Radiographic interpretation of Dental Anomalies (part 1) By Ahmed M Bakr
Dental anomalies

Developmental  Acquired
The term developmental indicates that a particular anomaly occurred during the formation of the tooth or teeth, from initiation at about the sixth week in utero to eruption.
Developmental Anomalies

1- variation of number

- Increase
- Decrease
Supernumerary teeth are those that develop in addition to the normal complement. The tooth form may be: normal (supplemental) or abnormal (supernumerary).
The order of frequency of supernumerary teeth is:
the *mesiodens*,

maxillary *distomolar* (4<sup>th</sup> molar),

maxillary *paramolar* (buccal to first molar)
Mesiodens
Paramolar is a supernumerary tooth in the molar region. The paramolar is obstructing the path of eruption of the third molar.
The occlusal surface of the paramolar is facing the occlusal surface of the unerupted third molar. May be called, in jest, "kissing molars".
Distomolar
Multiple supernumerary teeth have been associated with a number of syndromes such as cleidocranial dysplasia.
Missing teeth

1- absence of one tooth (hypodontia)

2- absence of numerous teeth (oligodontia)

3- failure of all teeth to develop (anodontia)
Total anodontia of permanent teeth and partial anodontia (hypodontia) of deciduous teeth as a result of agenesis of teeth. The patient suffered from a syndrome called **ectodermal dysplasia**.
2-Variation of size of teeth

Macrodontia

Microdontia
Macrodontia involves a tooth or teeth being larger than normal in size with proportional enlargement of pulp chamber, crown, and root.
Microdontia implies the abnormal smallness of a single or multiple teeth. This is most commonly an isolated anomaly such as a peg lateral.
3-ABNORMALITIES IN POSITION OF TEETH
Transposition is the condition in which two teeth have exchanged position.
Retained tooth

Retained deciduous second molar undergoing resorption of the crown.
Ankylosed tooth

Ankylosed third molar. Ankylosis is the union of cementum to the surrounding bone without the intervening periodontal ligament space.
4-Variation of shape (morphology)
ALTERATIONS IN SHAPE OF TEETH
Fusion
Gemination
Concrescence
Dens in dente
Dens evaginatus
Talon cusp
Taurodontism
Dilaceration
Hypercementosis
Enamel Pearl
fusion

• combining of adjacent tooth germ

* occurs in deciduous and permanent teeth

* reduced number of the teeth in the arch

* teeth joined by dentin or enamel
Fusion of mandibular central and lateral incisors on the right and on the left side. The fused teeth are between the right canine and the left canine.
Gemination

* Tooth bud of single tooth attempts to divide.

normal number occur in both dentitions

* Single root and root canal

* Involve enamel, dentin and cementum
Taurodontism

- longitudinally enlarged pulp chambers.
- crown is normal shape and size, but the body is elongated and the roots are short
- occur in either permanent or primary dentitions (or both).

* not recognizable clinically.
Dilaceration
Enamel pearl, also known as enameloma, is an ectopic mass of enamel which can occur anywhere on the roots of teeth but is usually found at the furcation area of roots. The maxillary molars are more frequently affected than the mandibular molars. An enamel pearl does not produce any symptom, and when explored with a dental explorer it may be mistaken for calculus. On a radiograph, the enamel pearl appears as a well-defined round radiopacity.
Dens in dente (dens invaginatus). The maxillary lateral incisor shows the invagination of the enamel into the tooth pulp chamber. The maxillary lateral incisor is the most frequently affected tooth.
Dens Evaginatus

exhibiting an anomalous tubercle projecting from the center of the occlusal surface of the molar.
The talon cusp is an accessory cusp located on the lingual surface of maxillary or mandibular teeth. It may produce occlusal disharmony.
Talon cusp arising from the cingulum of the maxillary right central incisor.
Concrescence

Concrescence is a form of fusion occurring after root formation has been completed, resulting in teeth united by their cementum. It is developmental in origin. The involved teeth may erupt partially or may completely fail to erupt. Concrescence is most commonly seen in association with the maxillary second and third molars. It can also occur with a supernumerary tooth. On a radiograph, concrescence may be difficult to distinguish from superimposed images of closely positioned teeth unless additional radiographs are taken with changes in x-ray beam angulation. This condition is of no significance, unless one of the involved teeth requires extraction.
Concrescence of mandibular molars.
Hypercementosis of root of second premolar. Hypercementosis is evident radiographically as an excessive build-up of cementum around all or part of a root of a tooth.
Thank you