

شهر رمضان
الكریم
رمضان



دکتر عاطفه خوید
متخصص رادیولوژی دهان، فک و صورت
عضو هیئت علمی دانشکده دندانپزشکی کرمانشاه



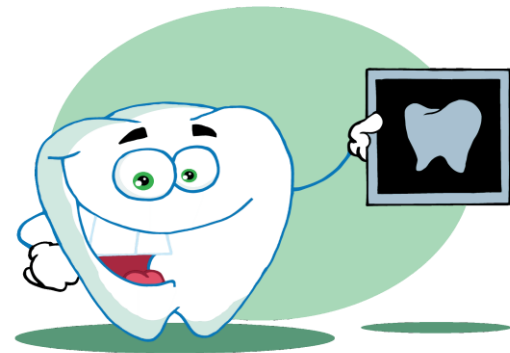
CBCT

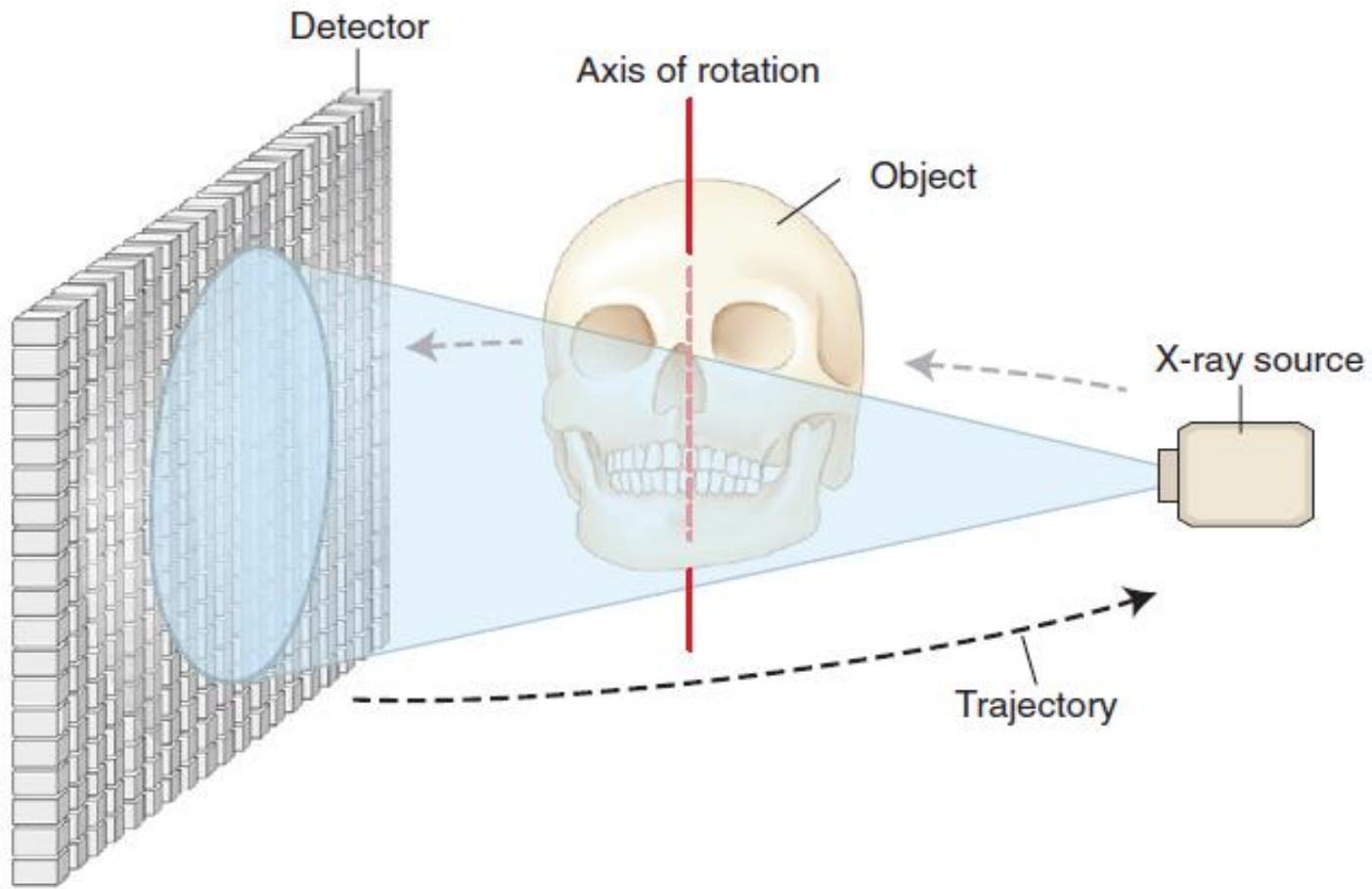


Cone beam computed tomography (CBCT) is a relatively new method that produces three-dimensional (3D) information of the maxillofacial skeleton, including the teeth and their surrounding tissue, with a lower effective radiation dose than traditional CT scans.

