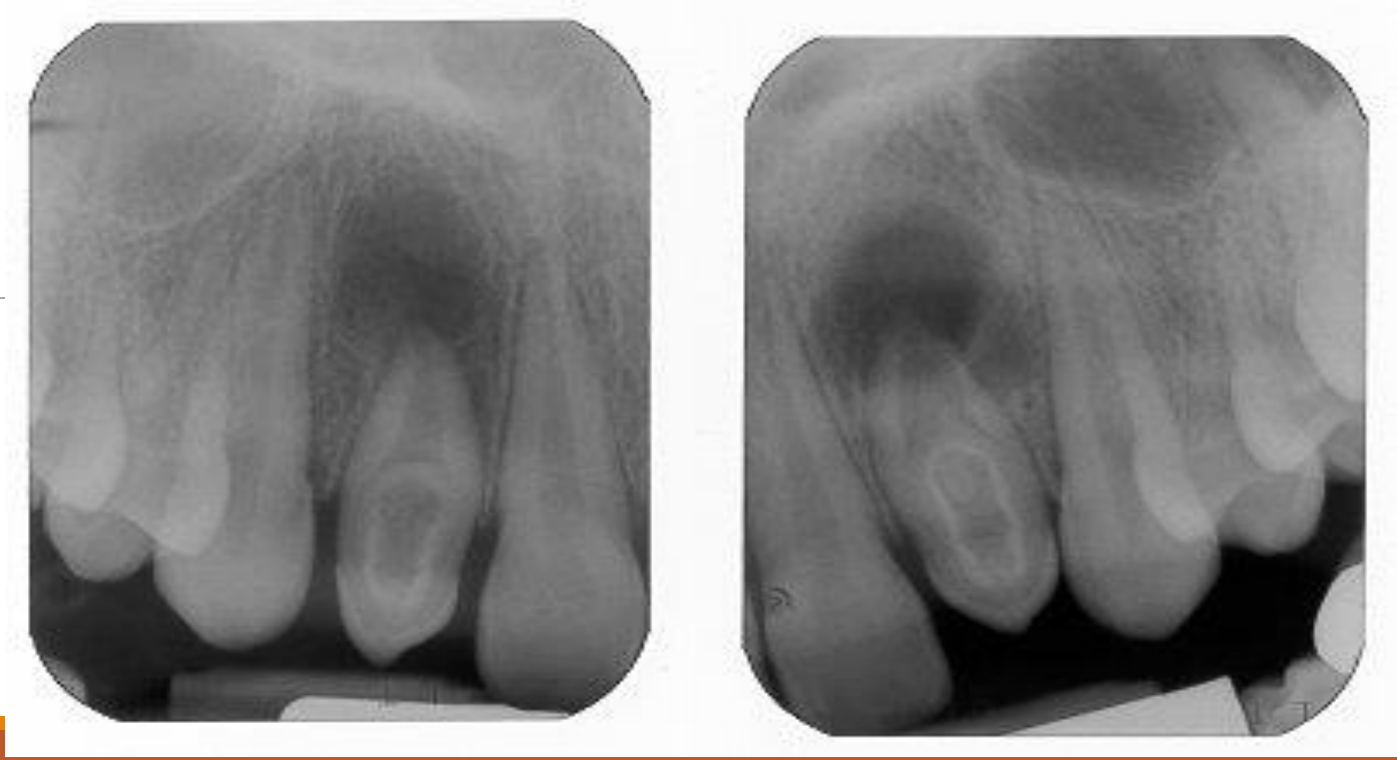
Radiographic appearance of dental anatomical variations

Dens invaginatus

is a malformation of teeth most likely resulting from an enfolding of the dental papilla during tooth development or invagination of all layer of the enamel organ in dental papillae.



Dilaceration

is a deviation or bend in the linear relationship of a crown of a tooth to its root; it is an angulation or sharp curve in the root or the crown of a developed tooth of 90º or more

Dilaceration-Photograph illustrating a dilacerated root.

(Courtesy of Dr. Rudy Melfi.)

