DEVELOPMENTAL DISTURBANCES CONTINUED…

DEPTT OF ORAL PATHOLOGY & MICROBIOLOGY

Purpose Statement

At the end of lecture the student should describe--

- Reactive lymphoid aggregate
- Lymphoid hamartoma
- Angiolymphoid hyperplasia with eosinophilia
- Lymphoepithelial cyst

Learning Objectives

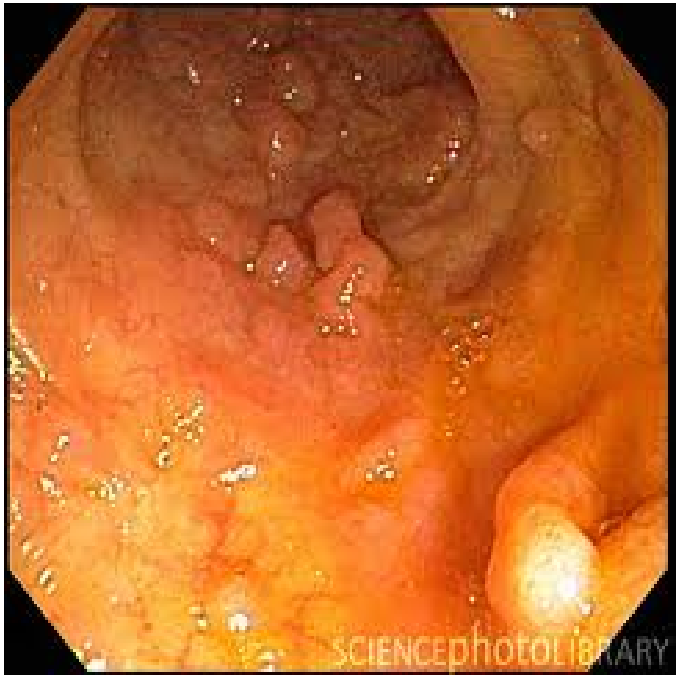
S.N.	Learning Objectives	Domain	Level	Criteria	Condition
1	Enumerate clinical features	Cognitive	Must Know	All	
2	Write classification	Cognitive	Must Know	All	
3	Write pathogenesis	Cognitive	Must Know	All	
4	Write radiographic features	Cognitive	Must Know	All	
5	Write histologic features	Cognitive	Must Know	All	
6	Enumerate differential diagnosis	Cognitive	Nice to Know	All	
7	Write treatment & prognosis	Cognitive & Psychomotor	Must Know	All	

Contents

- Reactive lymphoid aggregate
- Lymphoid hamartoma
- Angiolymphoid hyperplasia with eosinophilia
- Lymphoepithelial cyst

REACTIVE LYMPHOID AGGREGATE

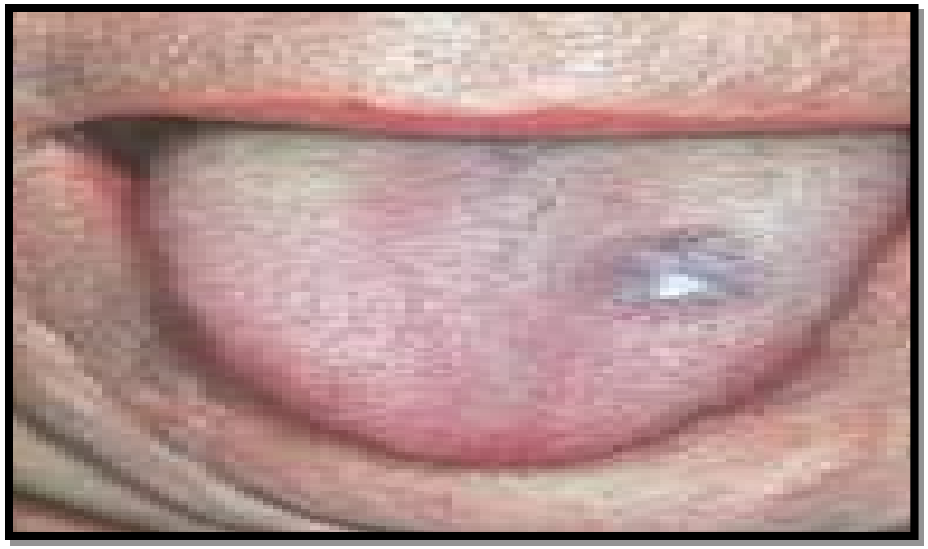
- -Called as **Reactive lymphoid hyperplasia**.
- -Lingual tonsil located on the posterior portion of tongue on dorsolateral aspect.
- -One of the largest oral lymphoid.
- -It becomes inflamed & enlarged to become clinicaly evident.



- This enlargement is usually bilateral.
- If unilateral may be mistaken for early carcinoma.
- It is typically surrounded by crypt lined by stratified squamous epithelium.
- This reactive lingual tonsil called as "**foliate papillitis".**
- It may occur in lymphoid aggregate in other locations. **Buccal mucosa** is very common.
- Clinically lymph node presents as firm, nodular submucosal mass with tenderness positive.
- Hyperplastic lymphoid polyps has also been described as **polypoid tissue.**
- It occurs on gingiva, buccal mucosa, tongue and floor of mouth.

LYMPHOID HAMARTOMA

- -**Other names**-Angiofollicular lymph node hyperplasia, Angiomatous lymphoid, Castleman tumor, Giant benign lymphoma, Hamartoma of lymphatics, Giant lymph node hyperplasia.
- **Types of castleman's disease:-**
- 1.Hyaline vascular type.
- 2.Plasma cell type.



1.Hyaline vascular type:-

Common site for occurence:- chest, stomach & neck.

- If it so then called as localised disease of hyaline vascular type.

- Less common site for occurrence:- armpits, pelvis & pancreas.
- Growths represents abnormal enlargement of lymph nodes.
- It is generally asymptomatic.
- May develop as a non-cancerous growth of lymph node.

