Benign Non-Odontogenic Tumors/ Tumor like lesions

Dr. Apoorva Mowar
Introduction

- Non-Odontogenic Maxillofacial tumors –
- Ranging from hamartomatous lesions to malignancy.
- Diverse clinical behavior and histopathologic types

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Classifications

Dr. Apoorva Mowar, Subharti Dental College, SVSU
WHO Classifications

- 1971
- 1992
- 2005
- 2017 – Maxillofacial Bone tumors

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Benign Non Odontogenic Tumors/
Tumor like lesions

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Fibro-osseous Lesions of the Jaws

Dr. Apoorva Mowar, Subharti Dental College, SVSU
• A diverse group of lesions

• Replacement of normal bone by a fibrous tissue matrix containing trabeculae of immature bone

• Include:
  – Hamartomatous developmental lesions
  – Reactive lesions
  – Dysplastic lesions

• Remarkably similar histopathological picture in several lesions

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Diagnosis

• History
• Clinical features and presentation
• Radiographic appearance
• Operative findings
• Microscopic (histopathological) picture
Fibrous Dysplasia

• First description: von Recklinghausen, 1891
• The term “Fibrous Dysplasia”: Lichtenstein, 1938
• A self limiting condition of uncertain etiology
• Normal bone is gradually replaced by an abnormal fibrous connective tissue proliferation
• Variable amount of osseous matrix composed of woven bone

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Types

I. Solitary (Monostotic):
   – Majority of cases
   – Involves a single bone

II. Multifocal (Polyostotic):
   – Involves several bones
   A. Jaffe- Lichtenstein Syndrome
      – Multiple lesions of fibrous dysplasia
      – Cutaneous melanotic pigmentation
   B. Mc Cune- Albright Syndrome
      – Polyostotic Fibrous dysplasia
      – Cutaneous melanotic pigmentation (*café-au-lait spots*)
      – Endocrine Abnormalities
         – Precocious sexual development in females
         – Acromegaly
         – Hyperthyroidism
         – Hyperparathyroidism
         – Hyperprolactinaemia

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Types (Contd.)

• Mazabraud Syndrome
  – Polyostotic Fibrous Dysplasias
  – Soft tissue myxomas, usually intramuscular

• Craniofacial Form of Fibrous Dysplasia:
  – Only craniofacial skeletal complex
Etiology

Several Theories

1. A non neoplastic hamartomatous growth
   - Altered mesenchymal cell activity
   - Defective control of bone cell activity

2. Activating mutation in the gene coding for the Gs Alpha membrane associated protein
   - Altered proliferation and differentiation of osteoblastic cells

3. Focal bone expression of a complicated endocrine disturbance
Clinical Features

• Monostotic Form: >80% cases
• Frequent sites:
  – Ribs
  – Long bones
  – Pelvis
  – Jaws
  – Skull
• Females>males (McCune Albright Syndrome)
• Maxilla>mandible
Clinical Features (Contd.)

• Craniofacial Fibrous Dysplasia:
  – Maxillary lesions extension:
    • Zygoma
    • Sphenoid bone
    • Maxillary sinus
    • Floor of the orbit

• Mandible: the body of the mandible

• Onset: usually first or second decade

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Features (Contd.)

- Slowly progressive enlargement of affected jaw
- A unilateral, asymptomatic swelling
- Facial asymmetry
- Buccal cortical enlargement with only rare involvement of the lingual/palatal side
- Displacement of teeth
  - Malocclusion
  - Abnormal eruption patterns
  - Mobility of erupted teeth is uncommon

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Features (Contd.)

