

# Radiological Comparison And Evaluation Of Faciomaxillary Tumour Or Tumor Like Lesions: A Case Series

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## Abstract:

**Background:** Faciomaxillary tumors and tumor like lesions can occur at all age groups irrespective of the gender.

The lesions also do not demonstrate a specific location as most of them can occur in both mandible and maxillary region with involvement of tooth. These lesions cannot be distinguished based on the radiological appearance as most of the lesions have overlapping features and hence the patient has to undergo invasive procedure to get a definitive diagnosis.

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**Materials and Methods:** Study design: Retrospective observational case series in tertiary care center.

Study area is Bagalkote district, in the northern part of the Indian state of Karnataka.

Study population: All patients reporting to the department of Radiodiagnosis from Oral Medicine department with OPG suggesting a lytic lesion in SNMC and HSK, Bagalkot.

Study Time: Study done for a period of 26 months were taken into consideration from March 2021 to April 2024

**Results:** Over 70 percent of the lesions were found in the mandible while the rest 30 percent was in the maxillary region. Computed tomography showed that around 90% of the case were unilocular solid cystic lesions while the rest were multilocular lesions. Out of 20 cases 11 were found to have features of odontogenic keratocyst. Among these 11 cases, 5 were given a differential diagnosis of ameloblastoma out of which 3 were proven to be ameloblastoma on HPR; 3 were given a differential of dentigerous cyst with 2 being histologically proven and 2 of the cases had overlapping features of periapical cysts. 6 cases were given differential diagnosis of periapical cyst or dentigerous cyst. One case was found to be ameloblastoma histologically whereas rest were found to be dentigerous cysts.

**Conclusion:** Faciomaxillary lesions cannot be distinguished based on the OPG and computed tomography appearance as most of the lesions have overlapping features and hence the patient has to undergo invasive procedure to get a definitive diagnosis.

**Keyword:** Faciomaxillary lesions; Odontogenic keratocyst; Dentigerous cyst; Periapical cyst; Ameloblastoma

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## I. Introduction

Faciomaxillary tumors and tumor like lesions can occur at all age groups irrespective of the gender.

The lesions also do not demonstrate a specific location as most of them can occur in both mandible and maxillary region with involvement of tooth. These lesions cannot be distinguished based on the radiological appearance as most of the lesions have overlapping features and hence the patient has to undergo invasive procedure to get a definitive diagnosis.

## II. Material And Methods

This retrospective comparative study was carried out on patients of Department of Radio-diagnosis at Sri Nijalingappa Medical College from March 2021 to April 2024. A total 20 subjects (both male and females) of all age group were in this study.

**Study Design:** Retrospective observational case series in tertiary care center.

**Study Location:** This was a tertiary care teaching hospital based study done in Department of Radiodiagnosis, at Sri Nijalingappa Medical College, Bagalkot, Karnataka.

**Study Duration:** Study done for a period of 26 months were taken into consideration from March 2021 to April 2024

**Sample size:** 20 patients.

**Subjects & selection method:** All Patients presenting to oral medicine department with complaints of facial swelling with an OPG showing lytic lesions were selected for the study.

**Inclusion criteria:**

1. All age group.
2. Female and male
3. OPG showing faciomaxillary lesion

**Exclusion criteria:**

1. Pregnant women;
2. Patients who are uncooperative.
3. Patients with a history of drug or alcohol abuse.

**Procedure methodology**

After written informed consent was obtained, a well-designed questionnaire was used to collect the data of the recruited patients retrospectively. The research study was supported by primary data source

**Primary source of data:** The material for the present study is from all patients reporting to the department of Radiodiagnosis from Oral Medicine department with OPG suggesting a lytic lesion

**Secondary source of data:** The sources of secondary data were multiple-journals, academic books, research articles, review articles, newspapers and references from the web, all of which are listed in the bibliography.

**Method of Data Collection:**

The clinical data and imaging results of 20 patients both males and females of all age group with faciomaxillary lesions were retrospectively collected along with the histopathological report.

### III. Result

Over 70 percent of the lesions were found in the mandible while the rest 30 percent was in the maxillary region.

