

Dental Anomalies

Supernumerary



FIG. 21.1 (A and B) Periapical images of inverted mesiodens.



FIG. 21.2 Cone beam computed tomography reconstructions showing a supernumerary tooth between the two maxillary central incisors (*arrow*).

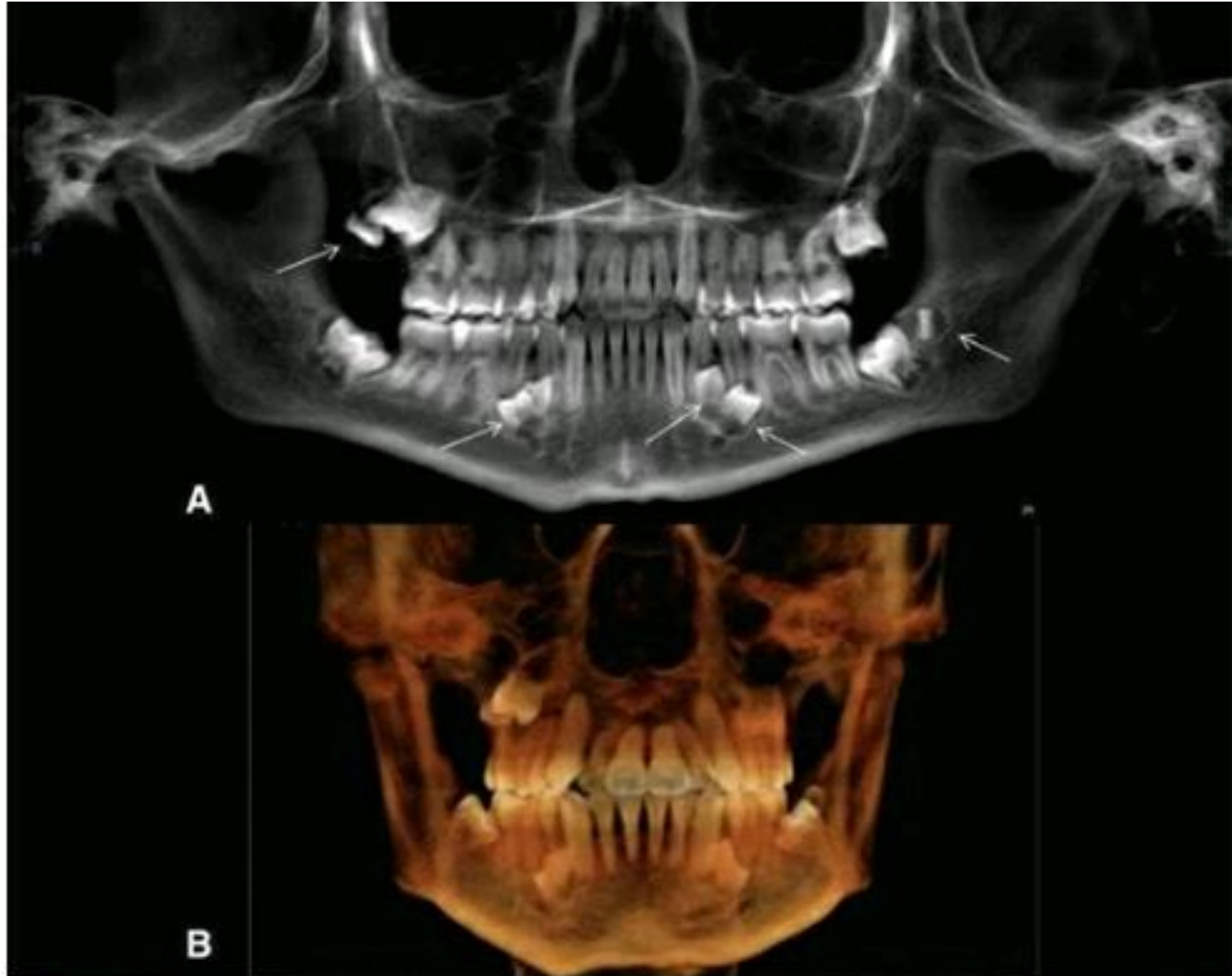


FIG. 21.3 Multiple Supernumerary Teeth. (A) Panoramic reconstruction of a cone beam computed tomography (CBCT) volume (*arrows*). (B) Three-dimensional reconstruction from a CBCT volume.



FIG. 21.4 (A) Example of two supernumerary teeth in the maxillary third molar area (distodens). (B) Example in the mandibular third molar region. ([A] Courtesy Dr. H. Grubisa, Oakville, Ontario.)