2.Plasma cell type-

-It is rare disorder characterised by noncancerous benign growth that may develop in lymphoid tissue throughout the body.
-May be associated with fever, weight loss, skin rash, hemolytic anemia, hypergammaglobulinemia.

3.Multicentric/generalised castleman's disease-

-Newly reported in medical literature.
-Affect multiple area of body.
-Exhibit as hepatosplenomegaly.

- Exact cause of Castleman’s disease is not known.
- Some speculates that increased production of interleukin6 involves.

ANGIOLYMPHOID HYPERPLASIA WITH EOSINOPHILIA

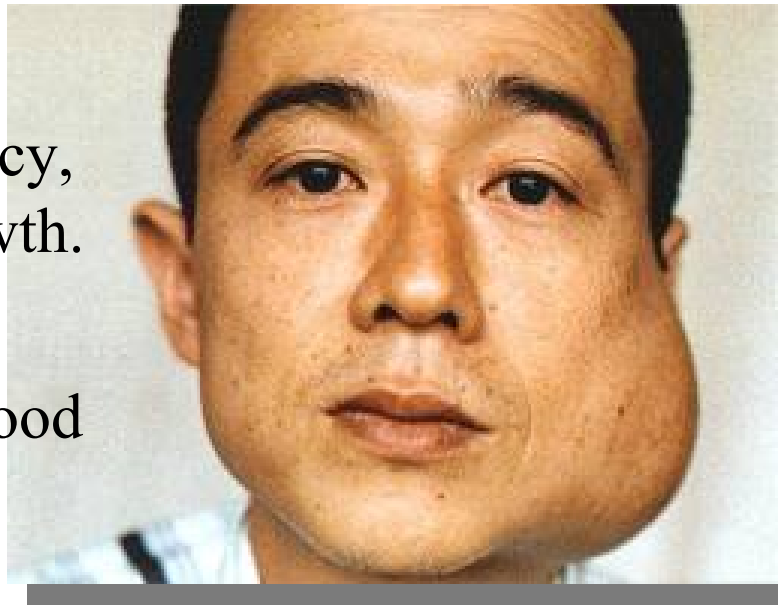
- -Other names-Epithelioid hemangioma, Histiocytoid hemangioma, Pseudopyogenic granuloma, Papular angioplasia, Inflammatory angiomatous nodules.
- -Uncommon idiopathic condition.
- -It presents as a isolated, grouped plaques or nodules in skin of head and neck.
- -Most patient presents lesions in peri-auricular region, forehead or scalp.

- -Sometimes it is marked distinctly by proliferation of blood vessel with enlarged endothelial cells.
- -Blood vessels are accompanied with inflammatory infiltrate that include eosinophils.
- -Lesion is benign, may be persistent and difficult to eradicate.
- -It may be benign or may be an unusual reaction to varied stimuli, including trauma.
- -It shows some similarities with Kimura disease.

Clinical features-

- -Uncommon but not rare.
- -common in Japan.
- -Most common in Asians followed by Caucasians.
- -More common in female.
- -In age 20-50 years with mean onset 30-33 years.
- -Rare in elder patients and in non indian pediatric population.

- -Although it may be benign tumour, numerous factors suggest it as an unusual reactive process.
- -Condition may be multifocal.
- -May occur following various trauma or infection.
- -Hyperestrogenemic states like pregnancy, oral contraceptive use faster lesion growth.
- -Approximately 20% of patient have blood eosinophilia.



- -It may persist for years but do not show any malignant tranformation.
- -Patients presents with expanding nodules or group of nodules, usually in vicinity of the ear.
- -Appear as dome shaped, smooth surface papule or nodules.
- -It may be associated with pain or pruritis.

- -Uncommon symptoms: pulsation and spontaneous bleeding.
- -Lesions range from erythematous to brown may be eroded or crusted.
- -Most lesions are 0.5-2 cm in diameter with range of 0.2-8 cm.
- Differential diagnosis-
- Granuloma faciale, Insect bites, Pyogenic granuloma (lobular capillary hemangioma), Angiosarcoma, Hemangioendothelioma, Hemangioma.

Histologic Features-

- -Characteristic histological features include:-
- -Proliferation of small blood vessels.
- -Many of which is lined by endothelial cells with uniform ovoid nuclei and intracytoplasmic vacuoles.
- -Endothelial cells have cobblestone appearance.

- -Perivascular & interstitial infiltrate composed primarily of lymphocytes & eosinophils.
- -Eosinophils typically comprise of 5-15%.
- -Rarely account for as 50% of infiltrate.
- -Occasionally devoid of eosinophils.
- -Lymphoid aggregates with or without follicle formation.

Treatment-

- -Not mandatory.
- -Intralesional corticosteroids & irradication have been employed.
- -But not very effective.
- -Surgical removal of lesion demonstrate best results.
- -They may recur.

LYMPHOEPITHELIAL CYST

- -It developes within a benign lymphoid aggregate or accessory tonsil of oral or pharyngeal mucosa.
- It was first invented by Parmentier in 1857 as hydatid cyst.
- -Outside head & neck, this cyst is found in pancreas & testis.
- -Branchial cleft cyst, parotid cyst are similar cyst but they are much larger & parotid cyst does not contain surrounding lymphoid aggregate.

Clinical features-

- -It presents as movable, painless submucosal nodule with yellow or yellow white discolouration.
- -Occasionally cyst are transparent.
- -Commonly found in oral cavity, at floor of mouth.
- -May occur on lateral, ventral tongue, soft palate, mucosa over pharyngeal tonsil.