Computed tomography showed that around 90% of the case were unilocular solid cystic lesions while the rest were multilocular lesions.

Out of 20 cases 11 were found to have features of odontogenic keratocyst. Among these 11 cases, 5 were given a differential diagnosis of ameloblastoma out of which 3 were proven to be ameloblastoma on HPR; 3 were given a differential of dentigerous cyst with 2 being histologically proven and 2 of the cases had overlapping features of periapical cysts.

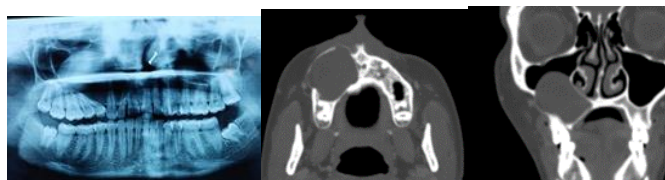
6 cases were given differential diagnosis of periapical cyst or dentigerous cyst. One case was found to be ameloblastoma histologically whereas rest were found to be dentigerous cysts.

### IV. Discussion

**Odontogenic Keratocysts:**

Benign lesions that arise from the dental lamina and are characterised by a cystic space containing desquamated keratin with a uniform lining of parakeratinised squamous epithelium. OKCs originate in tooth-bearing regions and the mandible is more often affected than the maxilla.

OKCs are characterised by an aggressive behaviour with a relatively high recurrence rate, particularly when OKCs are associated with syndromes.

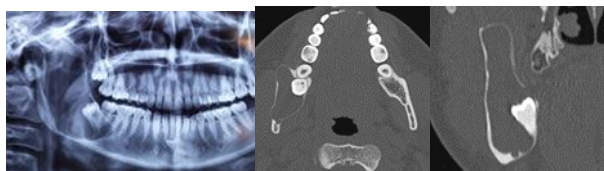


#### Dentigerous Cyst:

These are lesion around the crown of an unerupted/impacted tooth.

They are developmental, with a typical histology of a wall of loose fibrous tissue, lined by thin, regular epithelium, evolving from remnants of reduced enamel epithelium around the crown of an unerupted or impacted tooth that undergo cystic degeneration with fluid accumulation in the central portion of the lesion which is attached at the cemento-enamel junction.

Teeth most commonly affected are mandibular third molars, followed by maxillary canines and mandibular premolars.

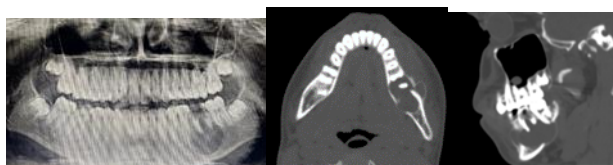


#### Periapical Cysts:

They result from infection of the tooth, which spreads to the apex and into the adjacent bone and cause apical periodontitis, granuloma formation and eventual cyst formation.

They are centered on the apex of the tooth and tend to be small, most <1 cm. Usually overt evidence of caries is present.

They appear as well-defined radiolucencies.

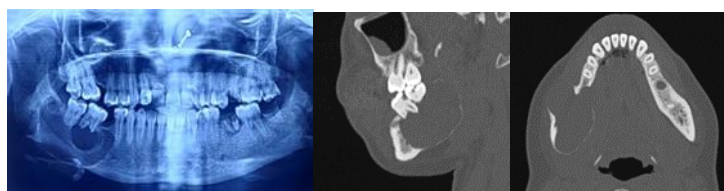


#### Ameloblastoma:

They are locally aggressive benign tumors that arise from the mandible or maxilla.

The lesions near the angle of the mandible in the region of the 3rd molar tooth although they can occur anywhere along the alveolus of the mandible (80%) and maxilla (20%).

Ameloblastomas arise from ameloblasts, which are part of the odontogenic epithelium, responsible for enamel production and eventual crown formation.



### V. Conclusion

Faciomaxillary lesions have many coinciding clinical and imaging features on plain radiograph as well as in computed tomography images. Therefore to evaluate these lesion with interventional methods as few of them are benign lesions other imaging modalities have to be used.

### References

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