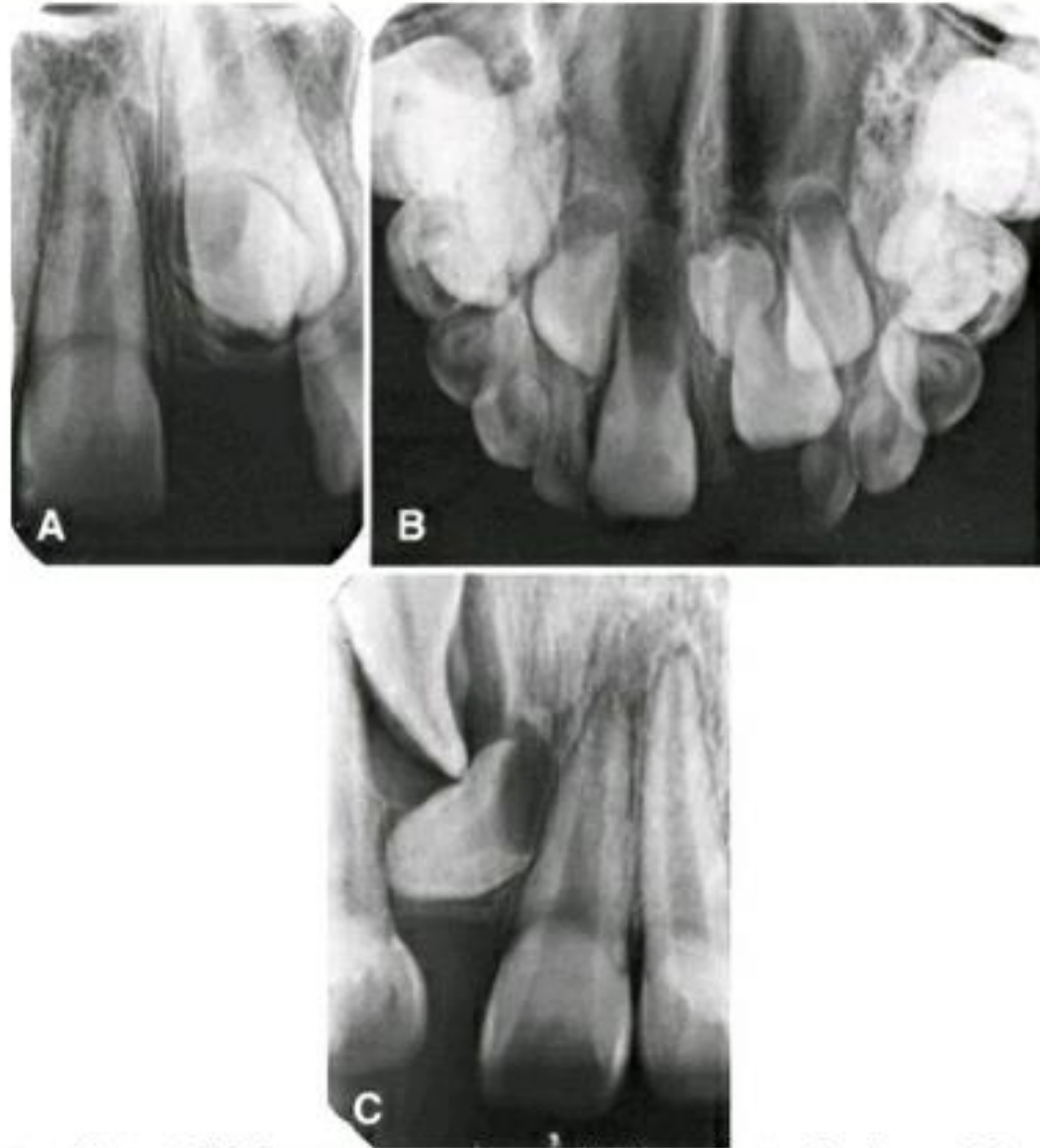


FIG. 21.7 (A to C) Examples of mesiodens interfering with eruption of adjacent permanent teeth.

Missing

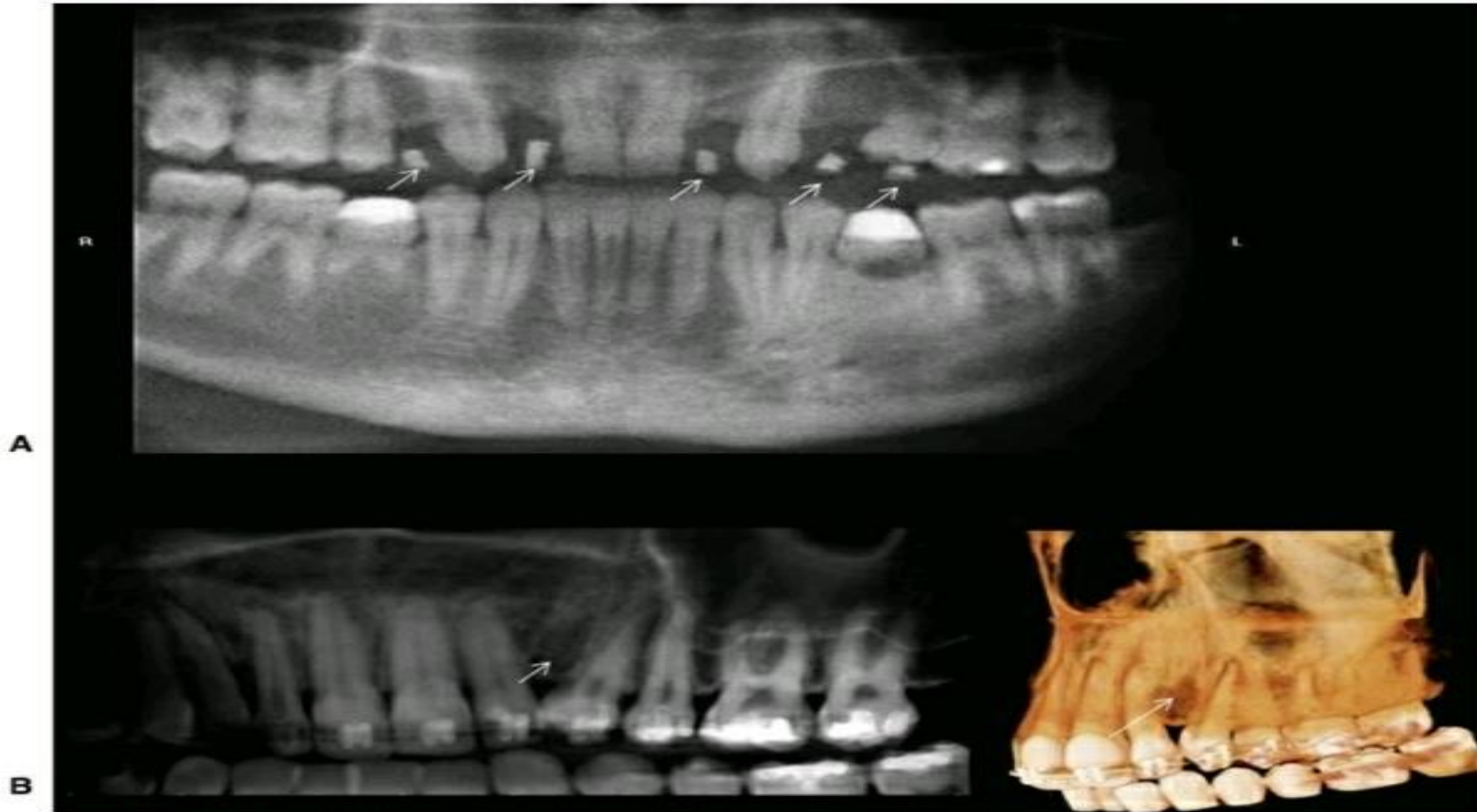


FIG. 21.9 (A) Multiple missing teeth in a patient with oligodontia. *White arrows* show radiographic markers for planning dental implants. (B) Panoramic reconstruction of a cone beam computed tomography volume. *White arrow* shows a developmentally absent maxillary left canine.