• A more aggressive course in a few patients:
  – Rapid growth
  – Pain
  – Nasal obstruction
  – exophthalmos
Radiographic Features

• Variable

• Classic Description:
  
  - Ground glass appearance

    Homogeneous radiopacity with numerous trabeculae of woven bone

• Unilocular/ multilocular radiolucency

• Radiolucent with patchy, irregular opacities – a mottled appearance

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Poorly defined clinical and radiographic margins that blend imperceptibly into surrounding normal bone
Differential Diagnosis

- Ossifying fibroma
- Sclerosing osteomyelitis
- Paget disease

<table>
<thead>
<tr>
<th>Feature</th>
<th>Fibrous Dysplasia</th>
<th>Ossifying fibroma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margins</td>
<td>Not Demarcated</td>
<td>Well demarcated</td>
</tr>
<tr>
<td>Shape</td>
<td>Fusiform</td>
<td>Spherical or elongated</td>
</tr>
<tr>
<td>cortices</td>
<td>Replaced by disease</td>
<td>Expanded</td>
</tr>
<tr>
<td>Medullary Pattern</td>
<td>Homogenous</td>
<td>Heterogenous</td>
</tr>
</tbody>
</table>

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Management

Extent of skeletal involvement:

- Radiographic study
  - Plain films
  - Technetium diphosphonate
    - Monostotic or polyostotic

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Management (Contd.)

Progression:
  • Often a period of slow, persistent growth with stabilization or considerable slowing of growth after onset of puberty
    – Small lesions:
      • Biopsy for confirmation of diagnosis
      • Regular follow up
    – Functional or cosmetic disability:
      • Osseous recontouring via a transoral approach
      • Consider treatment after active growth is over

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Management (Contd.)

En bloc resection or complete excision: unnecessary and impractical

• large, with poor definition of margins
• Non neoplastic lesion
• Malignant transformation: Rare (<1% reported)
  – Rapid enlargement
  – Onset of pain
  
  ➢ Sarcomas arising in preexisting Fibrous dysplasia: usually high grade lesions with poor prognosis
Ossifying Fibroma

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Ossifying Fibroma

- Cementifying Fibroma – previously considered as odontogenic tumor (1992)
- Age – 3rd and 4th decades
- Sex: Female predominance by 3:1
- Site – Mandible more common
  - Mandible – molar premolar region
  - Maxilla – posterior maxilla

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Ossifying Fibroma

- Sign & symptoms
  - Painless
  - Slow growing but persistent
  - No pain or paresthesia
  - Facial asymmetry – as it enlarges
Ossifying Fibroma

- Radiographically
  - Well circumscribed lesion
  - Often shows radiolucency but can also show varying degrees of radio-opacity
  - On maturation – dense and radio-opaque with well defined thin surrounding radiolucent line
  - May displace teeth; few cause root resorption
  - Large lesion – show bowing of mandible
Ossifying Fibroma

• Histopathology
  – Show varying amounts of bone or cementum or both
  – Fibrous encapsulation
  – Two types of calcification – bone or osteoid type trabeculae; cementum like calcification

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Ossifying Fibroma

- **Management**
  - Well demarcated – easy separation
  - Intra-oral enucleation preferred
  - Tooth and inferior alveolar nerve should be preserved
  - Recurrence has not been reported
Osteoma

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Osteoma

- Tumor consisting of mature compact or cancellous bone
- Mainly found in craniofacial skeleton (rarely in clavicles and long bones)
- Two types
  - Peripheral osteoma
  - Endosteal osteoma

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Osteoma

• Age – 2\textsuperscript{nd} to 5\textsuperscript{th} decade but usually in young adults

• Sign & symptoms
  – Peripheral –
    • slow growing, painless, hard mass
    • Facial asymmetry – large
    • Mandible – angle and on lingual aspect of pre-molar molar region
    • Condyle – deviation in movement and change in occlusion
  – Endosteal – facial asymmetry

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Osteoma

• Radiographically – well circumscribed densely sclerotic radiopaque mass
  – Peripheral – may show a central trabecular pattern with sclerotic periphery

• Histopathology – two types
  – Compact osteoma
  – Cancellous osteoma

• Treatment – Conservative surgical excision
Cherubism

Dr. Apoorva Mowar, Subharti Dental College, SVSU
• A rare inherited condition

• Replacement of normal bone by a proliferation of fibrovascular tissue containing multinucleated giant cells

• Bilateral symmetric expansion of affected bones
  – Round full face
  – Exposure of lower sclera producing the typical “eyes upturned towards heaven” gaze: the origin of the name.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Etiology

- Inherited autosomal dominant disorder
- A novel mutation in the SH3BP2 gene causes cherubism
- 100% penetrance in males
- 50-75% penetrance in females
  - 2:1 male predominance
- A few sporadic cases reported:
  - Presumed spontaneous mutation
Clinical Features