Megalodontia

A condition in which the teeth are abnormally large.
Also called megadontism , megalodontia

Microdontia

is a condition in which teeth appear smaller than normal. In the generalized form, all teeth are involved. In the localized form, only a few teeth are involved. The most common teeth affected are the upper lateral incisors and third molars. The affected teeth may be of normal or abnormal morphology

periapical view of the right posterior maxilla shows a small second premolar (arrow)

There are 3 types of microdontia:

1. True generalized microdontia
2. Relative generalized microdontia
3. Microdontia involving a single tooth

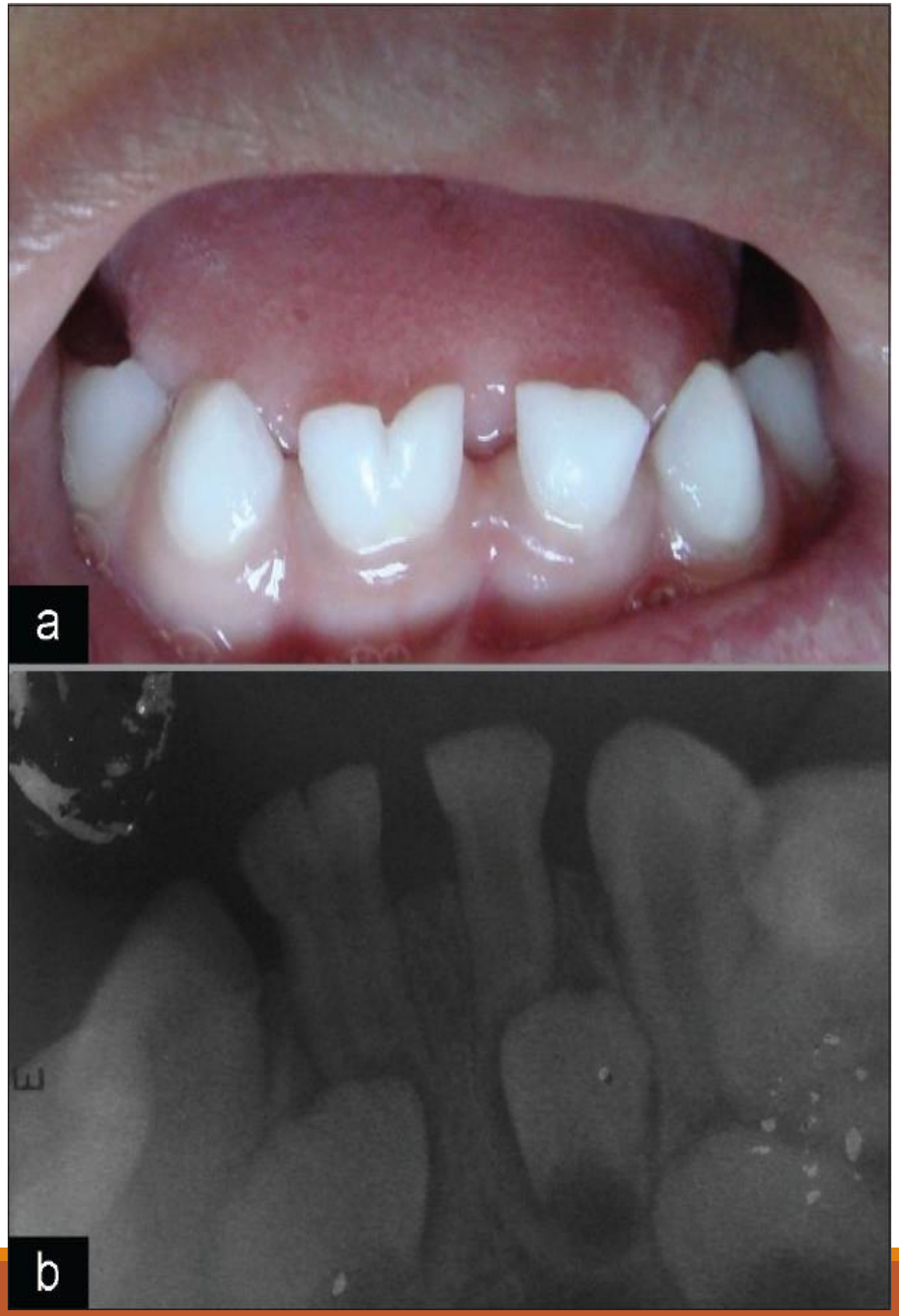
Twinning defect

An apparent extra upper central incisor in the primary dentition, illustrates what is actually a "twinning" defect. This is called a "**gemination**", which has a single tooth root with two anatomic crowns.

