

Provisional diagnoses included Odontogenic tumor; ameloblastoma, keratocyst, Radicular cyst.

4 days later, the histopathology report was submitted to the clinic. Microscopic examination revealed a benign cystic lesion with no evidence of malignancy and the report concluded a diagnosis of Radicular Cyst.

Two days later, the patient was admitted to the minor surgical ward and total enucleation of the lesion was done, in addition to extraction of the non-restorable teeth.

The procedure was done under IV sedation. Infra orbital nerve block and intra oral infiltration were done. Bleeding was controlled by electro cautery and local hemostatic agent; Surgiceal.

Closure of the intra oral wound was done using Vicryl 3/0 sutures and intra oral pack adapted. Pin Rose drain adapted at the wound bed for the first three days post op to prevent hematoma and for drainage. Amoklan oral and Vibrocil Nasal Drops were administered in addition to pain killers.
Figure 3 (a,b): Notice through and through huge defects in the left maxilla and maxillary sinus.

Figure 4: Dissection and elevation of the cystic lesion.

Figure 5: After complete enucleation of the cyst, notice maxillary sinus cavity and orbital floor.

Figure 6: Specimen after total enucleation and extraction of posterior teeth.

Figure 7: Axial cone beam CT scan view show huge defect of left maxilla.
DISCUSSION

Radicular cysts are by far the most common inflammatory cystic lesions of the jaw; constituting approximately 52% of the jaw cysts and 62% of the odontogenic cysts.

They are commonly found at the apices of the involved teeth; however, they may also be found on the lateral aspects of the roots in relation to lateral accessory root canals.\(^5\)

They usually develop following pulpal necrosis caused by dental caries or trauma, which result in the proliferation of the epithelial rest cells of Malassez in the periodontal ligament.\(^6\)

Natkin et al. postulated that the larger the lesion, the more likely it is to be a cyst.\(^7\)

They usually occur in all tooth-bearing areas of the jaws, approximately 60% are found in the maxilla and 40% in the mandible, yet there is a high tendency to occur in the maxillary anterior region.\(^5\)

Radicular cysts are probably the most common cause of swelling of the jaws and patients usually complain of slowly enlarging swellings.

In some cases the cyst may enlarge that it may encroach on almost the entire sinus. A cyst that occupies the entire sinus usually causes expansion of the medial wall (middle meatus) of the sinus and will alter the sigmoid contour of the posterior-lateral wall of the sinus as viewed in axial CT images.

The choice of treatment is influenced by factors such as the extension of the lesion, origin, relation with nearby structures, and clinical characteristics of the lesion, in addition to general systemic condition of the patient. The treatment of these cysts is controversial and many professionals go for a conservative treatment by means of endodontic therapy if the cyst is a small one.\(^8\)

However, in larger lesions, the endodontic management alone is not efficient and it should be associated with surgical intervention.

CONCLUSION

In general, small radicular cysts may reach massive dimensions; In this case, the differential diagnosis with other cystic lesions of jaws may not be easy. A careful examination of clinical, radiological and histological data is vital to make the correct diagnosis and decide the proper management approach.

REFERENCES