Macrodontia

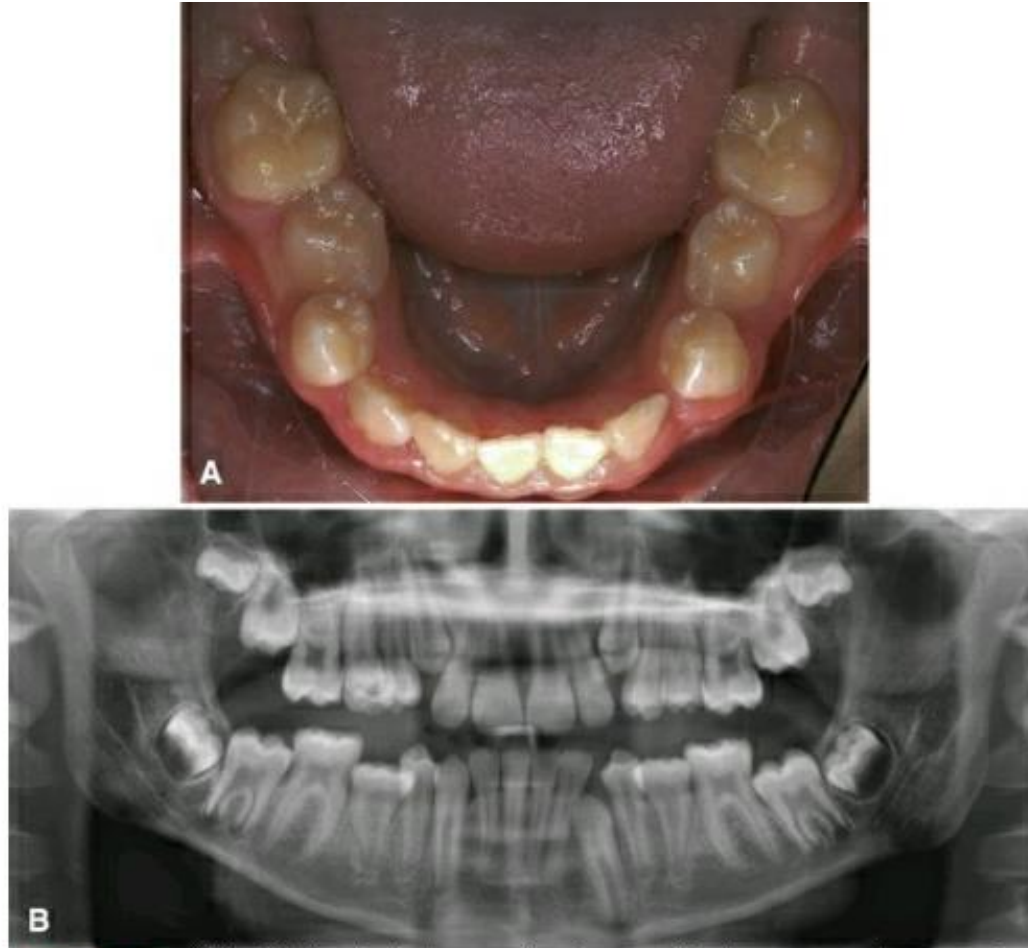


FIG. 21.11 (A) Clinical photograph of mandibular second premolar macrodontia. (B) Panoramic image shows the greater mesial/distal widths of the tooth crowns compared with their respective first premolars. (Courtesy Dr. H. Grubisa, Oakville, Ontario, Canada.)

Microdontia



FIG. 21.13 Peg-shaped deformity in microdontia of a maxillary lateral incisor.

Eruption of Teeth

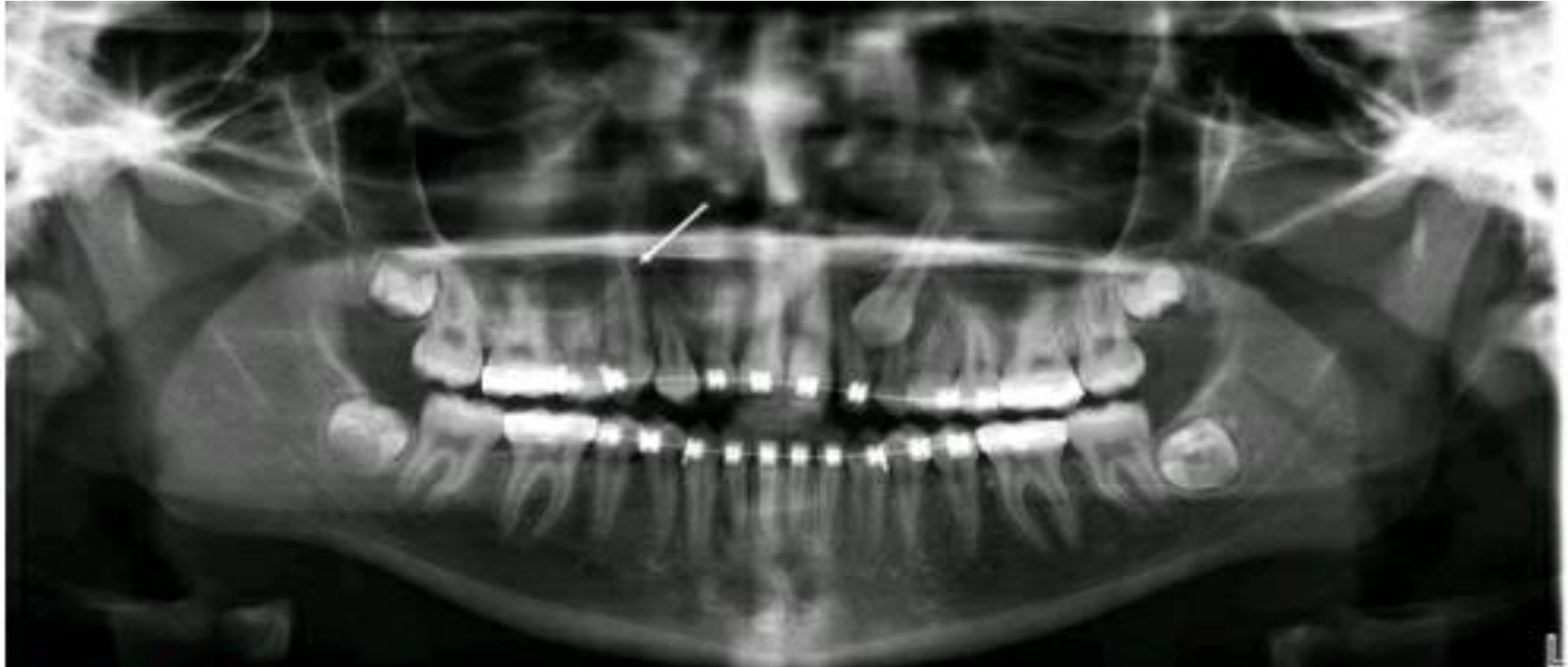


FIG. 21.14 Panoramic image demonstrating transposition of the right maxillary canine (*arrow*) and first premolar.

Fusion



FIG. 21.15 Fusion of the central and lateral incisors in both the primary and the permanent dentitions. Note the reduction in number of teeth and the increased width of the fused tooth mass.

Concrecence



FIG. 21.16 (A) Concrecence occurs when two teeth are joined by cementum. (B) Extraction of one tooth may result in the unintended removal of the second because the cementum bridge may not be well visualized. (Courtesy Dr. R. Kienholz, Dallas, TX.)

Gemination



FIG. 21.17 (A) Gemination of a mandibular lateral incisor showing bifurcation of the crown and pulp chamber. (B) Almost complete gemination of a deciduous lateral incisor.

