



# Regional Odontodysplasia

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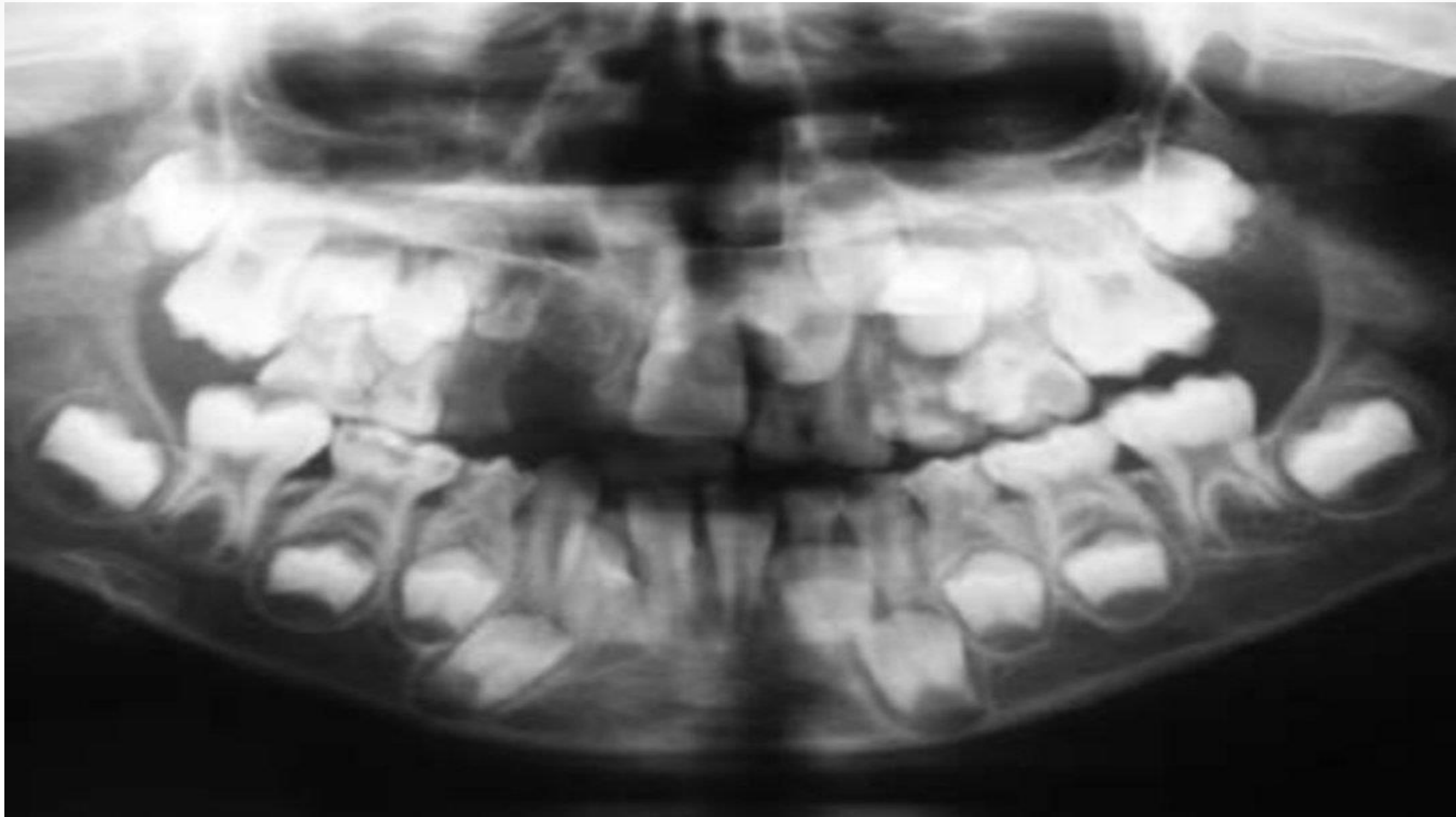
# Definition

Regional odontodysplasia (RO) is an uncommon, nonhereditary developmental anomaly involving components of both the dental mesoderm and ectoderm.

