Radiographic features of benign tumors of jaws

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Benign Jaw Tumors

- Hyperplasias (tori, exostosis and enostosis)
- Odontogenic tumors
  - Epithelial tumors
    - Ameloblastoma
    - Adenomatoid Odontogenic tumor (AOT)
    - CEOT/Pindborg’s tumor
  - Mixed (ecto-mesodermal)
    - Odontoma
    - Ameloblastic fibroma
    - Ameloblastic fibro-odontoma
- Mesodermal tumors
  - Odontogenic myxoma, Benign cementoblastoma
  - Central odontogenic fibroma

Benign Jaw Tumors

- Non-odontogenic tumors
  - Ectodermal (neurilemoma, neuroma)
  - Mixed tumors (neurofibroma, neurofibromatosis)
  - Mesodermal tumors (osteoma, Gardner’s syndrome, central hemangioma, A-V fistula, osteoblastoma, osteoid osteoma
  - Pseudotumors: Central giant cell granuloma

Effects on adjacent structures

- Torus palatinus

Adapted from: White and Pharoah: Oral Radiology principles and interpretation, page 380

Palatal and mandibular tori
One of the following benign lesions is not a torus
- Torus mandibularis
- Torus palatinus
- Torus alveolaris
- Torus maxillaris

One of the following benign lesions is not an exostosis
- Torus mandibularis
- Torus palatinus
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Ameloblastoma
The next step
- R/O vascular lesions/A-V malformations - auscultate, check for bruit
- FNA [Fine needle aspiration]
- Plan for biopsy
  - Advanced imaging
    - CT/MR

Advanced Imaging

Case 1
Case 2

Advanced Imaging: Establish your diagnosis

Coronal CT in bone windows
T1W MRI
T2W MRI

CASE REPORT
Recurrent ameloblastoma of the infratemporal fossae: diagnostic implications and a review of the literature

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Objectives: To present four case reports of recurrent ameloblastomas of the infratemporal fossa. Although these odontogenic tumors, rarely seen in this location, can be diagnosed using advanced imaging techniques, they can be treated with a combination of surgical, radiological, and histopathological approaches. This report highlights the importance of accurate diagnostic assessment and management of these lesions.

Keywords: sublingual cyst, bone tumor, computed tomography

Introduction:
Infratemporal fossa ameloblastoma is a rare and aggressive tumor that can present with clinical and radiographic findings distinct from other ameloblastomas. This case report discusses the diagnostic implications of recurrent ameloblastomas in the infratemporal fossa and reviews the literature on the management of these lesions.

Methods:
Four cases of recurrent ameloblastomas in the infratemporal fossa were reviewed. The patients presented with symptoms such as pain, swelling, and facial asymmetry. The tumors were diagnosed using a combination of panoramic radiography, computed tomography, and magnetic resonance imaging. The treatment plan included a multidisciplinary approach involving surgical resection, radiation therapy, and follow-up evaluations.

Results:
The clinical and radiographic characteristics of the cases were analyzed, and the diagnostic imaging findings were correlated with the histopathological results. The treatment outcomes were assessed using postoperative clinical and radiographic evaluations. The recurrence rates and the impact of different treatment modalities were discussed.

Discussion:
Recurrent ameloblastomas in the infratemporal fossa are rare and present unique diagnostic and therapeutic challenges. The use of advanced imaging techniques plays a critical role in the accurate diagnosis and management of these lesions. The multidisciplinary approach involving surgical resection, radiation therapy, and postoperative monitoring is essential for achieving optimal outcomes.

Conclusion:
The recurrence of ameloblastomas in the infratemporal fossa is a rare event and requires careful diagnostic assessment and management. The use of advanced imaging techniques, combined with a multidisciplinary approach, is crucial for the successful treatment of these lesions.

References:


Confirm your diagnosis: Ameloblastoma

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AOT
- Adenomatoid Odontogenic tumor
- Most common location: maxillary canine and premolar region. 2:1 female to male ratio. Average age = ~16 yrs
- Tumors contain specks of calcified material
- Low recurrence rate

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Odontomas

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CEOT (Pindborg Tumor)

- Behaves like ameloblastoma
- Predilection for mandible-premolar/molar area
- >half of the lesions will have associated impacted or unerupted tooth
- Periphery well defined to diffuse
- Cystic lesion with numerous scattered, radiopaque foci of varying size and density giving it the appearance of “Driven Snow”
- Presence of amyloid and calcified “Liesegang Rings”
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Ameloblastic fibro-odontoma

Odontogenic Myxoma

If odontogenic myxomas have a gender predilection, they slightly favor females. Although the lesion can occur at any age, more than half arise in individuals between 10 and 30 years. This tumor often is associated with a congenitally missing or unerupted tooth. It grows slowly and may or may not cause pain. It may also invade the maxillary sinus and cause exophthalmoses. Recurrence rate is as high as 25%. This high rate may be explained by the lack of encapsulation of the tumor, its poorly defined boundaries, and the extension of nests or pockets of myxoid (jellylike) tumor into the trabeculae.
Benign Cementoblastoma

Benign cementoblastomas are slow-growing, mesenchymal neoplasms composed principally of cementum. The tumor manifests as a bulbous growth around and attached to the apex of a tooth root. Its histologic characteristics are similar to those of osteoblastomas, and it is composed of cementoblasts that arise from the mesenchyme of the periodontal ligament.

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Neurofibroma

osteoblastoma
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Gardner’s syndrome: Gardner’s syndrome, inherited as an autosomal dominant disorder, is characterized by intestinal polyps, multiple osteomas, fibromas of the skin, epidermal and trichilemmal cysts, impacted permanent and supernumerary teeth, and odontomas.