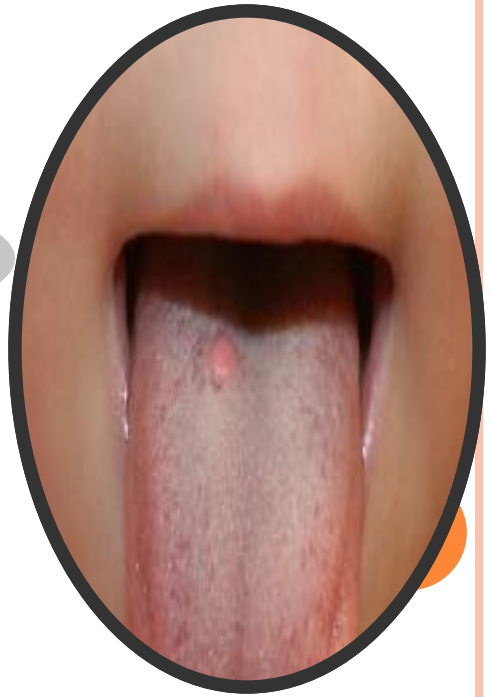
- -Diagnose usually during teen years or third decade of life.
- -Generally diameter is less than 0.6 cm.
- -Surface of cyst indented with tonsillar crypts.
- -Superficial cyst may rupture to release foul tasting, cheesy, keratinaceous material.

- This cyst has clinical appearance same as that of epidermoid, dermoid cyst of oral or pharyngeal mucosa.

- But has less growth potential.

- Never occur on alveolar mucosa hence can be easily distinguish from gingival cyst of adult or from

- unruptured parulis or pus pockets.



Histologic feature-

- -It is lined by atrophic and degenerated stratified squamous epithelium.
- -Usually lacks rete pegs.
- -Demonstrate a minimal granular cell layer.
- -Orthokeratin is seen to be sloughing from epithelial surface into cystic lumen.
- -Often sometimes fill lumen completely or sometimes shows dystrophic calcification.

- -Rarely mucus filled goblet cells seen within the superficial layers of epithelium.
- -Occasionally cyst shows epithelial lined communication with overlying mucosal surface.
- -Cyst is entrapped within well demarcated aggregate of mature lymphocytes.

- -Lymphoid aggregates may be hyperplastic.
- Combination of epithelium lined cyst with lymphoid aggregates is unique enough to make diagnosis. But it should not be confussed with Warthins tumour.
- Warthin tumour is not lined by squamous epithelium but by bilayered cuboidal,columnar or oncocytic ductal epithelium.

- Treatment-
- -No treatment is required unless its location is such that it is constantly being traumatized.
- -Can be removed by conservative surgical excision.
- -No malignant transformation.
- -It can be involved with extranodal lymphoma

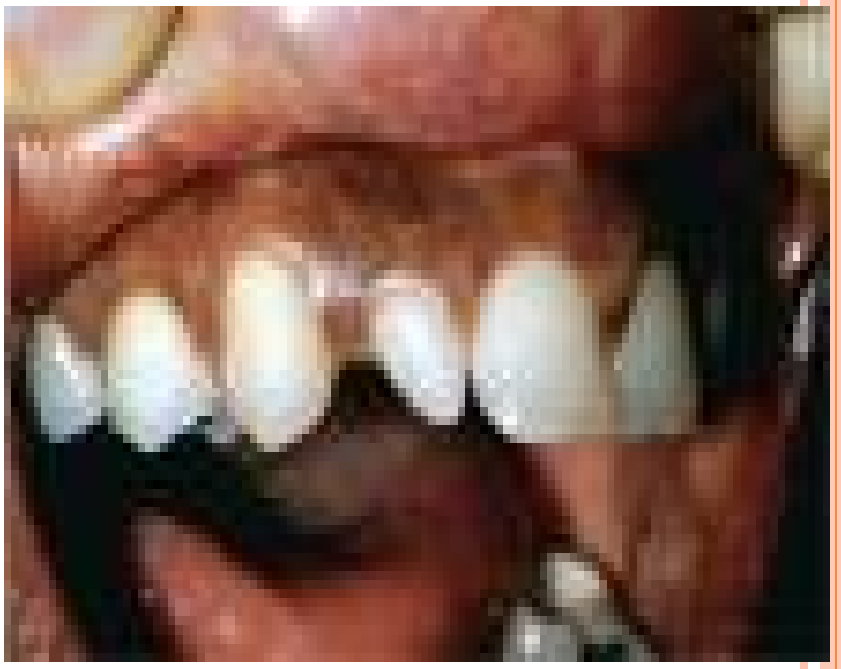
– Developmental disturbances associated with:

- Size of teeth
- Shape of teeth
- Number of teeth
- Growth of teeth

Contents

- Microdontia
- Macrodontia
- Gemination
- Fusion
- Concrescence
- Dilaceration
- Talon's cusp
- Dens invaginatus
- Dens evaginatus
- Taurodontism
- Supernumerary roots
- Anodontia
- Supernumerary teeth

DEVELPOMENTAL DISORDER IN SIZE OF TEETH



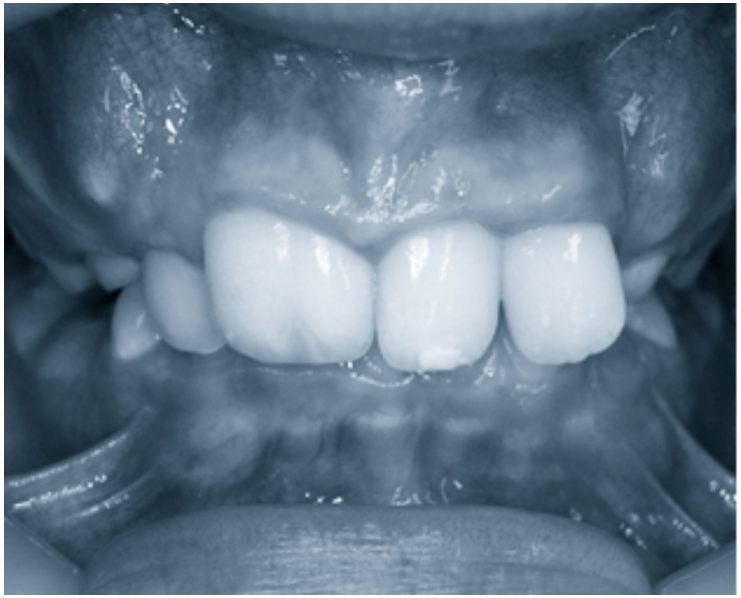
- MICRODONTIA
- Smaller than normal teeth