The condition can be differentiated from other odontogenic disturbances since all the histological elements of the dental organ are abnormal in the affected teeth, while other teeth in the same individual are normal.

Regional odontodysplasia has been reported under many other names, such as

- **Ghost teeth**
- **Odontogenesis imperfecta**
- **Odontogenic dysplasia**
- **Nonhereditary segmental amelogenesis imperfecta**

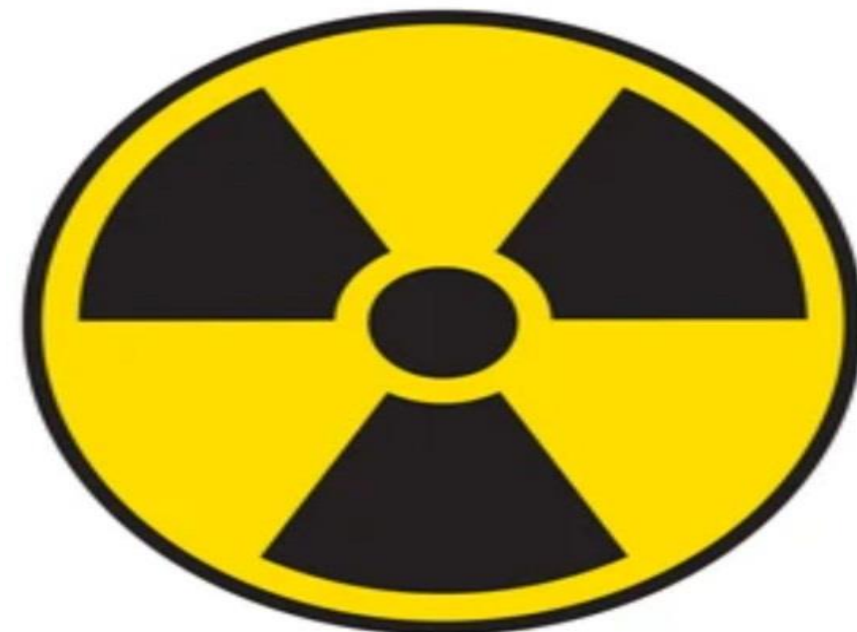


**Ghost teeth**

# Etiology and pathogenesis



**TRAUMA**



# Hypophosphatasia





The term '**regional**' was added because the condition affects a group of several adjacent teeth in a particular segment of the jaw.

Regional odontodysplasia is slightly more common in **females** and there is no tendency for its occurrence in any specific ethnic group.

Generally, the disturbance is localized to one arch and the maxilla is involved **twice** as often as the mandible. The **left side of the maxilla** is the most frequently affected site followed, in order of decreasing frequency, by the **maxillary right, mandibular right** and **mandibular left** regions

The number of affected teeth is variable and the affected teeth are usually in a continuous series. In the maxilla or mandible, the **central** and **lateral incisors**, and **canines** are the teeth most commonly affected. In rare cases of RO, a single tooth has been reported to be affected, and the condition has sometimes been seen to 'skip' a tooth or a group of teeth



# Clinical features

The affected teeth are ;

- atypically shaped with surface pits and grooves,
- hypoplastic,
- hypocalcified,
- show yellowish or brownish discoloration.
- Some of the affected teeth are whitish in colour at eruption, and later become yellowish or brownish



Because their structure is defective,

they are usually **small in size** and more susceptible to dental caries.

