Dental Anomalies

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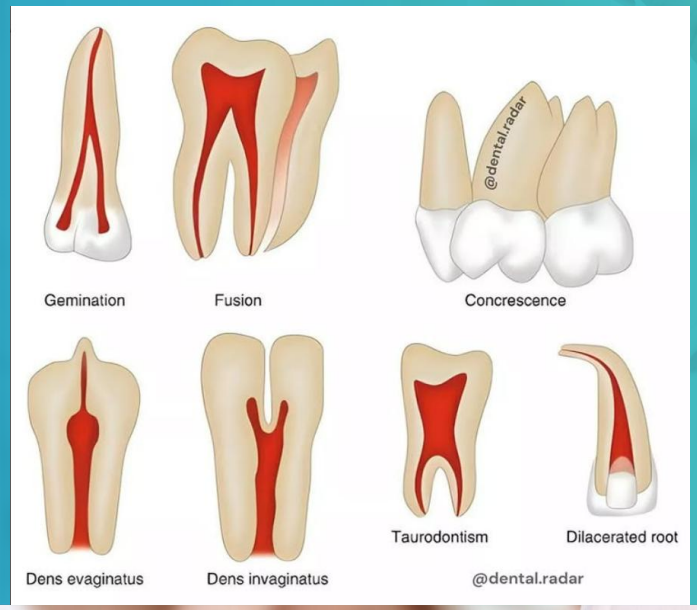


There are many **developmental and acquired** anomalies that can affect the teeth and facial skeleton so they classified into: Anomalies of the teeth ***and*** Craniofacial anomalies. The diagnosis of them based on both the **clinical** and **radiographic** findings.

- ***Anomalies of the teeth***

1- Developmental teeth anomalies: These include abnormalities of the teeth

in: Number, Structure, Size, Shape (morphology), and Eruption.

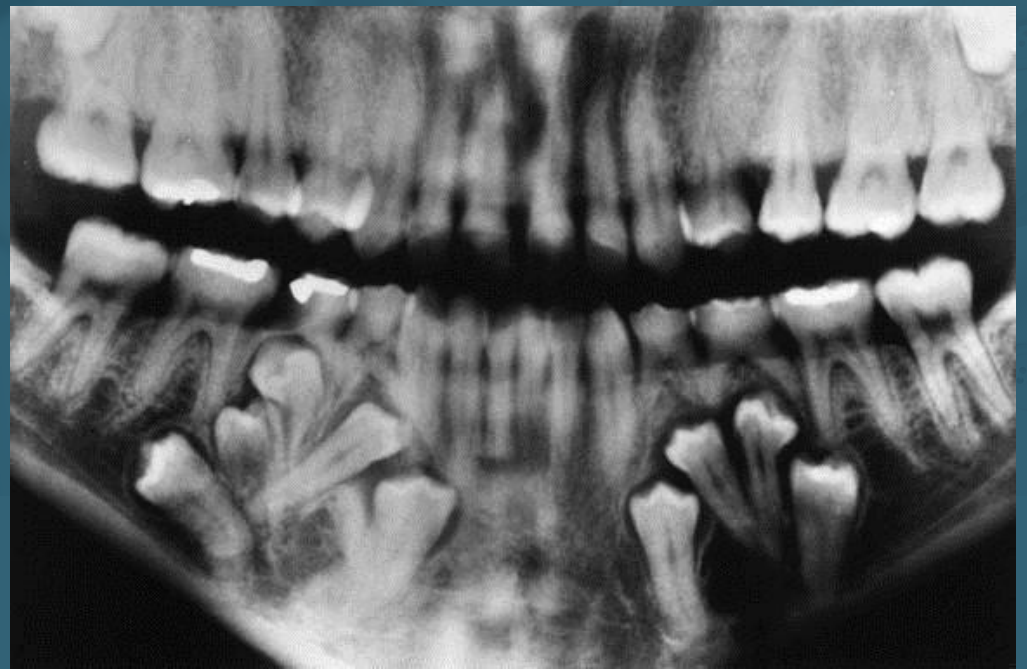
Abnormalities in number:

- **Missing teeth** (Hypodontia)

It's a condition at which the patient has missing one or few teeth as a result of their failure to develop. when numerous teeth are absent the condition called (oligodontia) and the failure of all teeth to develop called (anodontia). It could happen in Ectodermal Dysplasia. **Imaging features** of Missing teeth may be recognized by identifying and counting the teeth present.