Gemination in upper right primery central incisor

fusion

Two apparently fused crowns are also present, and on counting the teeth, there is one less than normal.



Fusion presents as one of the most unusual and rarest anomaly of shape of the tooth. Fusion arises through the union of two normally separated tooth germs, whereas gemination arises from an attempt at division of a single tooth germ. The phenomenon of fusion has often been confused with gemination, especially if it involves a supernumerary tooth.

Hyperdontia

is the condition of having supernumerary teeth, or teeth which appear in addition to the regular number of teeth. When classified by position, a supernumerary tooth may be referred to as a mesiodens, a paramolar, or a distomolar.

Panoramic radiograph of 34-year-old patient showing retention of lower primary molars and development of multiple supernumerary premolars

*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 that form behind the third molars are another kind of supernumerary teeth.

Mesiodens

Cleidocranial Dysplasia: an inherited disorder involving the cranium, face, clavicles and **supernumerary teeth**

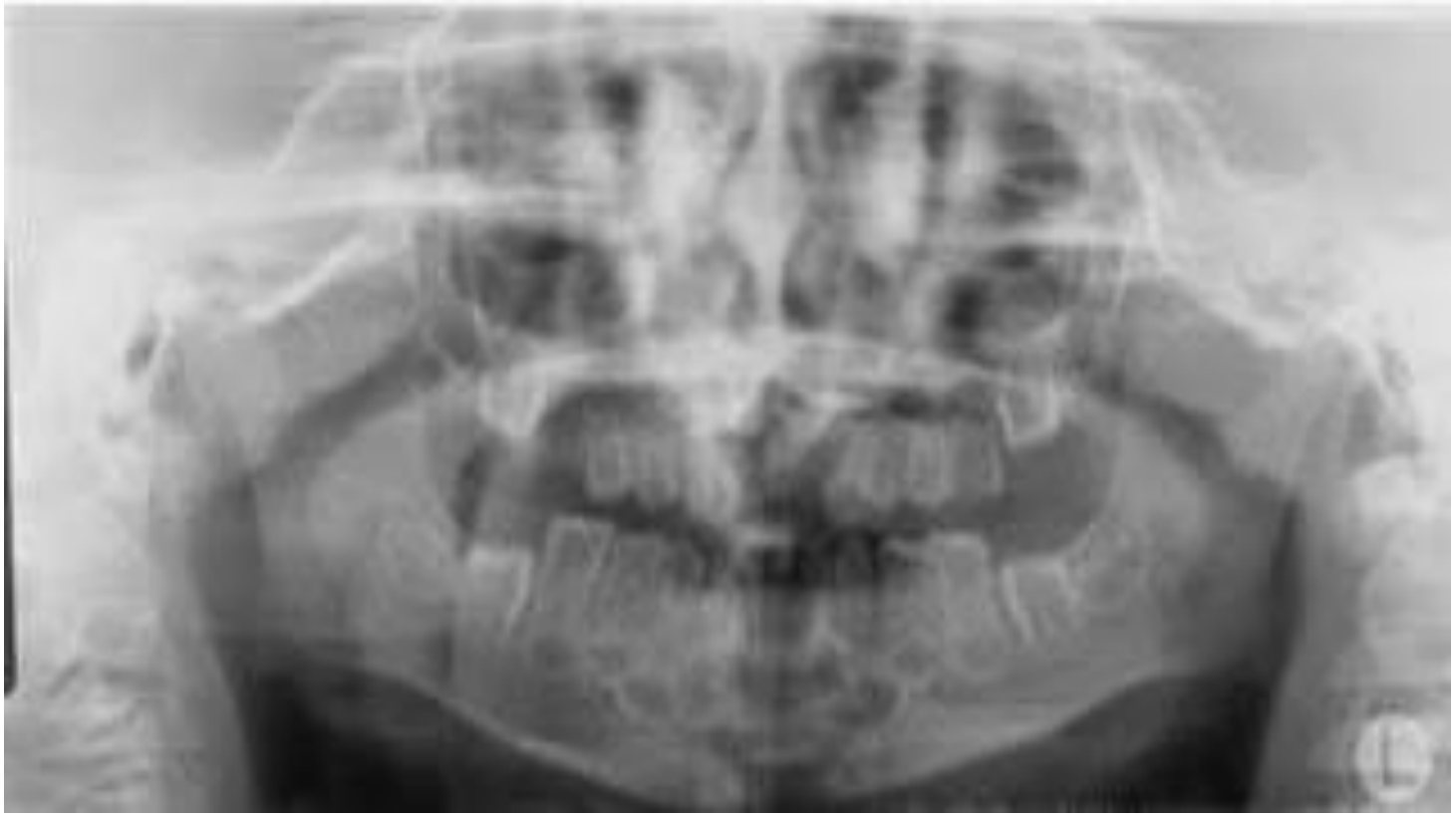
Hypodontia

is the condition at which the patient has missing teeth as a result of their failure to develop