**The alveolar crest** in the region of the affected teeth is usually enlarged and covered by fibrous tissue.

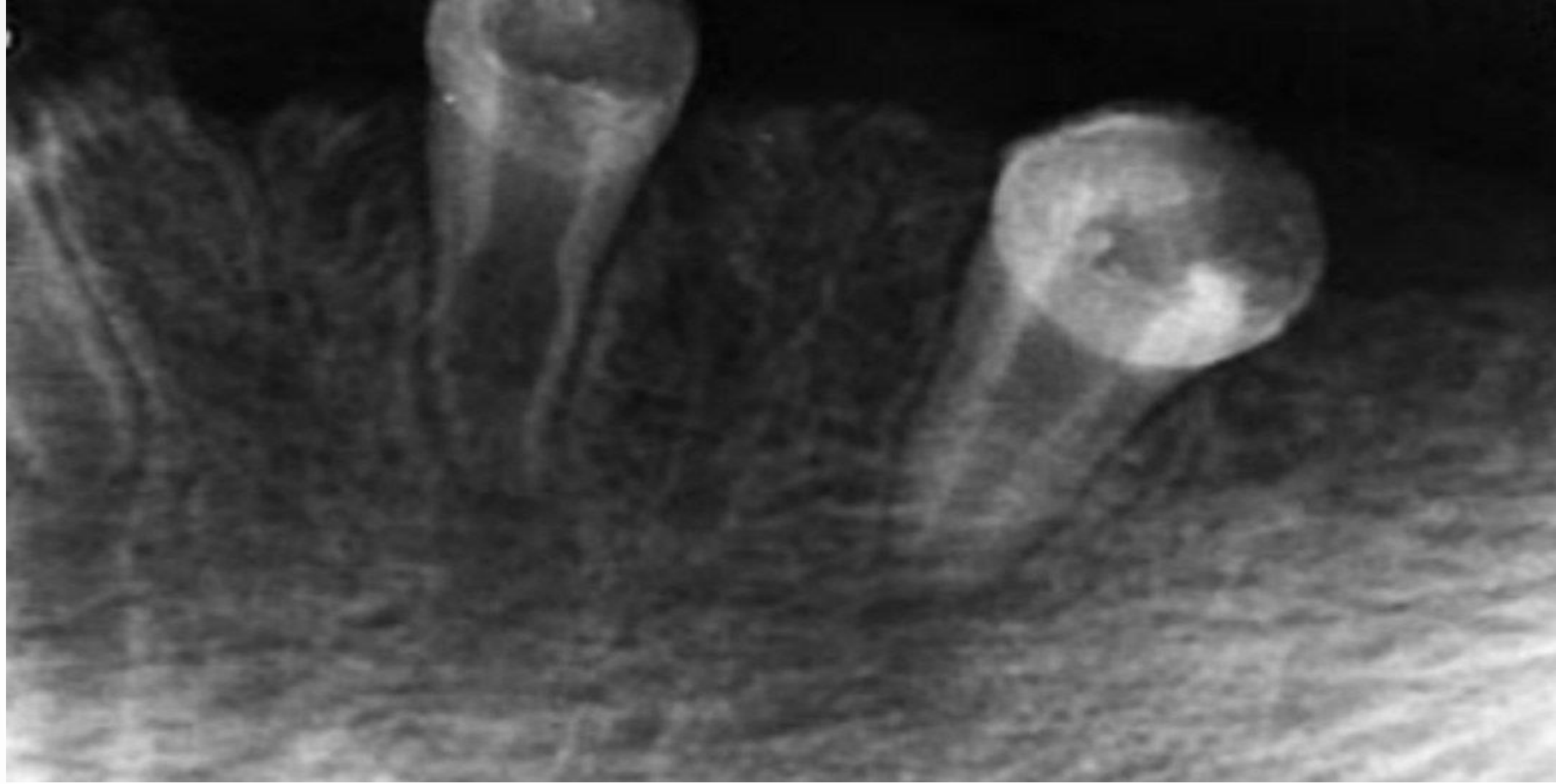
**The eruption** of the affected teeth is behind schedule or does not occur at all. When curetted, the unerupted teeth are extremely friable, and the dentine is very soft and could be mistaken for advanced caries

# Radiographical Features

The affected teeth show abnormal morphology and hypoplastic crowns.