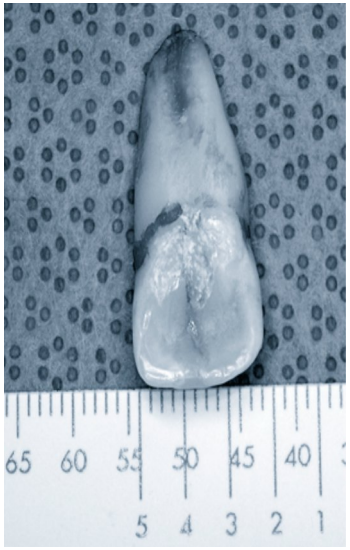
- Three types
- True generalized microdontia
  (Smaller size of teeth)
- Relative generalized microdontia
  (Larger size of jaws)
- Microdontia involving single tooth
  (Peg laterals, Third molars, premolars)

Macrodontia

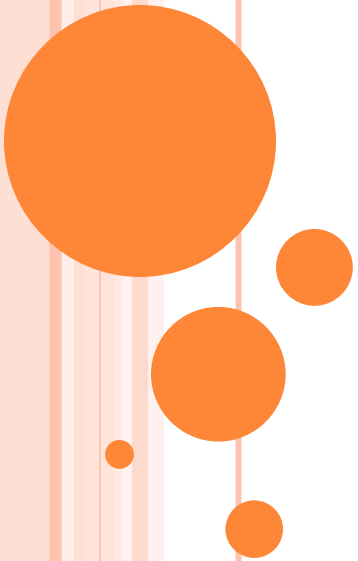
- Larger than normal teeth

- Three types:
- True generalized macrodontia
  (Larger size of teeth)
- Relative generalized macrodontia
  (Smaller size of jaws)
- Macrodontia involving single tooth
  (Central Incisors)



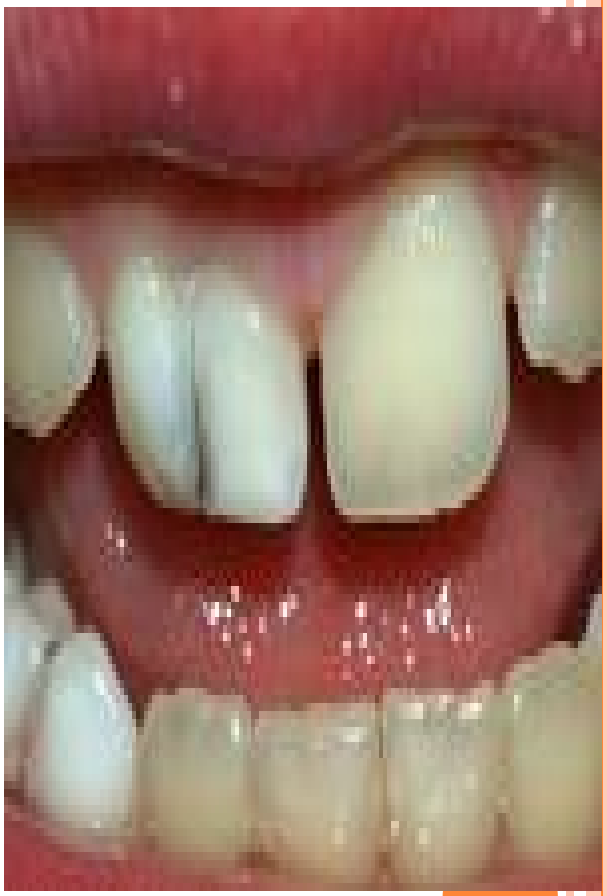


Developmental Disturbances
Shape of Teeth



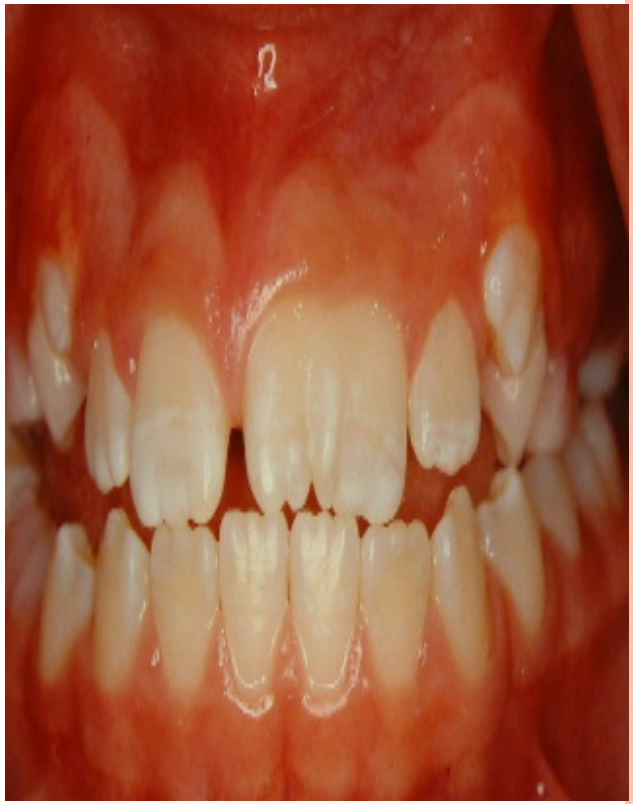
GEMINATION (TWINNING)

- Attempt at division of single tooth germ by invagination, resulting in the formation of incomplete teeth.
- One structure with completely or incompletely separated crowns with single root and root canal
- Twinning refers to production of two teeth from single tooth bud resulting in formation of one normal and one supernumerary tooth.