The X-ray source and detector rotate around a fixed fulcrum within the region of interest (ROI).

During the exposure sequence hundreds of planar projection images are acquired of the field of view (FOV)







Field of View



17 cm x 13.5 cm



17 cm x 11 cm



17 cm x 6 cm
TMJ x2



10 cm x 10 cm



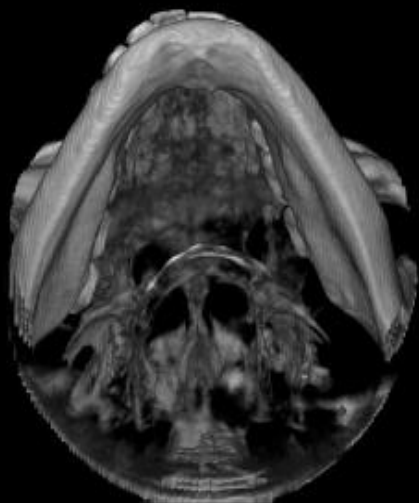
10 cm x 5 cm



8 cm x 8 cm
TMJ x1



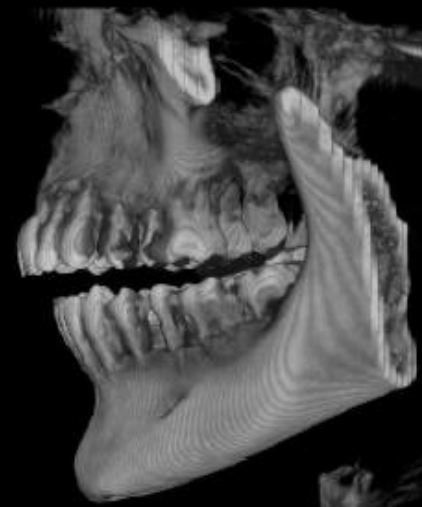
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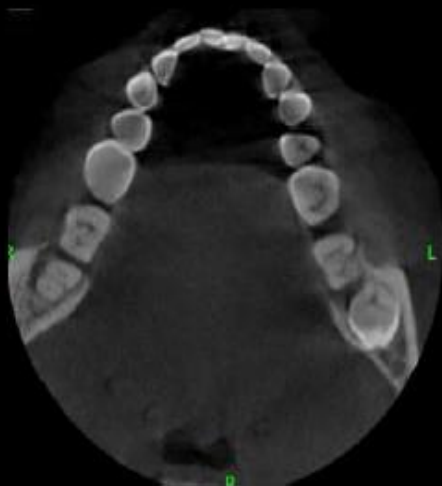
AXIAL