• Usually manifests in childhood

• Age at recognition:
  – Degree of bone involvement
  – Rate of progression
  – Most cases: 2 to 7 years
  – Mild cases: as late as 10 to 12 years
  – Severe cases: before 1 year

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Grading system

Grade 1: involvement of bilateral mandibular rami

Grade 2: Grade 1 + bilateral maxillary tuberosity involvement

Grade 3: generalized involvement of posterior and anterior mandible and maxilla

Grade 4: Grade 3 + involvement of the coronoid and condylar processes of the mandible

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Presentation

• Painless, typically slow expansion of the affected areas of the jaws

• Expansion and widening of the alveolar bone in more extensive cases

• Firm, non tender swelling

• Progressive anterior maxillary expansion: the most characteristic deformities due to stretching of the skin and lower lid beneath the orbit

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Presentation (Contd.)

- Variable reduction of the palatal vault
- Premature exfoliation of primary teeth
- Developing permanent teeth: malformed, displaced or absent
- Retarded, asynchronous eruption pattern
- Regional lymphadenopathy
- Extragnathic lesions:
  - Rare incidental findings
Radiographic Features

- Well defined multilocular radiolucencies
- Less frequently, unilocular radiolucency
- *Bilateral, symmetrical involvement*
- Maybe incidental discovery in mild Grade 1 cases

**Progression**
- Expansion and thinning of cortical bone
- Occasional perforation
- Displaced or malformed teeth within the multilocular radiolucent lesion

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Management

• Degree and rate of clinical progression
• Many cases:
  – Steady clinical progression in childhood
  – Slowing or cessation of disease activity around puberty
  – Clinical regression in some cases
• Some patients:
  – Steady active clinical progression through adult life

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Management (Contd.)

1. Observation during active growth and progression
2. Delay definitive management until possibility of post pubertal regression can be evaluated
3. Persistent functional or aesthetic abnormalities in adulthood:
   • Conservative curettage or debulking with surgical recontouring
   • Multiple procedures maybe necessary in some cases

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Management (Contd.)

Children with extensive, rapidly growing lesions:
• Aesthetic disfigurement
• Functional disability

Surgical intervention during the active prepubertal phase: controversial
• May result in rapid regrowth and acceleration of disease

Radiation Therapy: not indicated

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Tumour-like Lesions of Bone

Central Giant Cell Granuloma

Aneurysmal Bone Cyst

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Central Giant Cell Granuloma

Central Giant Cell Lesion

*microscopic features: not a true granulomatous process*

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Initially described as “Central Giant Cell ‘Reparative’ Granuloma”:

- Represents a reactive response to intrabony haemorrhage and inflammation
- However, most cases present without any previous trauma or inflammatory episode
- Clinical progression inconsistent with reparative process

Dr. Apoorva Mowar, Subharti Dental College, SVSU
• Considered a non neoplastic process

• However, some lesions may exhibit locally aggressive biological properties:
  – Suggestive of a benign neoplastic process
  – Probable relationship to Giant Cell Tumour of long bones
Relationship to Giant Cell Tumor of Long Bones

? Some investigators
  – Distinct entities
  – True giant Cell Tumors are rare in jaws

? Others
  – Two points in the spectrum of a single pathological process

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Features

- Predominantly in children, teens, and young adults age<30 years
- Females:males:: 2:1
- Almost exclusively in maxilla, mandible
- Mandible> Maxilla
- Tend to involve the anterior jaws
- Possible extension across the midline
- Isolated cases:
  - Other facial bones
  - Small bones of the hands and feet

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Giant Cell Granuloma of anterior Maxilla

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Features (Contd.)