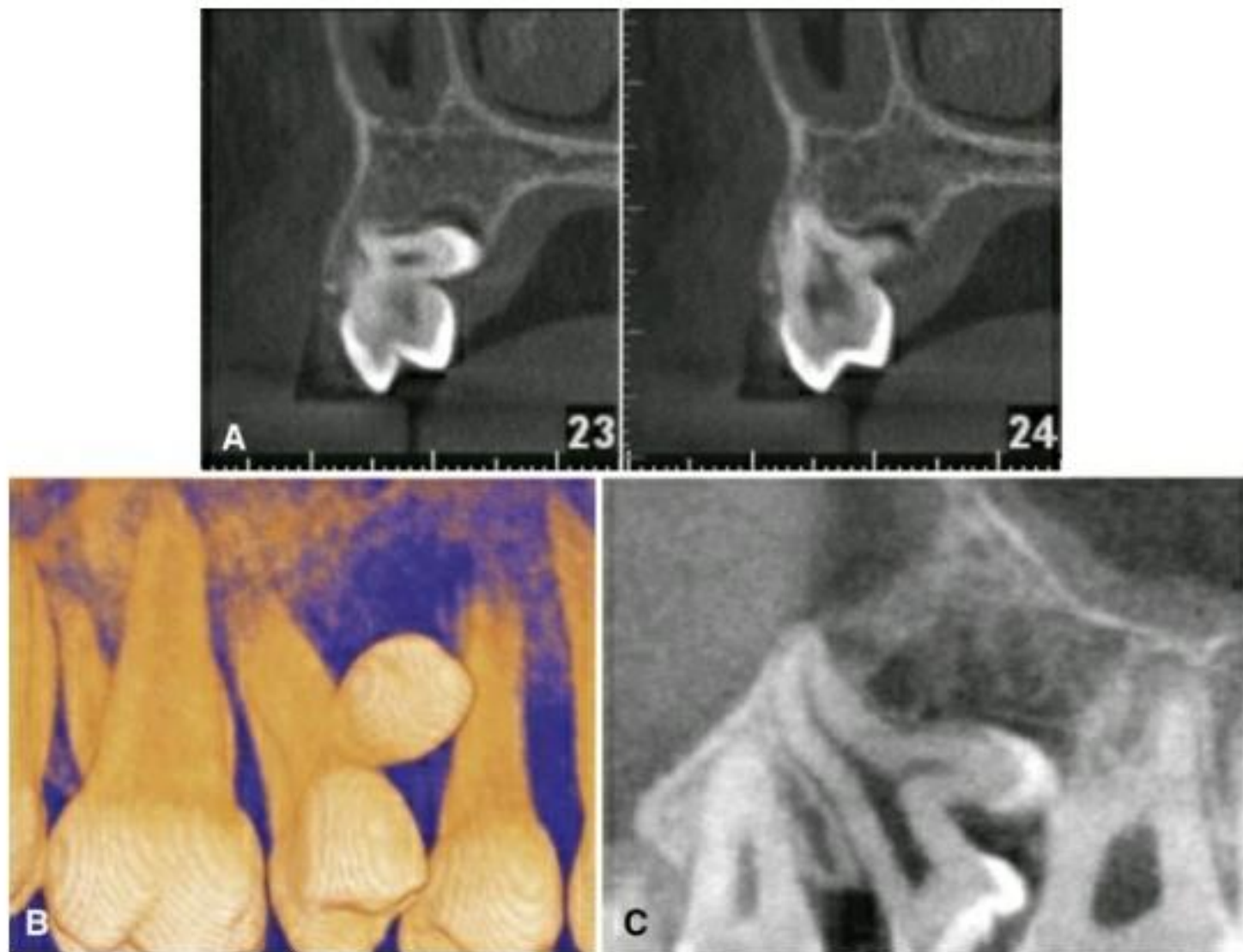


FIG. 21.18 (A) Gemination of a maxillary left second premolar on cross-sectional slices. (B) Three-dimensional surface rendering demonstrating the geminating tooth and its association with the premolar. (C) Coronal cone beam computed tomography image of another case of gemination of a second premolar. Note the common root canal. ([A and B] Courtesy Dr. B. Friedland, Cambridge, MA.)

Taurodontism



FIG. 21.19 Periapical images reveal enlarged pulp chambers and apically positioned furcations in permanent first molars (A), a primary first molar (B), and a permanent molar (C).

Dilaceration



FIG. 21.20 (A) Dilaceration of the crown may be recognized clinically. (B) Image of the specimen in A. (Courtesy Dr. R. Kienholz, Dallas, Texas.)

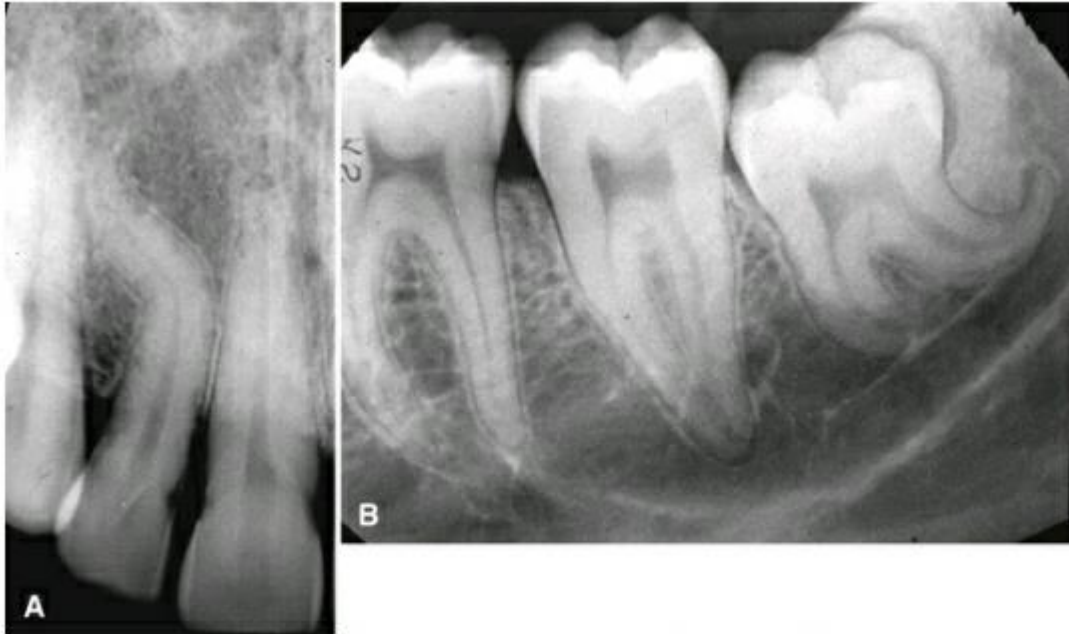


FIG. 21.21 Dilaceration of the root of a maxillary lateral incisor (A) and mandibular third molar (B).

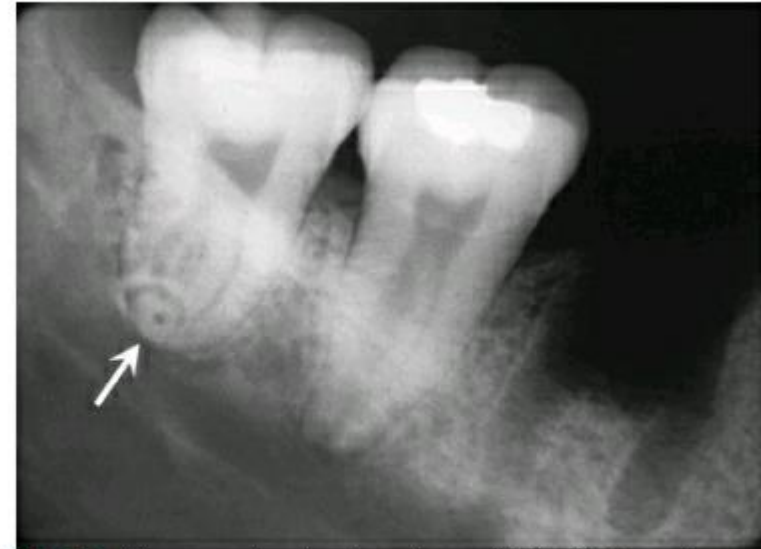


FIG. 21.22 The most apical portion of this third molar root is dilacerated in the buccal-lingual direction so that its long axis lies along the path of the x-ray beam. Note the "bull's-eye" appearance of the root apex produced by the root canal, tooth root, and periodontal ligament space (*arrow*).