It could happens in Ectodermal Dysplasia… lack of hair, sweat glands (hypohydrotic) and teeth (partial anodontia)

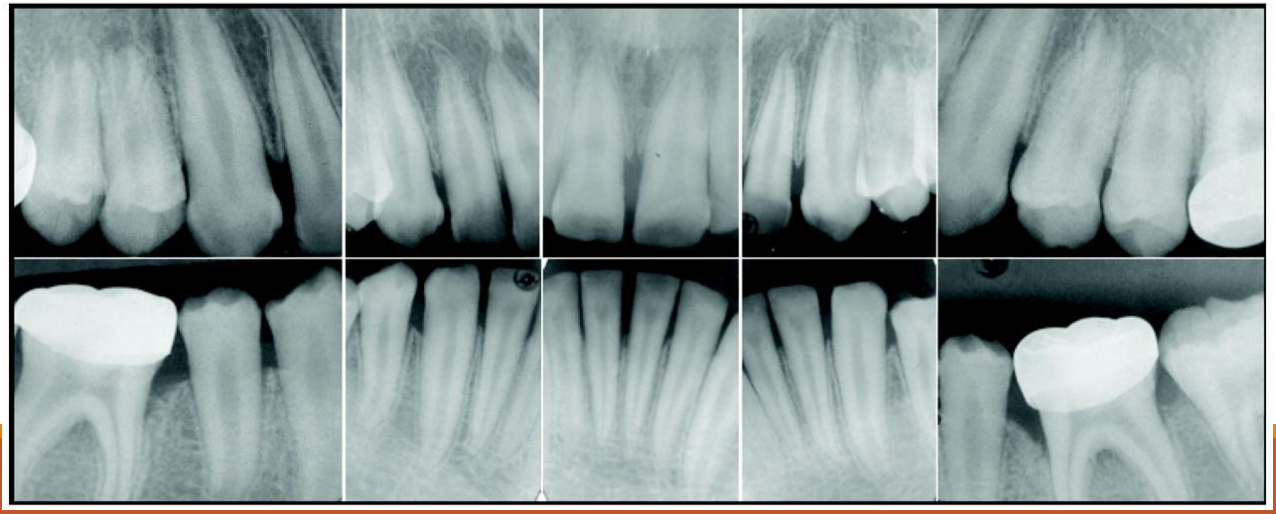
Odontodysplasia… ghost teeth

A marked decrease in radiodensity, Very thin enamel and dentin, large pulp chamber, Cells don’t change fully.



Amelogenesis imperfect

Genetic disturbances in enamel formation leading to altered morphology of enamel. There is normal dentin and pulp formation



Amelogenesis imperfect

Dentinogenesis imperfecta

Dentinogenesis imperfect
(Pulp obliteration and short blunt roots)

Talon cusp:

Clinical features: accessory cusplike structure projecting from the cingulum area or cemento enamel junction of the maxillary or mandibular anterior teeth

Turner hypoplacia

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.

Enamel pearls

are small spherical enamel masses located at the root of the molars and are found in 2% of the population . There can be a small pulp chamber extending from the parent tooth

Taurodontism

is a condition found in the molar teeth of humans whereby the body of the tooth and pulp chamber is enlarged vertically at the expense of the roots. As a result, the floor of the pulp and the furcation of the tooth is moved apically down the root.