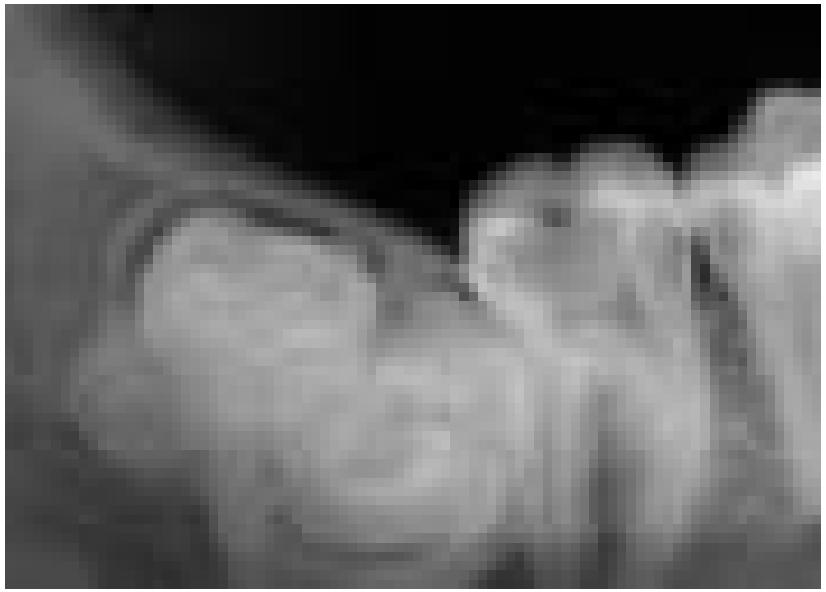
Fusion

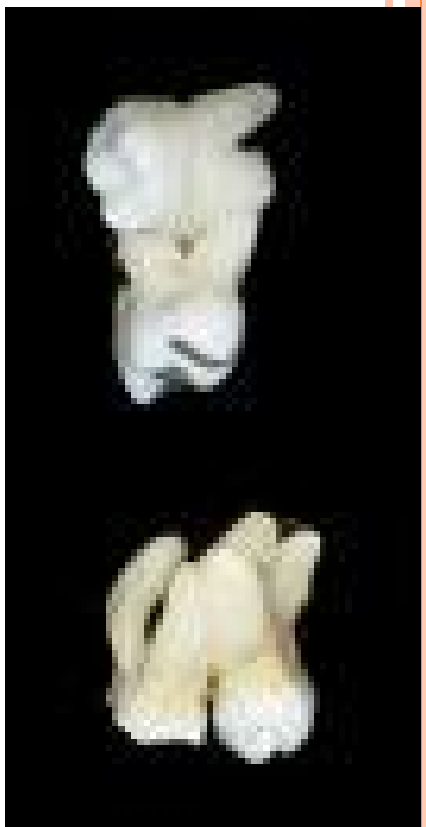
- Union of two normally separated teeth
- Complete or incomplete fusion
- Pressure or crowding of developing teeth
- Fusion may be between two normal teeth, a normal tooth and a supernumerary tooth.
- Clinical complications like, spacing, periodontal problems, esthetics.



Concrescence

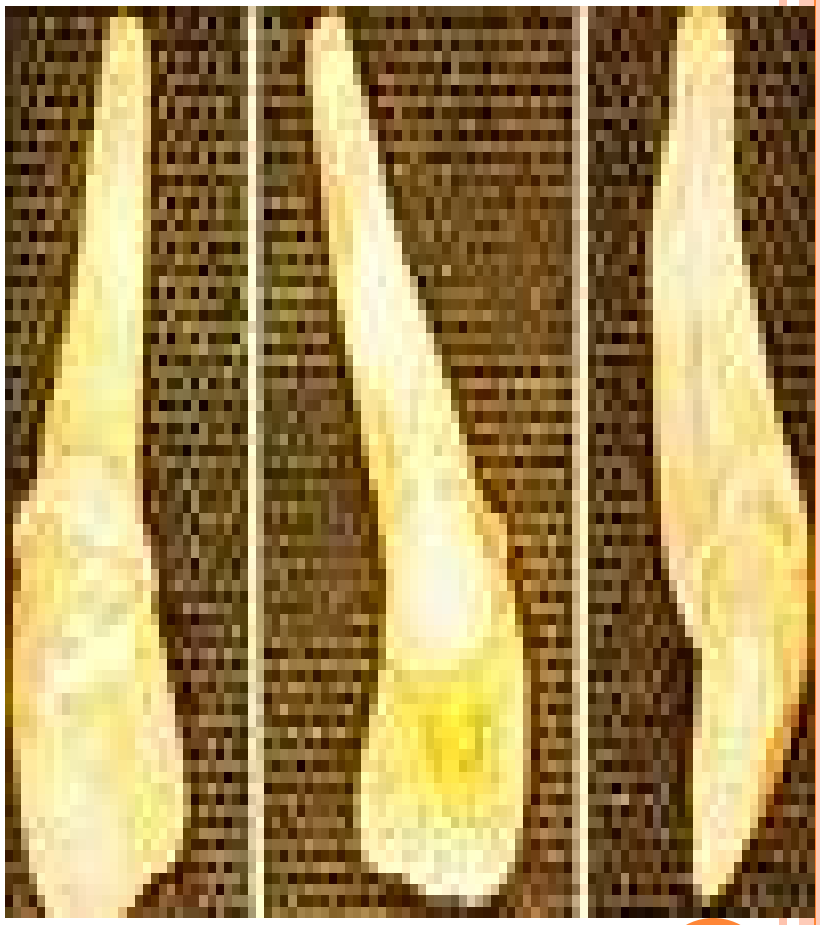
- Form of fusion which occurs after root formation
- Teeth united by cementum
- Due to traumatic injury, crowding leads to loss of interdental bone
- May occur before or after tooth eruption
- Difficult extraction