Dens Invaginatus



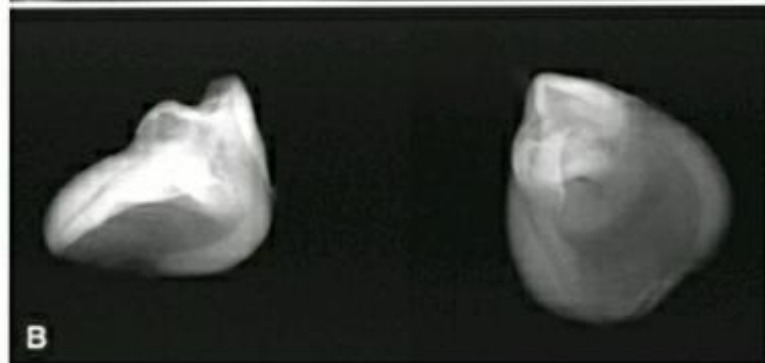
FIG. 21.24 Radiopaque, inverted teardrop outline of dens invaginatus in a maxillary lateral incisor. Note the position of the invagination in the cingulum area of the tooth crown.

Dens in Dente



FIG. 21.25 (A and B) Infolding of enamel is more severe in dens in dente as seen in these two periapical images. The invagination begins near the incisal edge of these abnormally peg-shaped lateral incisors.

Dilated Odontoma



Hypoplastic

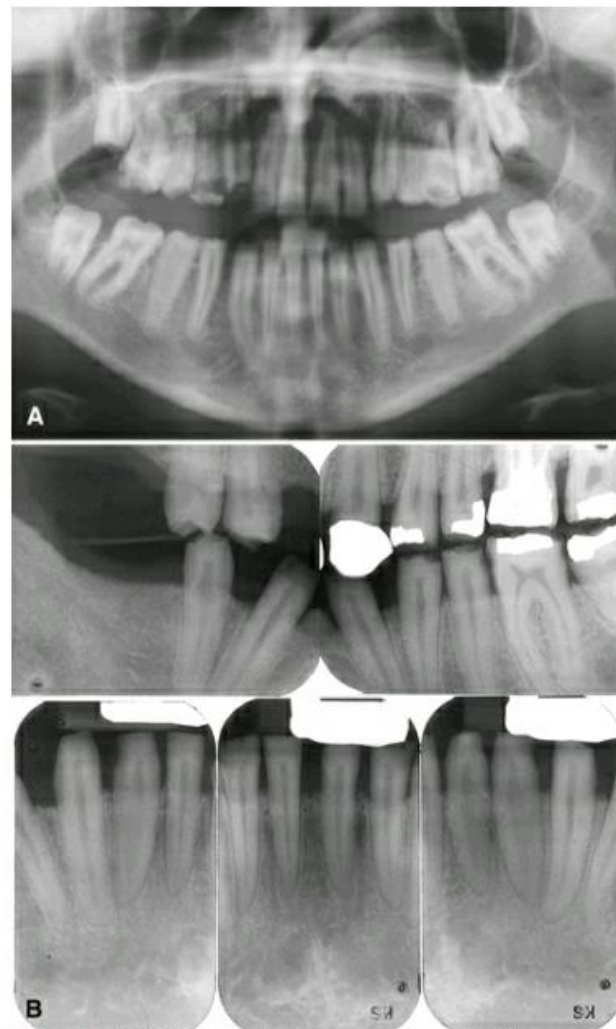


FIG. 21.30 (A) Cropped panoramic image of hypoplastic amelogenesis imperfecta. Note the absence of interproximal contacts and the “picket fence”-like appearance of the teeth. (B) Intraoral images of another case of amelogenesis imperfecta. Note the very thin enamel layer. ([A] Courtesy Dr. S. Roth, Halifax, Nova Scotia, Canada.)

Hypocalcification



FIG. 21.31 The reduced radiopacity of the enamel and the rapid abrasion of the crowns of the primary teeth are features of hypomineralized amelogenesis imperfecta.

Dentinogenesis Imp

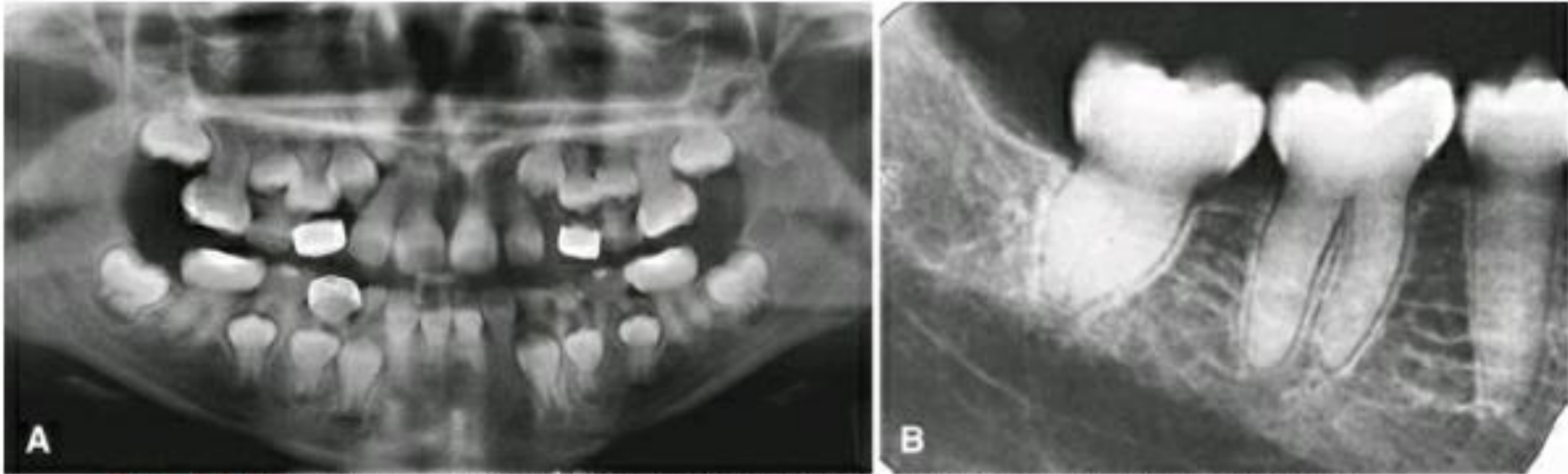


FIG. 21.32 (A and B) Dentinogenesis imperfecta characteristically shows bulbous crowns, constriction of tooth at the cemento-enamel junction, short roots, and a reduced size of the pulp chamber and root canals.

Enamel Pearl



FIG. 21.37 Three enamel pearls (one on the lingual side and two on the buccal side) are visible in the furcation area of the tooth in this radiographic image.