Hyperdontia

It's a condition of having **supernumerary teeth**, or teeth which appear in addition to the regular number of teeth. The most common supernumerary tooth is a **mesiodens**, which is a mal-formed, peg-like tooth that occurs between the maxillary central incisors, Fourth and fifth molars **(paramolar, or distomolar)** that form behind the third molars are another kind of supernumerary teeth. It could be associated with ***Cleidocranial Dysplasia***. **The imaging features** of supernumerary teeth are variable. They may appear entirely normal in both **size and shape** or they may be smaller and conical shape.



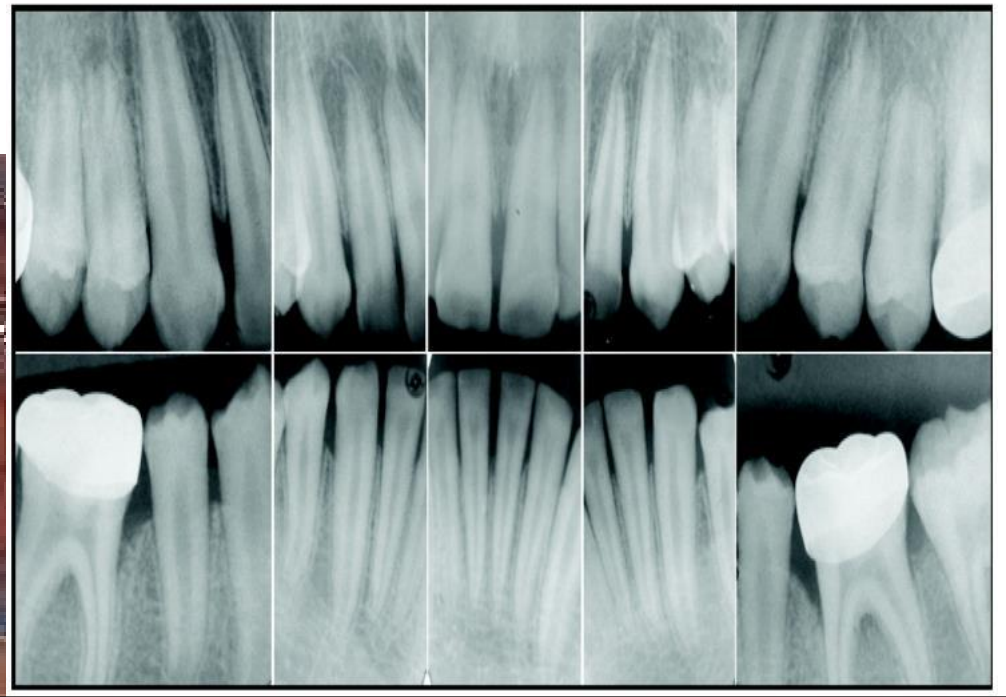
Abnormalities in structure:

The Abnormalities in teeth structures are subdivided into:

1- Genetic defect:

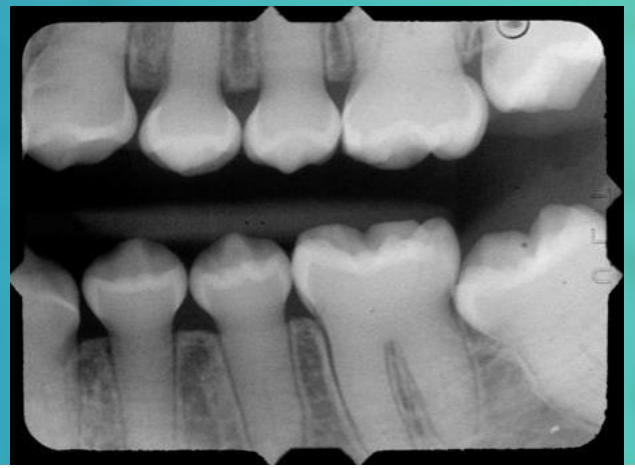
- Amelogenesis imperfect

Genetic disturbances in **enamel formation** leading to altered morphology of enamel. There is normal dentin and pulp formation. **Imaging features** shows square-shaped crown, thin enamel and absence of cusps.



Dentinogenesis imperfecta

Is a genetic anomaly involving the **dentin** in both deciduous and permanent dentition **Imaging features** show a marked constriction at cervical region of the tooth crown with **pulp champer obliteration** and short blunt roots.



2- Acquired defects:

- Turner hypoplasia

It's a frequent pattern of **enamel defects** seen in permanent teeth secondary to periapical inflammatory disease of the overlying deciduous tooth. The altered tooth is called (Turner's tooth). Imaging features of the involved region of the crown may appear as an ill-defined radiolucent region.

- Congenital syphilis

It’s a dental hypoplasia that results from direct infection of the developing tooth by spirochete of syphilis, involves the permanent incisors that called (Hutchinson's teeth) and first molars that called (mulberry molars). Imaging features have a characteristic shapes of the affected incisor and molar crowns.

Abnormalities in size:

- Macrodontia (large teeth)

It's a condition in which the teeth are abnormally large, rarely affects the entire dentition. Often a single tooth or a group of teeth may be involved. Imaging features reveal the increased size of the teeth. The shape of the tooth is usually normal, but some cases may be distorted. It associated with crowding, malocclusion, or impaction.

- Microdontia (small teeth)

It’s a condition in which teeth appear smaller than normal. In the generalized form, all teeth are involved. In the localized form, only single or few teeth are involved. The most common teeth affected are the upper lateral incisors and third molars. Imaging features of the affected teeth are frequently small and malformed.

Abnormalities in shape (morphology):