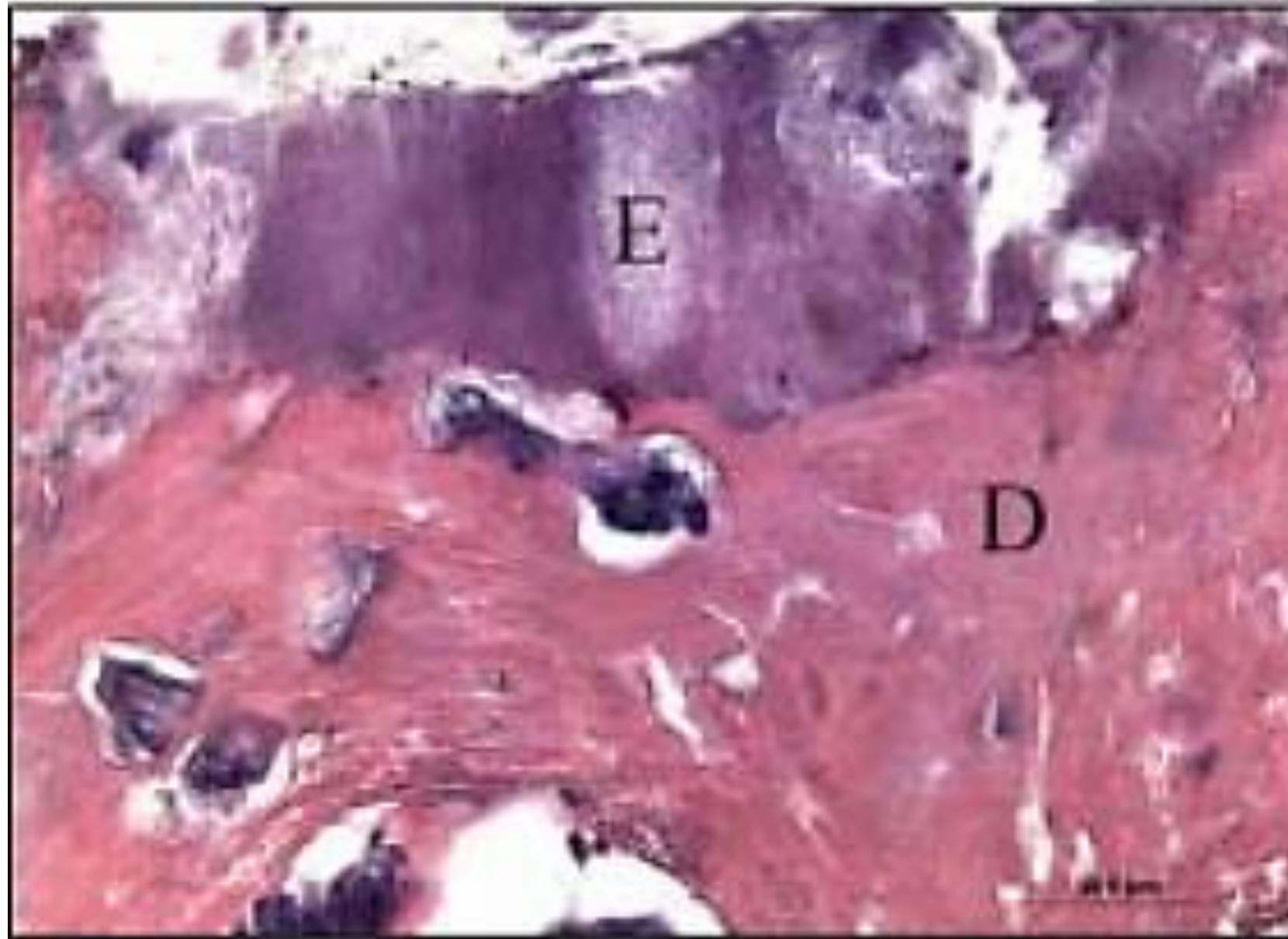
- ❖ The **enamel and dentine** are less radio-opaque than unaffected counterparts, and there is little demarcation between enamel and dentine. This faint outline of the affected teeth was the reason for the term '**ghost teeth**'.
- ❖ The **pulp chambers** and root canals are wide,
- ❖ and **the roots** are short with wide and open apices.
- ❖ **Calcification** is occasionally seen within the pulp chambers or root canals.





# **Histological Features**

Histologically, both enamel and dentin appear hypomineralised with poorly organised dentinal tubules and enamel prisms. The pulp chambers very often contain calcifications in the coronary area.