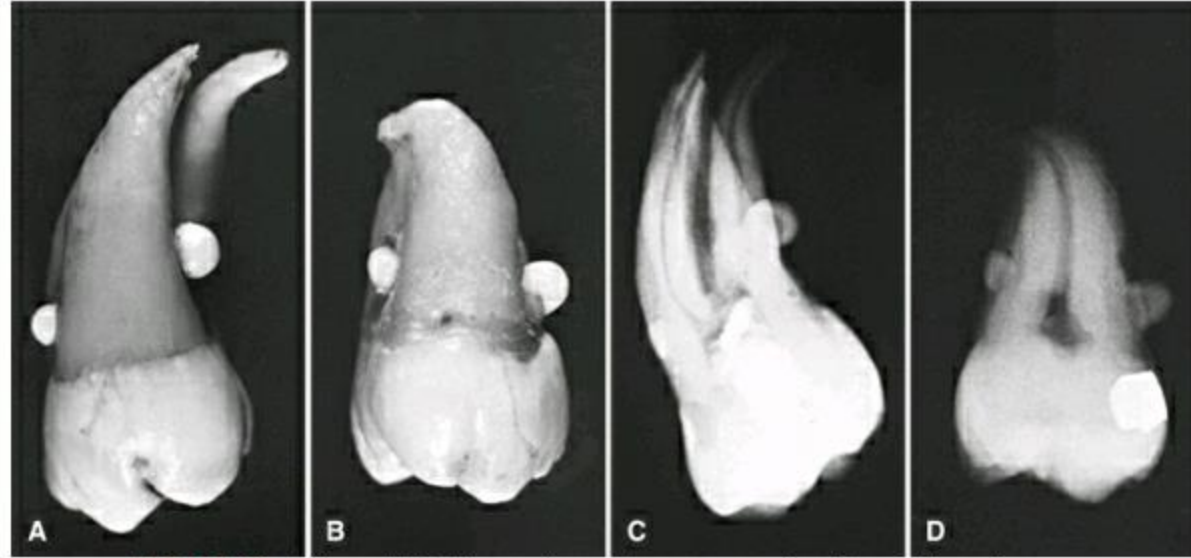


FIG. 21.36 (A and B) Enamel pearls are small outgrowths of enamel and dentin in the furcation areas of teeth. (C and D) Radiographic images of the teeth in A and B. (Courtesy Dr. R. Kienholz, Dallas, Texas.)

Talon Cusp



FIG. 21.38 Maxillary lateral incisor bearing a talon cusp (*arrow*). The tooth also has two enamel invaginations, one near the incisal edge and a second in the cingulum area. (Courtesy Dr. R. A. Genderson, Dallas, TX.)

Turner Hypoplasia

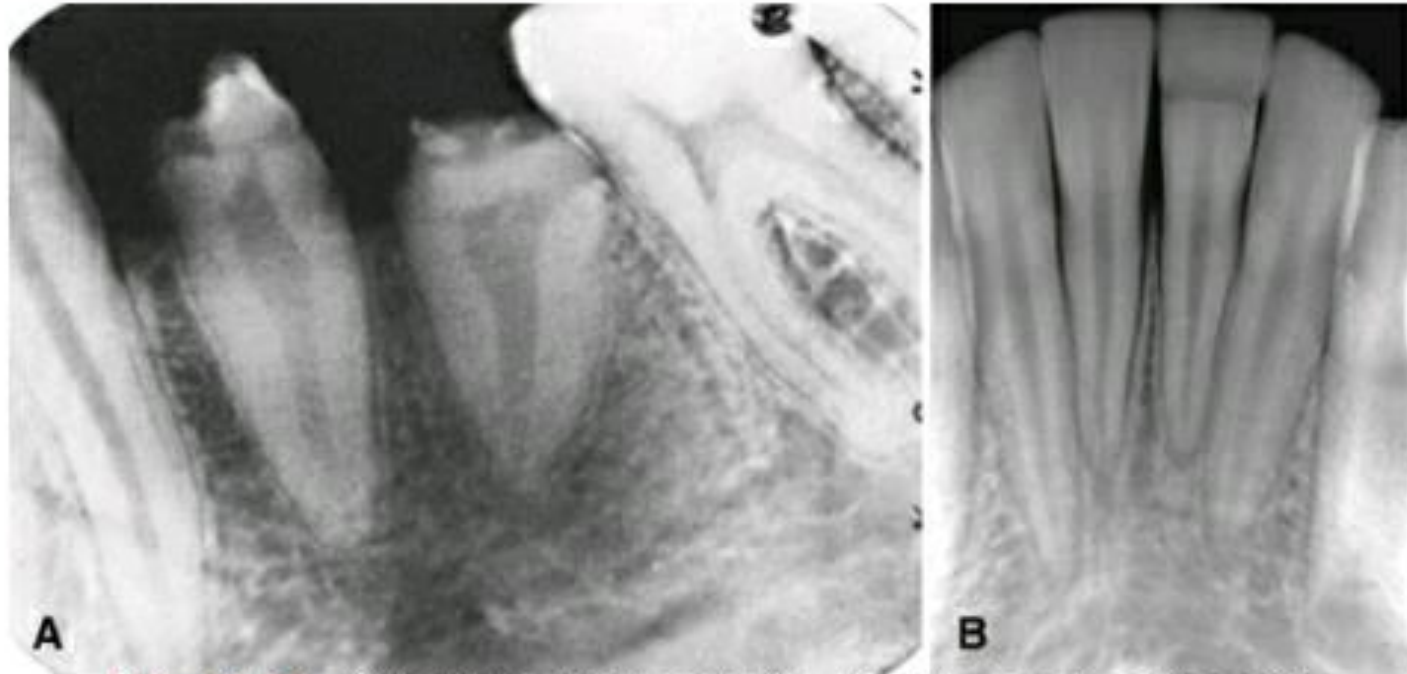


FIG. 21.39 (A) Turner hypoplasia shown as an extensive malformation and hypomineralization of the crowns of both premolars. (B) Band of hypoplasia extending across the crown of the mandibular left central incisor.

Attrition



FIG. 21.41 Physiologic wear or attrition is demonstrated on this periapical image of the mandibular incisors.

Abrasion

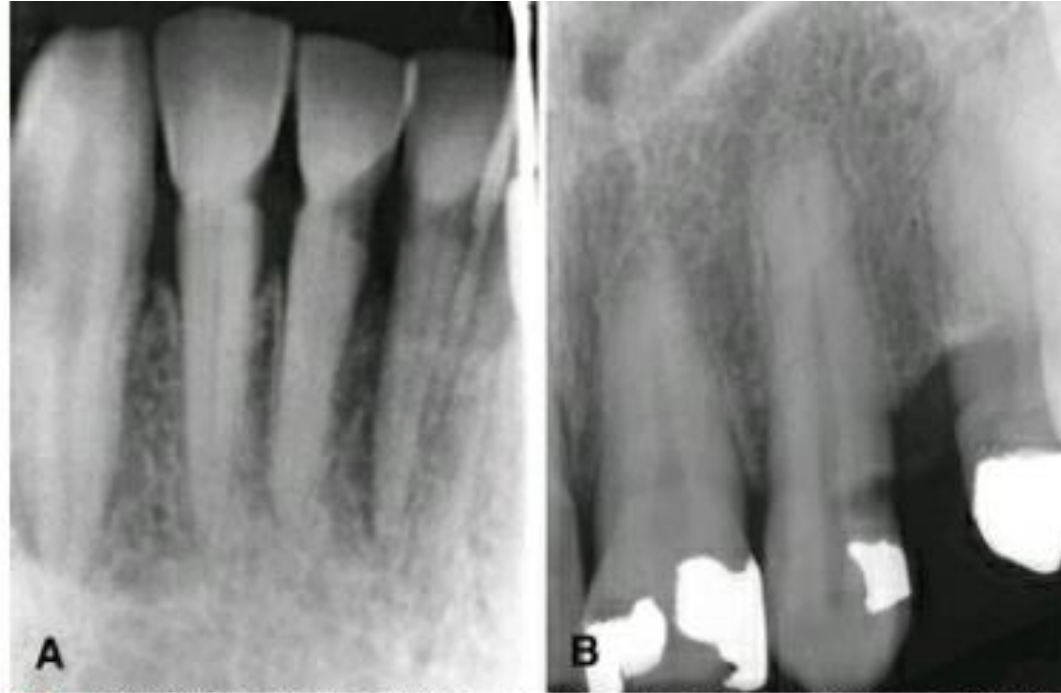


FIG. 21.42 (A) Abrasion of the cervical areas of these incisor teeth is evident from excessive (and improper) use of dental floss. Note the obliteration of the pulp chambers and reduction in size of the root canals. (B) Abrasion on the distal aspect of the maxillary canine from a denture clasp.