• Expansion of the involved jaw
• Occasional incidental finding on radiography
• Variable clinical behaviour
• Sub classification:
  – Nonaggressive
  – Aggressive

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Nonaggressive Form

- More common
- Asymptomatic
- Slow growing
- No cortical perforation or root resorption
Dr. Apoorva Mowar, Subharti Dental College, SVSU
Aggressive Form

• Painful
• Rapidly growing
• Cortical perforation ++
• Root resorption is seen
• Rarely, paresthesia
A lesion showing destruction and root resorption
Radiographic Features

• Multilocular radiolucency is the usual presentation
• Rarely, unilocular radiolucent lesion
• Margins:
  – Well demarcated with scalloped border
  – Sclerotic border may not be seen
  – Expansion and thinning of cortices
  – Perforation and extension into soft tissues in the aggressive variants

Dr. Apoorva Mowar, Subharti Dental College, SVSU
RADIOGRAPHIC FEATURES

Dr. Apoorva Mowar, Subharti Dental College, SVSU
AGGRESSIVE TUMOUR

- Coronal CT scan of patient demonstrates large lesion expanding the right maxilla. The lesion occupies the entire maxillary antrum and extends into the nasal fossa. Axial CT scan of patient demonstrates large lesion expanding the right maxilla. The outer cortical plate of bone is focally destroyed.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Histopathology

- Proliferation of spindled fibroblasts in a variably collagenous stroma
- Numerous small vascular channels
- Extravasated erythrocytes and deposits
- Multinucleated giant cells throughout the stroma
  - Usually small and irregular
  - 5 to 10 nuclei per cell
  - Some may be larger and rounded with up to 20 nuclei
  - Aggregated in clusters around the vascular channels

- Aggressive Variants:
  - Denser distribution of mononuclear and giant cells
  - Less fibrovascular tissue

- Focal areas of new bone formation

- Inflammatory cells not seen except as a secondary feature

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Differential Diagnosis

• Histological Similarity to Brown’s Tumour of Hyperparathyroidism
  – Investigations
    • Serum calcium, Phosphate, PTH
  – Uncommonly produce bone alterations of the mandible
  – Usually regress after treatment of hyperparathyroidism
DIFFERENTIAL DIAGNOSIS

1) **HYPERPARATHYROIDISM**
   Elevated serum parathormone and alkaline phosphatase and calcium levels.
   Multiple bone lesions, loss of lamina dura.

2) **ANEURYSMAL BONE CYST**
   Identification of sinusoidal blood spaces within the tumor mass.

3) **CHERUBISM**
   Symmetric lesions
   Family history

Dr. Apoorva Mowar, Subharti Dental College, SVSU
The clinical differential diagnosis

Ameloblastoma

Odontogenic myxoma

Odontogenic keratocyst.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
TREATMENT MODALITIES

SURGICAL
1. CURETTAGE
2. PERIPHERAL OSTECTOMY
3. RESECTION

NON-SURGICAL
1. INTRALESIONAL CORTICOSTEROIDS
2. CALCITONIN
3. ALPHA-INTERFERON

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Treatment and Prognosis

• Most accepted Surgical management option:
  – Aggressive curettage followed by removal of peripheral bony margins
    • Low recurrence and good prognosis
• Reported recurrence: median of published studies 15 to 20%

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Treatment and Prognosis (Contd.)

- Presurgical endodontic therapy or extraction of involved teeth
- Meticulous curettage around roots of associated teeth
- Aggressive Lesions:
  - Greater tendency to recur after conservative therapy
  - More extensive surgery maybe necessary, inc. Resection
- Non surgical Therapy:
  - IntraleSional Corticosteroids
  - Exogenous calcitonin for aggressive lesions

Dr. Apoorva Mowar, Subharti Dental College, SVSU
ALPHA – INTERFERON THERAPY

• MECHANISM: CGCG associated with vascular proliferation and increased secretion of VEGF. These factors led to the suggestion that interferon is a useful treatment.

• DOSE: 48 to 72 hours postoperatively and dosed at 3 million units according to area involved.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
INTRALESIONAL CORTICOSTEROIDS

DOSE: Equal parts triamcinolone acetonide and local anesthetic 2 mL per 2 cm of radiolucency weekly for 6 weeks. Based on the idea that there is an inflammatory component to these granulomas.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Calcitonin therapy

• **DOSE**: 100 units (0.5mg) of subcutaneous calcitonin per day.

• Continued until radiographic evidence of bone formation occurs and biopsy reveals absence of giant cells.