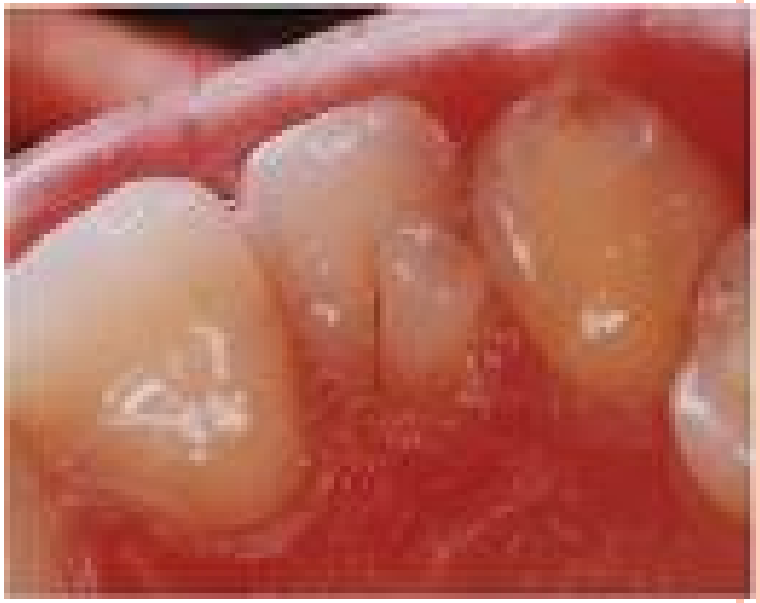
Dilaceration

- Refers to abnormal bend or curvature in crown or root.
- Due to trauma during tooth formation
- Can occur anywhere in the tooth
- Complications like extraction, root canal instrumentation.



TALONS CUSP

- Anomalous structure resembling an eagles talon on lingual aspect of incisors.
- Consists of normal enamel, dentin and pulp.
- Complications like dental caries, esthetics, malocclusion etc.
- Rubinstein taybi syndrome
  - Developmental retardation
  - Broad thumbs and great toes
  - Delayed or incomplete descent of testis in males
  - Bone age below fiftieth percentile
  - Talons cusp

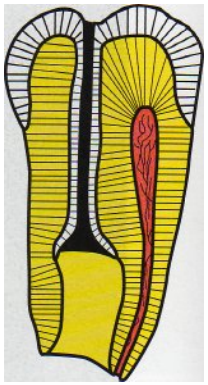


Dens in Dente

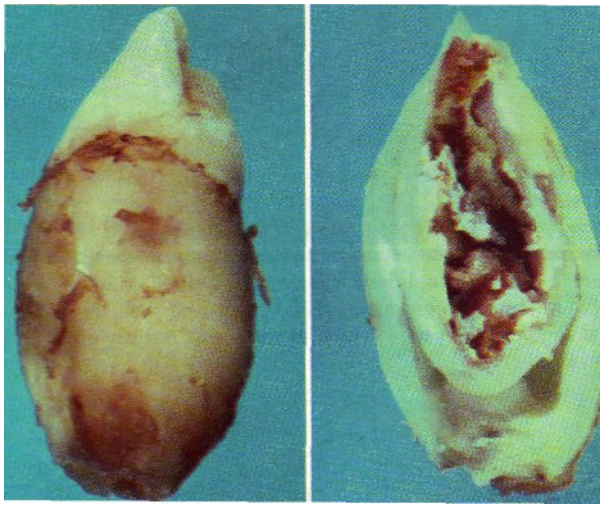
- Invagination in the surface of crown before calcification has occurred.
- Etiology
  - Increased localized external pressure
  - Focal growth retardation
  - Focal growth stimulation in tooth bud
- Maxillary lateral incisor most commonly involved
- Radiographically
  - Pear shaped invagination of enamel