Erosion



Resorption



FIG. 21.43 Internal root resorption may occur in either the crown or the root of teeth. Periapical images show internal resorption centered in the root canal system (A and B) and in both the crown and the roots (C and D) in a sectioned incisor (after crown reduction).



FIG. 21.45 External root resorption results in a loss of tooth structure from the apex. Note the blunted root apices, the widened pulp root canals, and the intact lamina dura.

Secondary Dentin

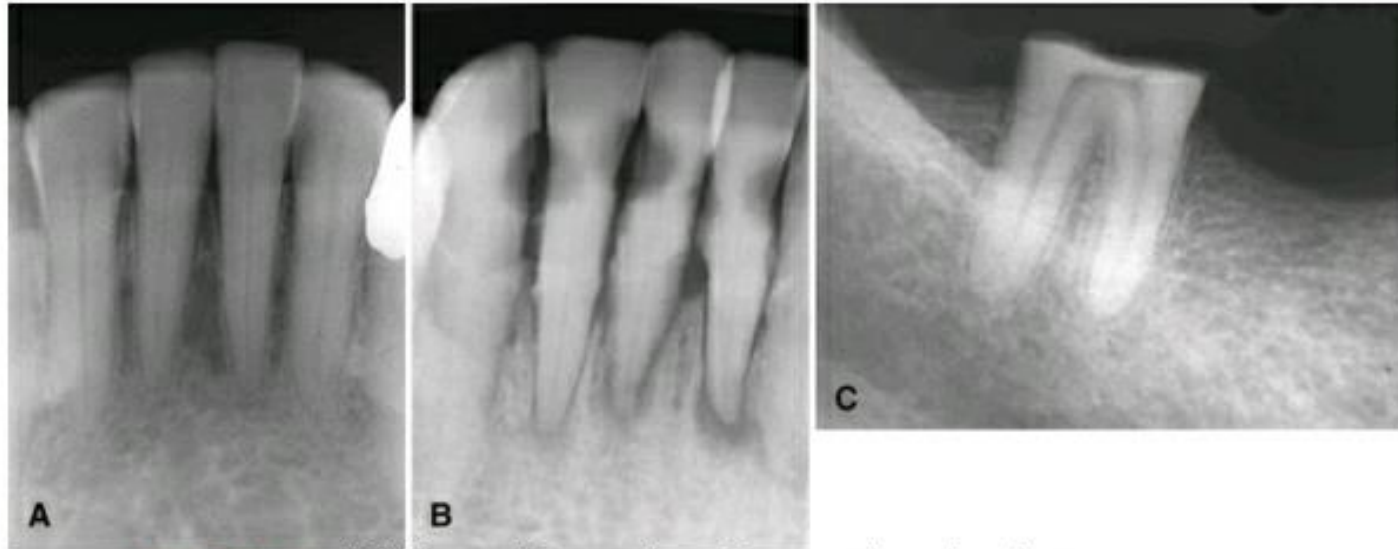


FIG. 21.48 (A) Normal formation of secondary dentin causes recession of the pulp chamber and narrowing of the root canals. (B) Secondary dentin has obliterated the pulp chambers and narrowed the root canals. This is likely a result of the carious lesions. (C) Secondary dentin formation has obliterated the pulp chamber stimulated by the severe attrition of the coronal aspect of this molar.

Pulp Stones

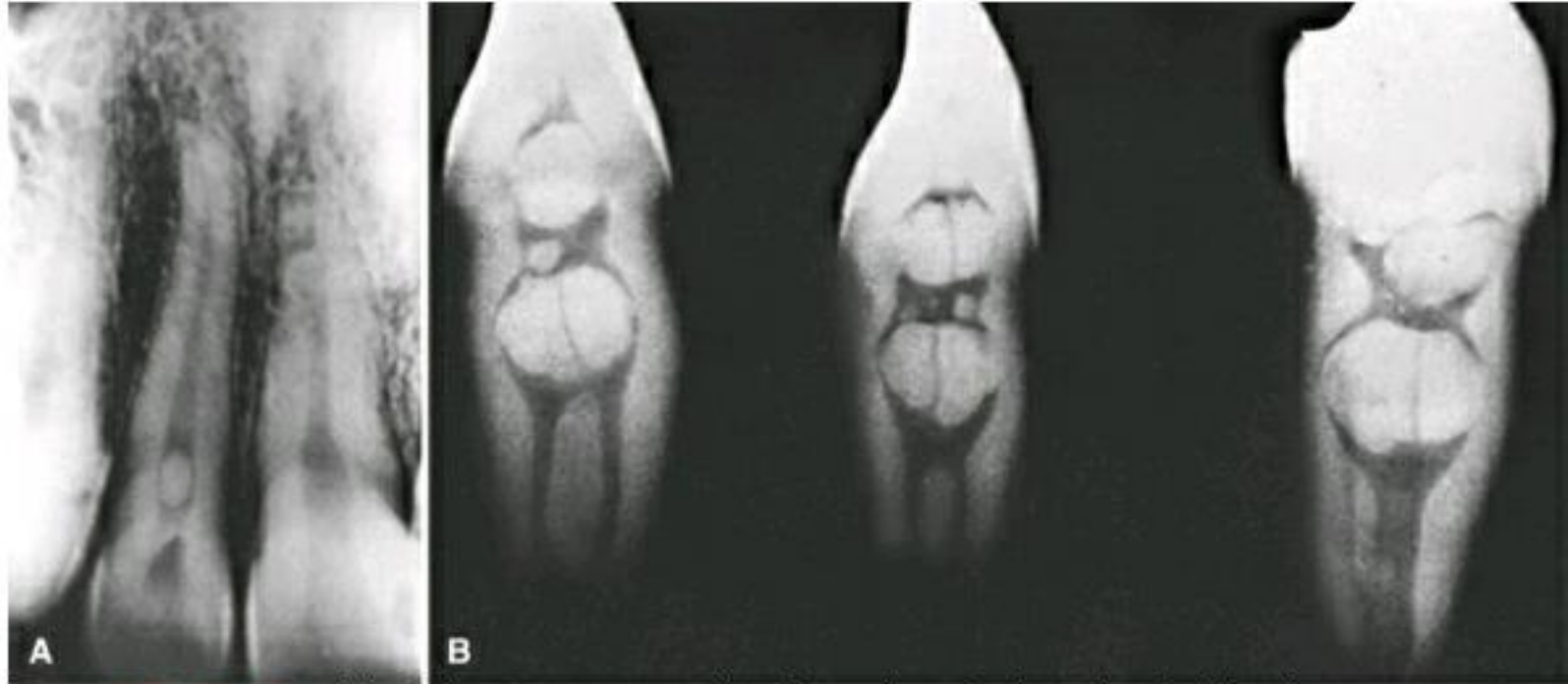


FIG. 21.49 (A) Pulp stones may be found as isolated calcifications in the pulp. (B) When large, they may cause deformation of the pulp chamber and root canals.