• Based on the fact that the multinucleated cells express calcitonin receptors.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Aneurysmal Bone Cyst

Dr. Apoorva Mowar, Subharti Dental College, SVSU
• Jaffe and Lichtenstein, 1942
• A relatively uncommon non neoplastic process within bone (2.5 to 3% of bone lesions)
• Etiology and Pathogenesis remain enigmatic
  – Regarded as a reactive lesion
• Tendency to local destruction and significant recurrence
• May affect virtually any bone in the skeleton
• May develop as a primary disease process or as a secondary lesion in an area of a preexisting bone lesion
Secondary development

- Fibrous dysplasia
- Ossifying Fibroma
- Central giant Cell Granuloma
- Osteoblastoma
- Osteosarcoma

- Probably represent an injury to the capillary network of the primary lesion
- “Blowout” reaction by capillary pressure of extravasated blood produces the expansile, destructive lesion

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Features

- Long bones and vertebrae are the most frequent sites of occurrence
- Rare lesion in the jaws
- Young patients Age <30 years
- Peak incidence: Second decade
- Mandible > Maxilla
- Posterior regions of the jaws more frequently affected
- Jaw Lesions: slight preponderance in females

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Features (Contd.)

- Rapidly developing expansion of the affected bone
- Facial deformity and/or malocclusion may develop
- Maybe painful
- Typically non pulsatile, with no bruit despite a prominent vascular component
Radiographic Assessment

- Osteolytic lesion
- Unilocular or multilocular radiolucency
- Cortical expansion and thinning
- *A ballooning distension* of periosteum with a thin outline of reactive, subperiosteal bone
- Tooth displacement or external root resorption may develop.
- Secondary Lesions: modified as per the associated preexisting bone lesion

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Histopathology

Gross Features:
• Multicystic, spongelike soft tissue mass filled with dark, venous blood

Microscopic Features:
• Numerous cavernous, sinusoidal spaces filled with blood surrounded by loose fibrous connective tissue
• connective tissue septae:
  – Small capillaries
  – Multinucleated giant cells
  – Inflammatory cells
  – Erythrocytes
  – Hemosiderin

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Histopathology (Contd.)

- Giant Cells:
  - Osteoclast-like
  - Aggregate adjacent to sinusoidal spaces

- Trabeculae of reactive, woven bone within the connective tissue

- Sinusoidal spaces
  - devoid of endothelium
  - Lined by fibroblasts and macrophages

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Treatment and Prognosis

• Complete surgical removal by curettage
• Recurrence Rates:
  – 20 to 70% for all skeletal sites
  – Less frequent in jaw bones
• Cryotherapy or chemical cauterization of the bony cavity following curettage is advocated
• Persistent ooze or occasional brisk haemorrhage possible at surgery
• Life threatening haemorrhage is rare
• En bloc Excision:
  – Recurrent Lesions
  – Large, relatively inaccessible lesions
• Presently – ABC is thought to be rapidly proliferating variant of a central giant cell tumor because it has macroscopic rather than microscopic blood filled spaces.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Cemento- osseous dysplasias

- Periapical cemental dysplasia
- Focal cemento-osseous Dysplasia
- Florid Osseous Dysplasia
- Other Cemento- osseous dysplasias
  1. Cherubism
  2. Central Giant Cell Granuloma

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Introduction

- Three distinct entities
- Probably represent a similar underlying disease process
- Precise etiology remains unknown
  - Probably disorders in the metabolism of cells normally involved in the production of bone and cementum
Periapical Cemental Dysplasia

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Clinical Features

- Involves periapical bone at apices of teeth with vital, non-inflamed pulps
- Involves multiple teeth
- Usu. Mandibular anterior teeth
- Marked predilection for females 10:1
- Middle aged black women (70%)
- Almost invariably asymptomatic
- Often detected incidentally on radiographs
Radiographic Examination

Initial Lesions:

- Multiple round to ovoid radiolucent lesions at the apices of vital teeth
- May mimic periapical pathology of pulpal origin
  - Maybe discrete with well defined borders
  - Or
  - large and confluent as they merge and overlap

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Radiographic Examination (Contd.)