Ghost tooth with the presence of a slender enamel layer lacking mineralization(E).  
Irregular dysplasia dentin layer(D)



# Differential diagnosis

- Amelogenesis imperfecta
- Dentinogenesis imperfecta
- Dental dysplasia
- other disease states affecting the tooth formation apparatus



**TREATMENT**

Restorative procedures to protect the affected erupted teeth have been suggested;

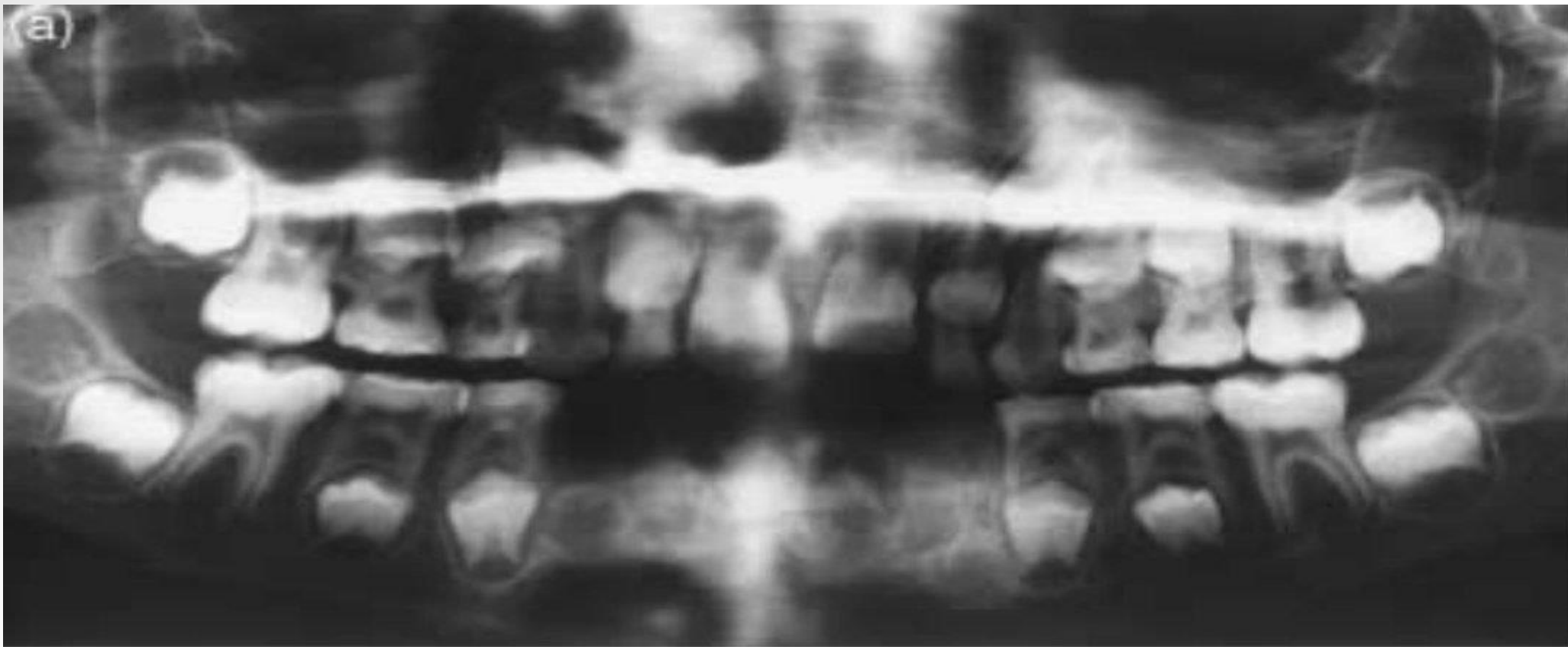
- **The temporary prosthesis** can be maintained till the age of 17 or 18 years.
- Moving those teeth which have the most-developed roots **orthodontically** with subsequent restorations.
- Placement of **osseointegrated implants** in growing children with hypodontia.
- **Removal** of teeth at a young age.



# Aims of Treatment

- ❖ Aiding mastication and speech
- ❖ Improving aesthetics
- ❖ Reducing the psychological impact
- ❖ Allowing normal jaw growth and development
- ❖ Protection of any erupted affected teeth











*thank you*