- Fusion

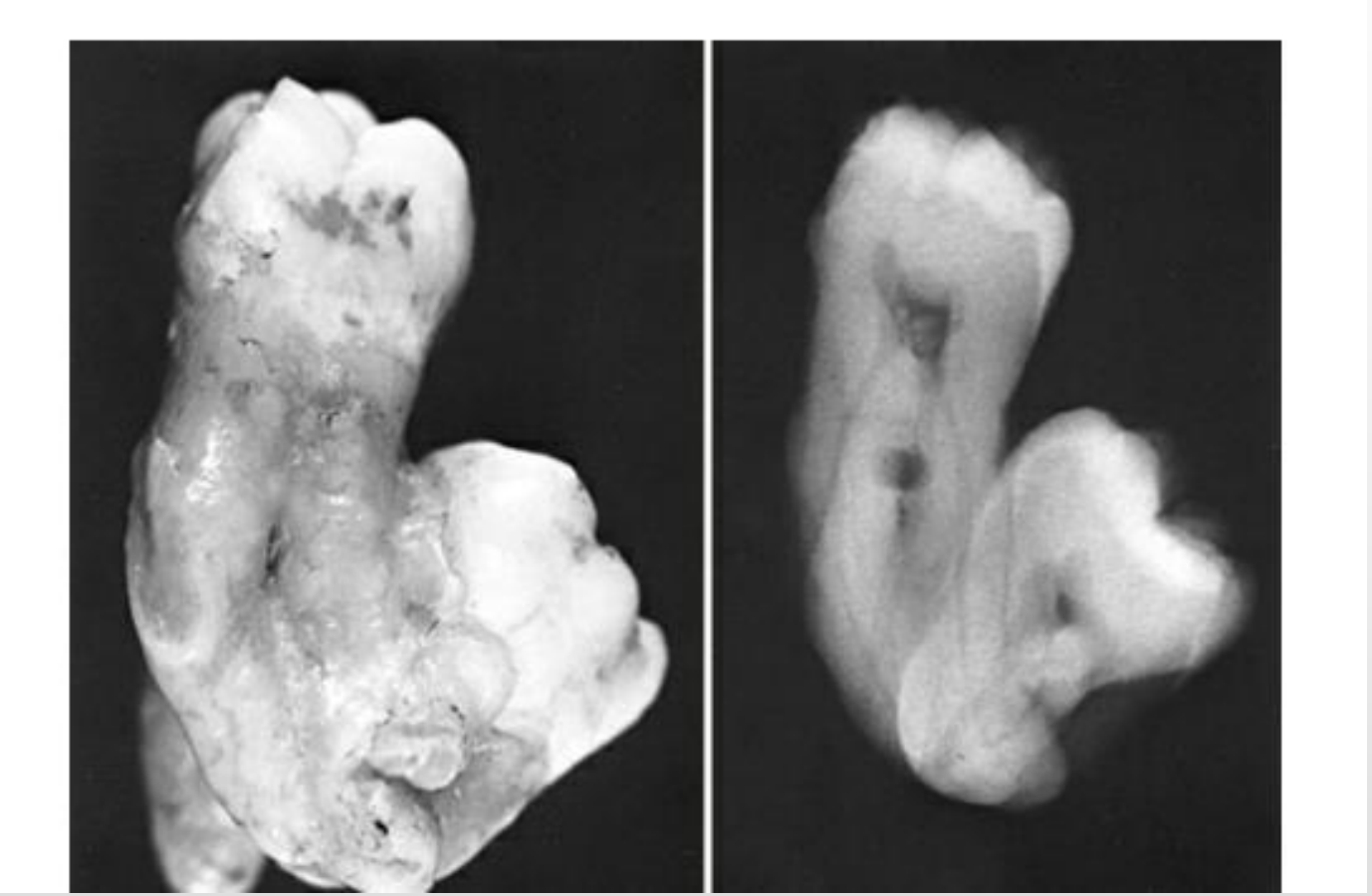
Two teeth joined together into a single anatomic crown (union of two separated tooth germ). Fusion is more common in anterior teeth of both the deciduous and permanent dentitions. Imaging features of fused teeth show unusual shape, size, and pulp chamber or root canal

Gemination

Single tooth germ divided into two teeth joined together (single root with two or enlarged crowns). Imaging features reveal the altered shape of the hard tissue and pulp chamber of the geminated tooth.

Concrescence

Is union of two adjacent teeth by cementum only. Maxillary third molar frequently involved. Imaging features reveal concrescence teeth may be in close contact or are simply superimposed.

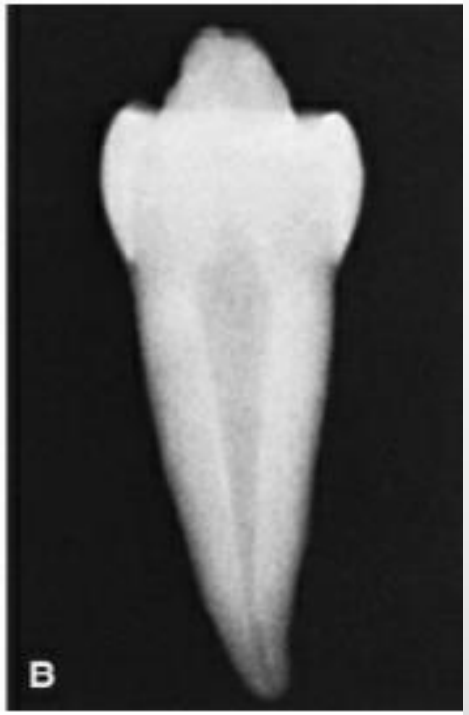


Dilaceration

Is a deviation or sharp bend in the linear relationship of a tooth crown to its root;
Imaging features is readily apparent on an intraoral radiograph when the roots are bending mesially or distally, buccally or lingually

Dens Invaginatus and Dens Evaginatus

Dens invaginatus is infolding of the enamel surface into the interior of a tooth crown or the root . Imaging features show more radiopaque than the surrounding tooth structure, poorly defined root, while **Dens evaginatus** is the outpouching of the enamel on the occlusal surface. Imaging features shows an extension of a dentin tubercle on the occlusal surface covered with radiopaque enamel.