Pulp Sclerosis

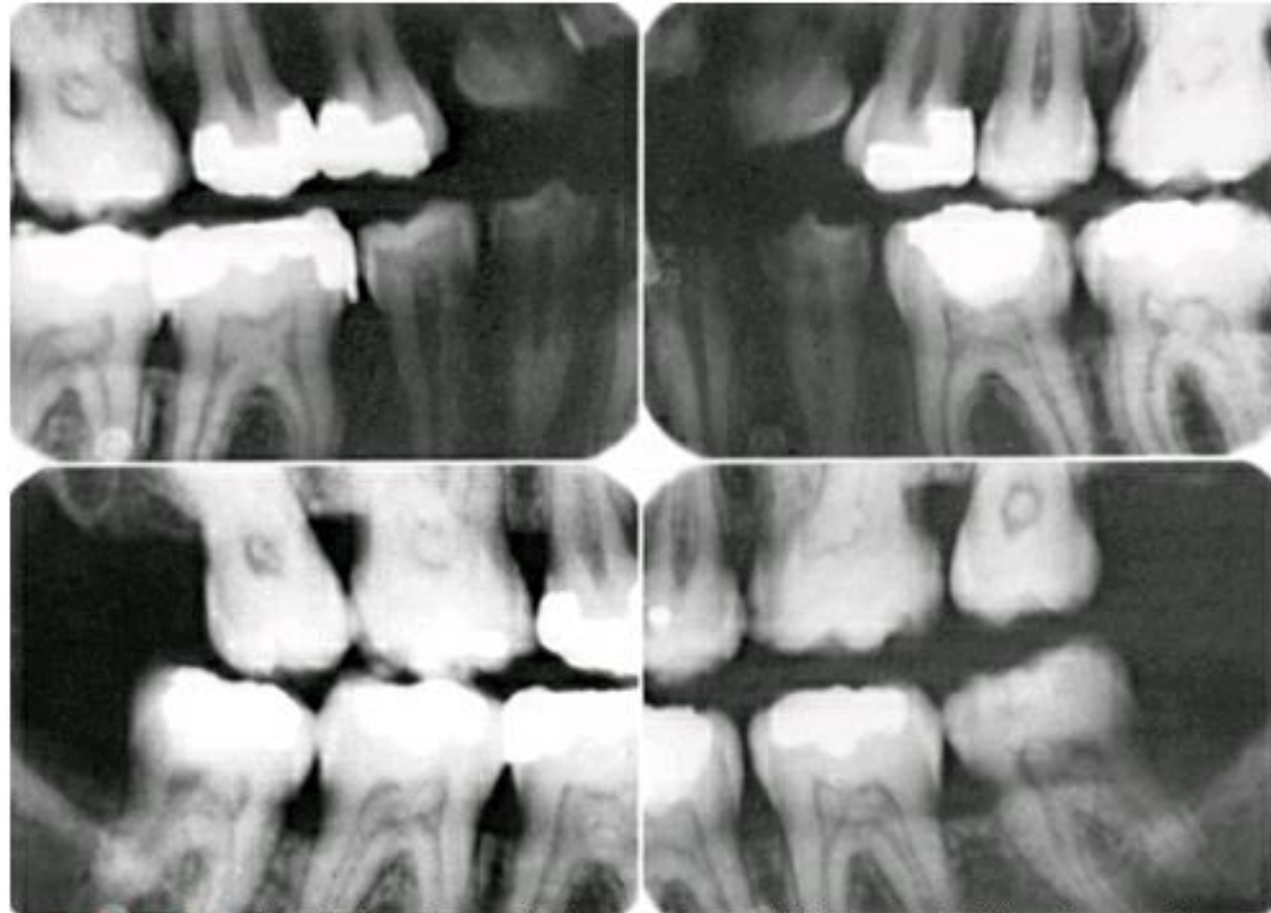


FIG. 21.50 Pulpal sclerosis is seen as diffuse calcification of the pulp chamber and canals.

Hyper Cementosis

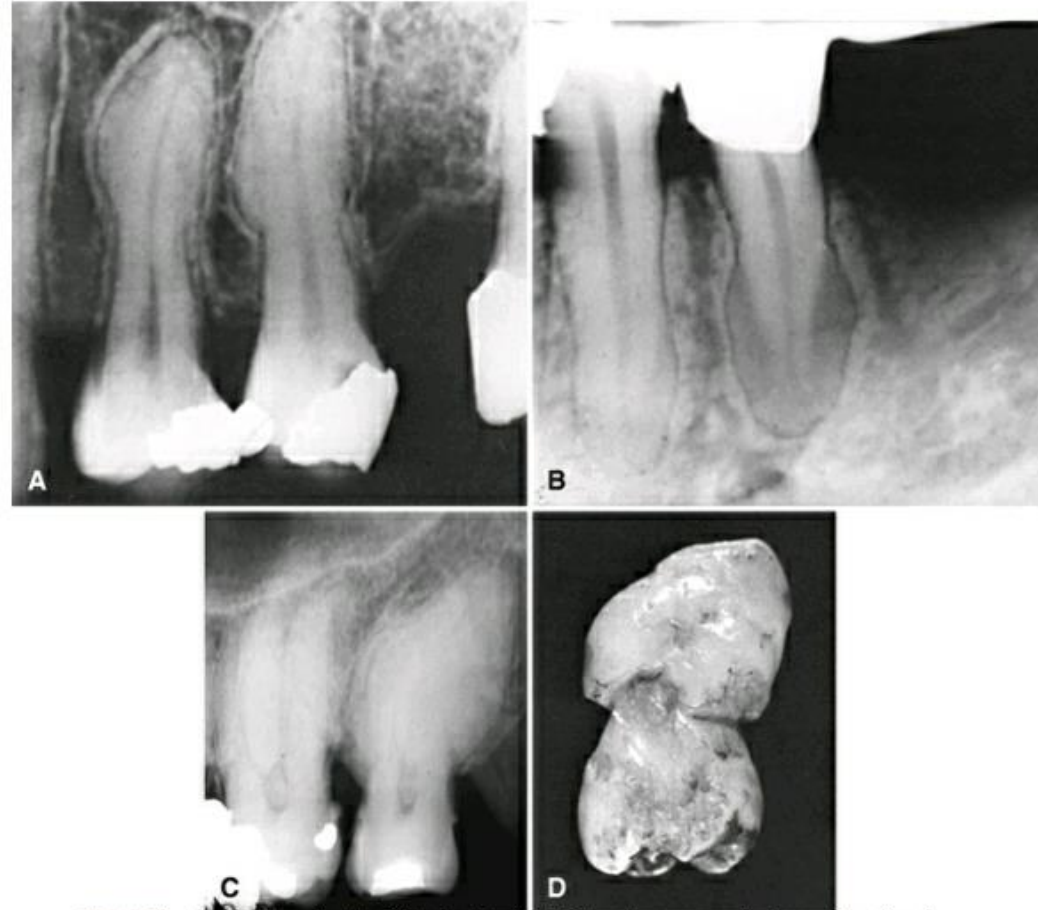


FIG. 21.51 Hypercementosis of the Roots. (A to C) In all cases, note the continuity of the lamina dura and the periodontal ligament space that encompasses the extra cementum. (D) An extracted molar exhibits extensive hypercementosis. (Courtesy Dr. R. Kienholz, Dallas, TX.)