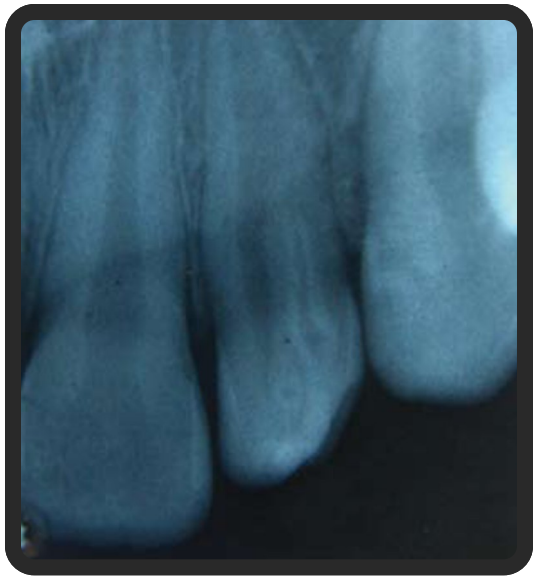
Type I

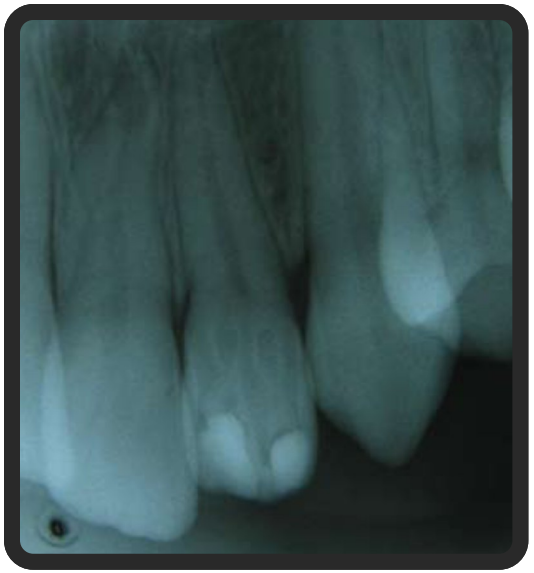
Type II



Type III

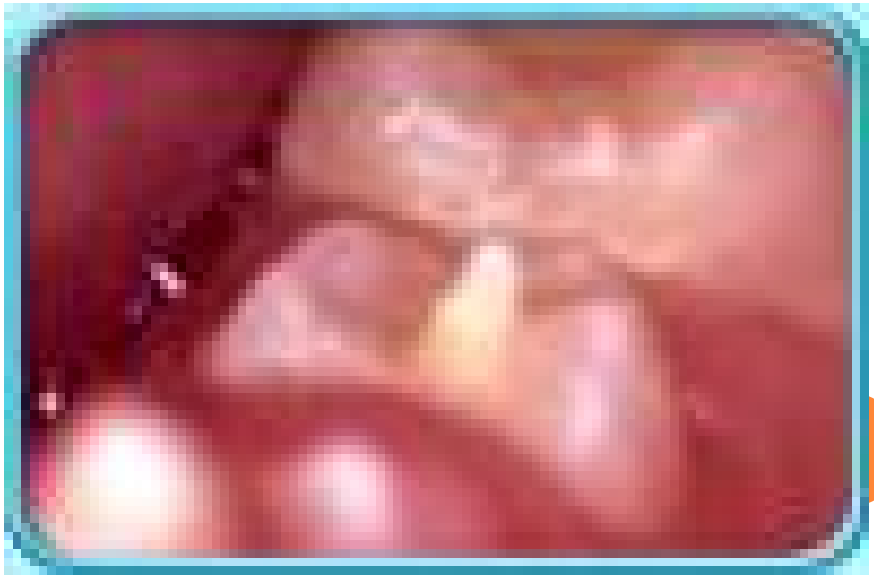






Dens Evaginatus

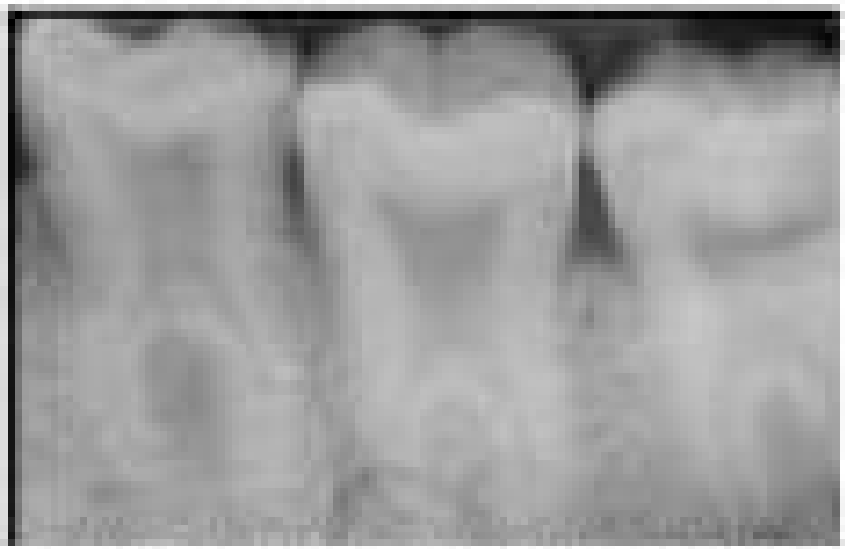
- Accessory cusp or globule of enamel on the occlusal aspect between buccal and lingual cusp of premolars
- Proliferation and evagination of IEE and odontogenic mesenchyme.
- May lead to disturbance in occlusion, displacement of teeth, pulp exposure, infection

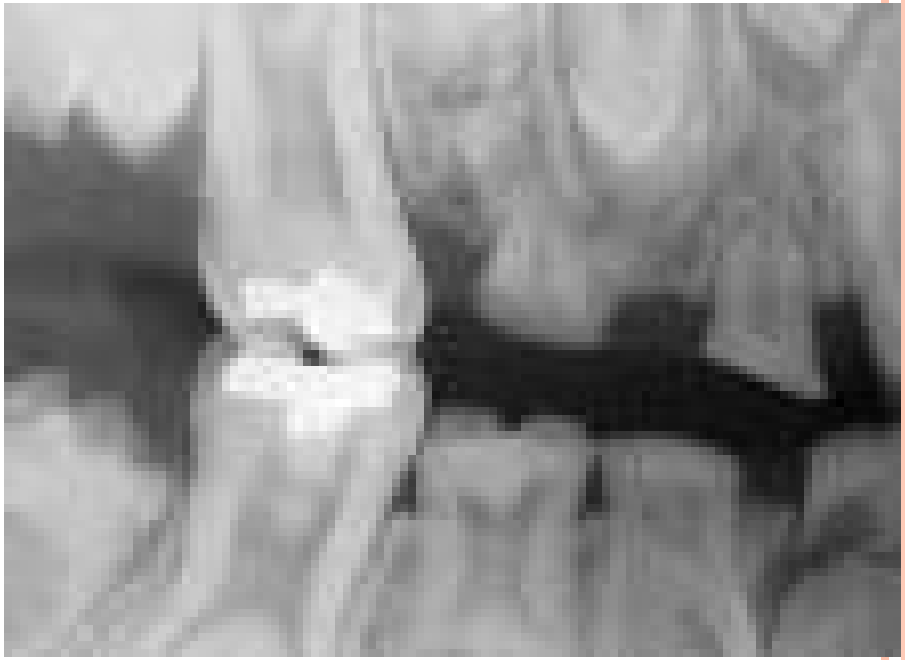


TAURODONTISM

- Bull like teeth/ Resembling teeth of cud chewing animals
- Classified as
  - Hypotaurodont
  - Hypertaurodont
  - Mesotaurodont
- Results due to failure of invagination of HERS
- Deciduous & Permanent teeth
- Molars are affected, Unilateral but can be bilateral.