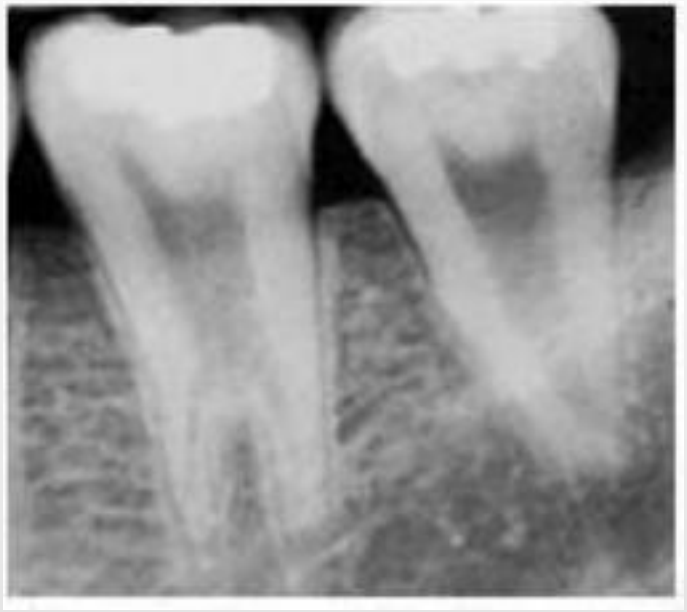


Enamel pearl

It's small spherical enamel masses (enameloma) located at the root of the molars and are found in 3% of the population. Imaging features of the enamel pearl appears smooth, round radiopaque structure.

Taurodontism

It's a condition found in the molar teeth whereby the body of the tooth and pulp chamber is enlarged vertically with short roots, the floor of the pulp and the furcation of the tooth is moved apically. Imaging features is the elongated pulp chamber and the more apically positioned furcation, shortened roots with long crown.



- Talon cusp:

It’s an Accessory cusp like structure projecting from the cingulum area or cement_x0002_ enamel junction of the maxillary or mandibular anterior teeth. Imaging features show a distinct radiopaque image of talon cusp on the crown of the involved tooth.

Abnormalities in Eruption of Teeth:

-**Transposition** is the condition in which two adjacent teeth have exchanged positions in the dental arch. Imaging features reveal transposition when the teeth are not in their usual sequence in the dental arch

-Premature Eruption (natal and neonatal teeth)

