Endoscopic Removal of an Odontogenic Keratocyst in the Maxillary Sinus

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Introduction

- Epithelial-lined structures derived from odontogenic epithelium

- Types of odontogenic cysts
  - Radicular cyst
  - Dentigerous cyst
  - Odontogenic keratocyst
    - Third most common
    - Aggressive behavior with high rate of recurrence
  - Primordial cyst
Case Report

- 16-year-old female with left-sided facial swelling for 8 months
  - no rhinorrhea or nasal congestion
  - no visual complaint
  - failed multiple antibiotic courses
  - no significant PMH
  - PE notable for
    - hypertrophic L middle meatus
    - complete set of adult teeth
Case Report

CT findings:
- Expansile lesion in L maxillary sinus
- Compression of nasolacrimal duct
- Dental structure in superior/lateral region
- Right nasal septum deviation
- Erosion of L osteomeatal unit
Case Report

- Patient underwent ESS
- Intraoperative findings:
  - Sac consisting of milky yellow fluid
  - Molar tooth adherent to cystic wall
  - Thin and friable cystic wall
- Curettage of cystic wall along with extraction of molar tooth
Case Report

- **Pathology findings:**
  - corrugated, parakeratotic squamous epithelial lining
  - Palisading pattern of basal layer
  - c/w odontogenic keratocyst
Odontogenic Keratocyst

- Third most common odontogenic cyst (10%)
- Peak incidence between 20 - 40
- Mandible > maxilla
- Less than 1% involves sinus cavity
- 40% OKC associated with impacted teeth
Possible etiologies

- Exact pathogenesis unknown
- Remnants of dental lamina
- Degeneration of enamel organ satellite reticulum
- Traumatic implantation or down growth of the basal cell layer of the surface epithelium
- Reduced enamel epithelium of the dental follicle
Odontogenic Keratocyst

- Rapidly expands and destroys bone
- Up to 60% recurrence rate
- Multiple OKC associated with Nevoid Basal Cell Carcinoma Syndrome
- Malignant transformation reported but rare
- Clinically and radiographically indistinguishable from dentigerous cyst and ameloblastoma
Differential Diagnosis

- **Dentigerous cyst**
  - Attachment at an acute angle to the cervical area of an unerupted tooth

- **Ameloblastoma**
  - Multilocular appearance

- **Simple bone cyst**
  - Scalloped margin

- **Definitive diagnosis requires histologic analysis**
Odontogenic Keratocyst: Treatment

- Controversial
  - lesion size
  - anatomic relationship
  - association with NBCCS
- Curettage
- Enucleation
- Marsupialization followed by enucleation
- Radical Resection
Odontogenic Keratocyst: Conclusion

- Third most common odontogenic cyst
- Clinically aggressive with high recurrence rate
- CT imaging of choice
- Definitive diagnosis requires histologic analysis
- Long term surveillance for recurrence
References