- R/F
  - Rectangular shape
  - Large pulp chamber
  - Bifurcation near the apex





Supernumerary roots

- Extra root
- Usually cuspids and bicuspids
- Molars may also have an extra root
- Problem during extraction, Root canal treatment

Developmental Disturbances

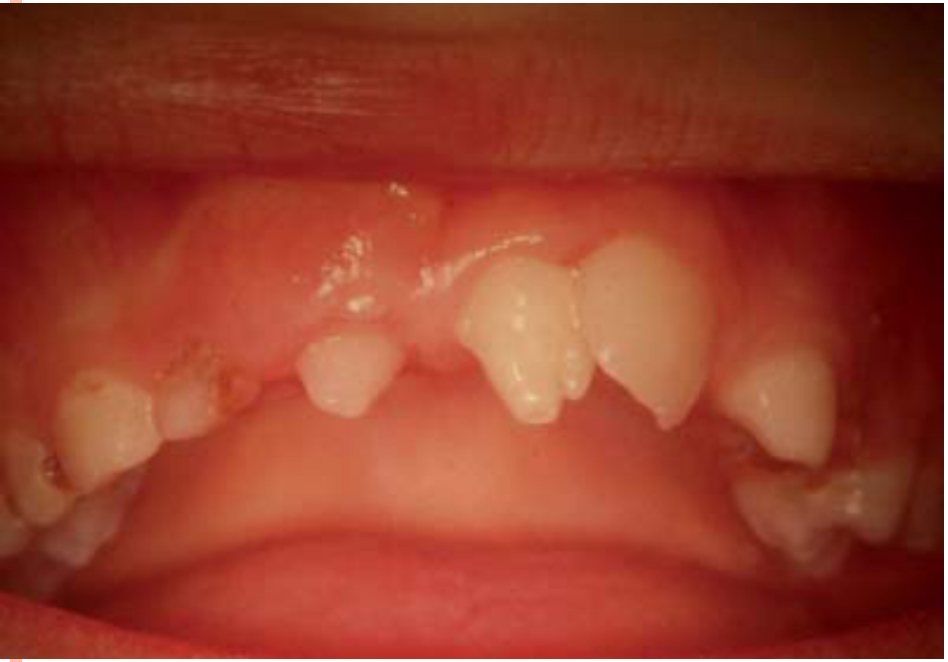
Number of Teeth

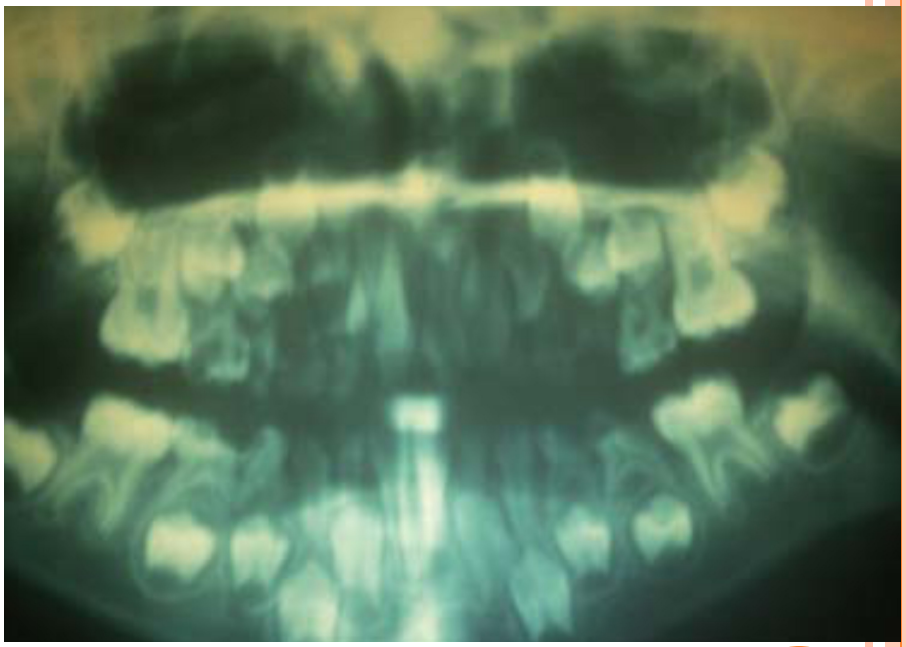
Anodontia

- True
  - Total/ Complete
  - Partial/ Incomplete
- False
  - Total/ Complete
  - Partial/ Incomplete

SUPERNUMERARY TEETH

- Incisors
- Premolars
- Paramolars
- Distomolars
- **Gardner Syndrome**
  - Multiple Osteoma
  - Multiple Supernumerary teeth
  - Compound Odontoma
  - Unerupted teeth
  - Hypercementosis





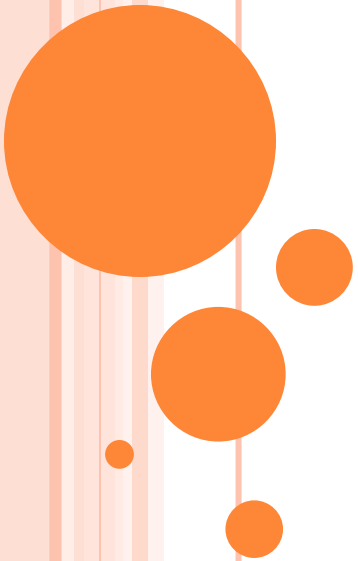
- PREDECIDUOUS DENTITION
  - HORNIFIED STRUCTURE ON GINGIVA RESEMBLING TEETH

Postpermanent dentition

- Third set of dentition

Developmental Disturbances

Growth (Eruption) of Teeth



- Premature eruption
- Delayed eruption
- Eruption squestrum
- Multiple unerupted teeth
- Embedded teeth
- Impacted teeth
- Ankylosed teeth (Submerged teeth)

Thank You!!!