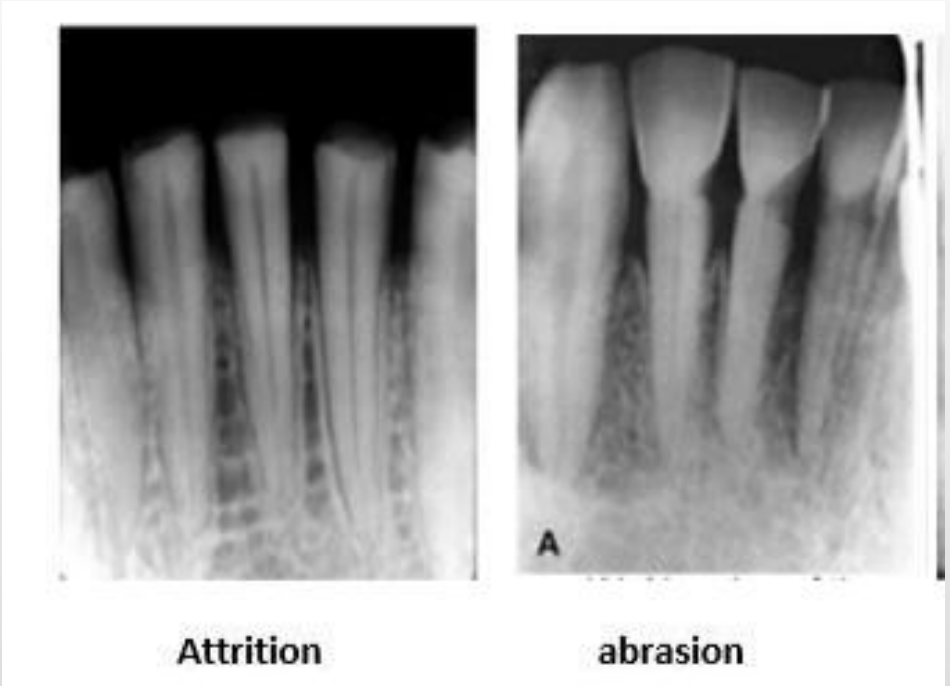
The teeth erupted in the oral cavity at the time of birth are called as ‘natal teeth’ and teeth erupting prematurely in first 30 days of life are called as ‘neonatal teeth’. Imaging features the roots are not seen on the radiograph and the teeth are very small.

- Delayed Eruption (Impacted Teeth)

permanent teeth are observed to be delayed in eruption forming Partially or completely impacted teeth, is more commonly in mandibular third molar, followed by maxillary canine and maxillary third molar. Imaging features of impacted mandibular third molar show mesioangular , distoangular , vertical or horizontal impaction.

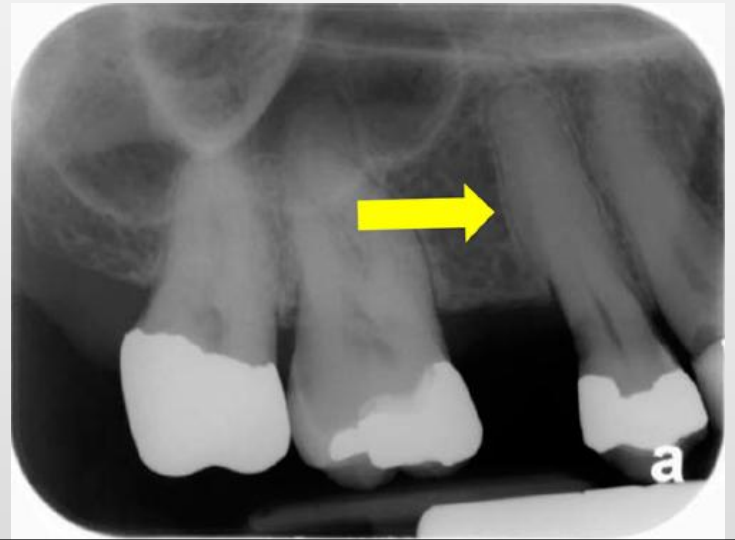
Acquired teeth Abnormalities

- **Attrition:** is physiologic wearing of teeth (occlusal contacts). The imaging appearance is flat incisal or occlusal surface.
- **Abrasion** is the nonphysiologic wearing of teeth (friction with a foreign toothbrush and dental floss , pipe ,…). Imaging appearance is defects at the cervical level of teeth
- **Erosion** (chemical action). Imaging features appear as radiolucent defects on the crown.



Resorption is the removal of tooth structure (internal or external). **Imaging** features for external root resorption are smooth loss apical and cervical regions with blunt root apex, while internal resorption round, oval radiolucent within the root or crown

- **Secondary dentin** additional dentin deposited. Imaging features is a reduction in size of the normal pulp
- **Pulp stones** (foci of calcification in the dental pulp). The imaging appearance is radiopaque structures within pulp, **Pulpal sclerosis** is another form of pulp calcification, but it diffuse to larger area.
- **Hypercementosis** is excessive deposition of cementum on the tooth roots. Imaging is an excessive buildup of cementum around all or part of a root



THANK YOU

your fututre is what your planing now.