Progression

- Appearance of patchy or mottled radiopacities (mixed appearance)

Final stages:

- Solid radiopaque lesions with narrow radiolucent rims

∞ Symptoms or cortical expansion are rare

Dr. Apoorva Mowar, Subharti Dental College, SVSU
The change observed over the time as lesion progresses from a RL lesion to RO lesion.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
**Histopathology**

- Multiple fragments of moderately cellular, collagenous tissue investing variable amount of bone and cementum matrices
- Variable amount and degree of mineralization of the matrix components
  - Dependent on the duration of the lesion
- **Calcified tissue:**
  - Osteoblasts or cementoblasts along the surface
  - Variable configuration:
    - Trabeculae
    - Spherules
    - Large, irregular masses
- Scattered chronic inflammatory cells

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Treatment and Prognosis

Diagnosis:
- Demographic, clinical and radiographic features

Treatment:
- No definitive treatment required
- Periodic observation is sufficient
Focal Cemento-osseous Dysplasia

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Introduction

- Recently described entity
- Maybe more common than the other forms of fibro-osseous disease in the jaws
Clinical Features

- Females are predominantly affected (90%)
- Whites > Blacks (different other forms of Cemento-osseous dysplasia)
- Adults: fourth and fifth decades on detection
- Typically solitary lesions in the posterior mandible
- May affect any area of the jaws
- Characteristically asymptomatic lesions
Radiographic Features

- Often discovered on radiographic examination
- Most lesions: Mixed radiolucent- radiopaque areas
- Actual appearance is variable:
  - Well defined radiolucency to a dense radiopaque area
- Limited potential to progress: majority are <1.5cm in size
Radiographic Features (Contd.)

Many cases:
- Bone adjacent to roots of asymptomatic vital teeth

Others:
- Edentulous areas of the jaws
- Cases associated with idiopathic bone cavities have been reported

Dr. Apoorva Mowar, Subharti Dental College, SVSU
A radiolucent lesion changes to mixed radiolucency over 9 yrs.

Dr. Apoorva Mowar, Subharti Dental College, SVSU
A characteristic feature:

- Consistency of the tissue removed during biopsy:
  - Tissue is difficult to curette from the lesion
  - Removed as multiple fragments of gritty tissue
  - A fair amount of surgical haemorrhage

* Distinction from Ossifying Fibroma:
  - Removed as large fragments that separate easily from adjacent normal bone
Treatment and Prognosis

Most Lesions

- Only limited potential for progressive growth
- No additional treatment following biopsy and diagnosis
- Periodic observation
  - Reports of multifocal involvement in a few patients producing a clinical-radiographic appearance of florid osseous Dysplasia
Florid Osseous Dysplasia

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Introduction

- Most clinically extreme end of the spectrum of Cemento-osseous Dysplasia
- An exuberant variant of Periapical Cemental dysplasia
Clinical Features

- Most patients: Adult black women
- A generalized, bilateral alteration of normal bone pattern
- May involve all four quadrants of the mandible and the maxilla
- Uncomplicated lesions are largely asymptomatic
- Mild cortical expansion may occur
Clinical Features (Contd.)

Susceptible to osteomyelitis following
- traumatic episodes, e.g. biopsies, extractions
- Mucosal ulcerations from ill-fitting prostheses

This may produce the classical local symptoms and signs
Radiographic Features

- Mottled, mixed radiopaque-radiolucent lesions adjacent to teeth in the affected portions of the jaws
- Maybe associated with development of idiopathic bone cavities

Maturation:
- May appear as irregular, diffuse sclerotic masses

Dr. Apoorva Mowar, Subharti Dental College, SVSU
Histopathology

Similar to other forms of the disease
- Variably cellular fibrous connective tissue stroma containing irregular trabeculae and masses of bone and cementum matrices

A Characteristic Feature:
- Large, densely sclerotic acellular calcified structures

Development of osteomyelitis:
- The classical features of acute or chronic osteomyelitis as relevant
Treatment and Prognosis

- A non-neoplastic, self-limited process
- No treatment required after diagnosis
- Significant alteration in affected bone:
  - Avoid any form of trauma, including a biopsy procedure
- Development of Osteomyelitis:
  - Standard approach to management should be followed
Thanks