CORONAL



SAGITTAL



Displaying 3D aquisition

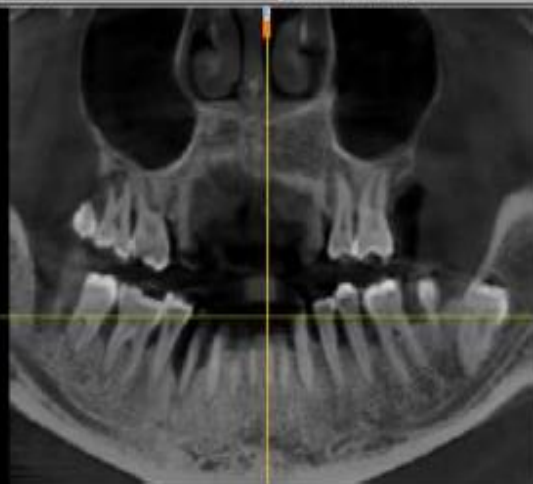
AXIAL



CORONAL



2D

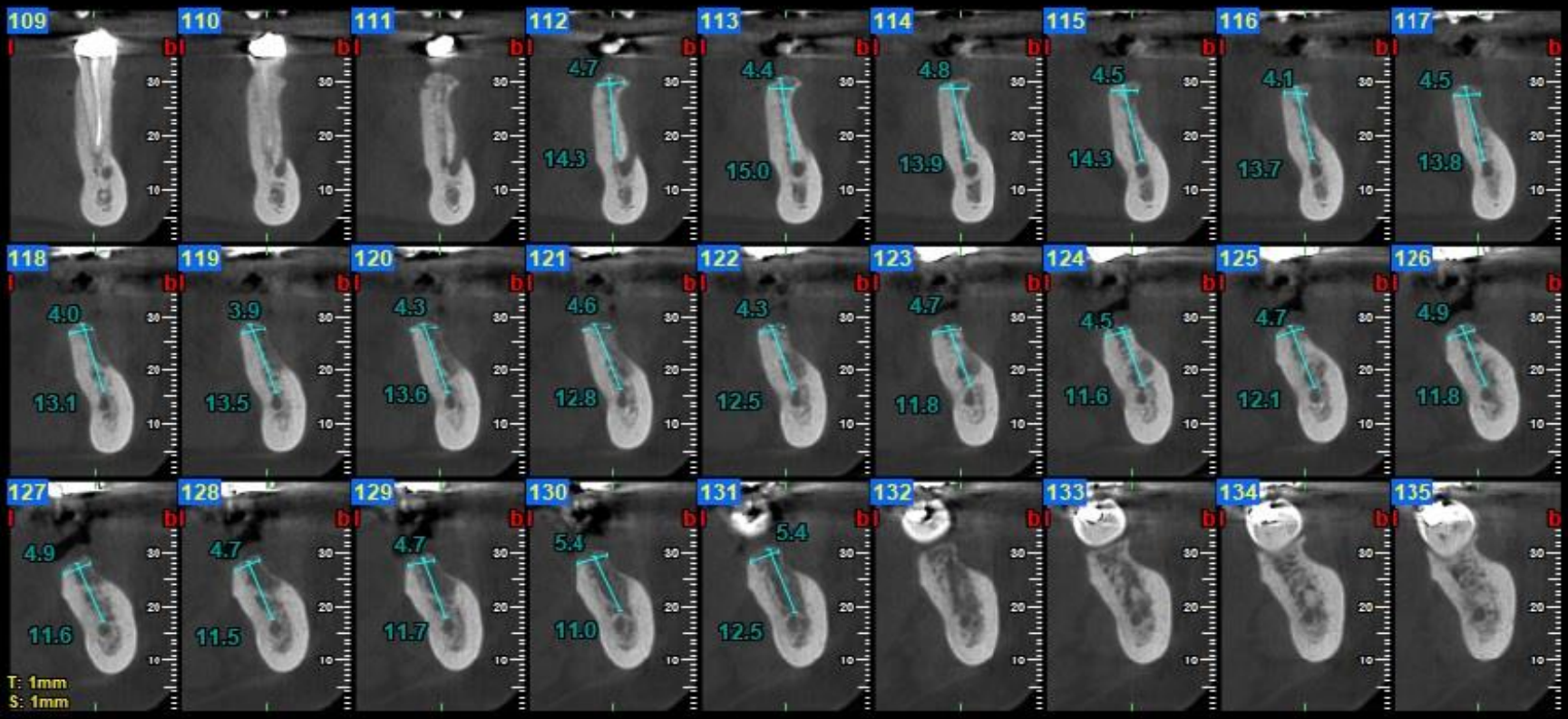
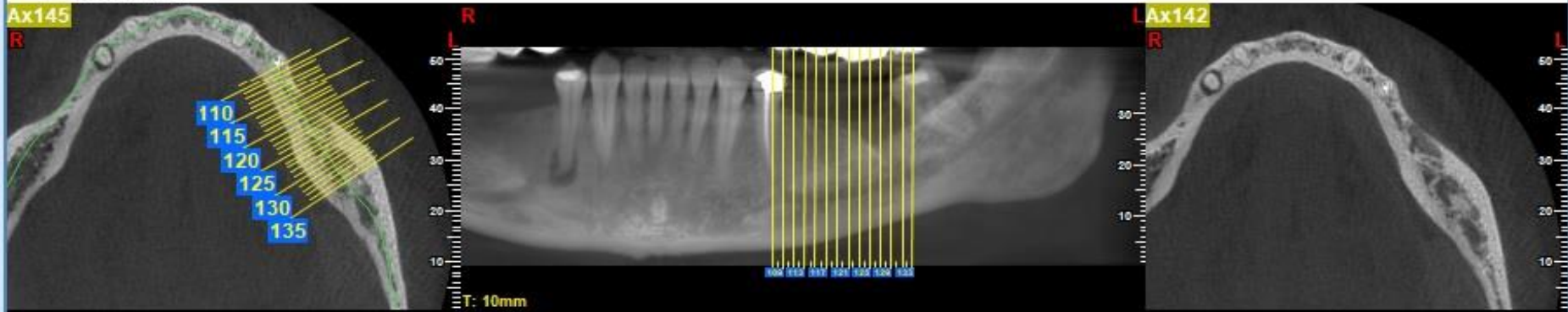


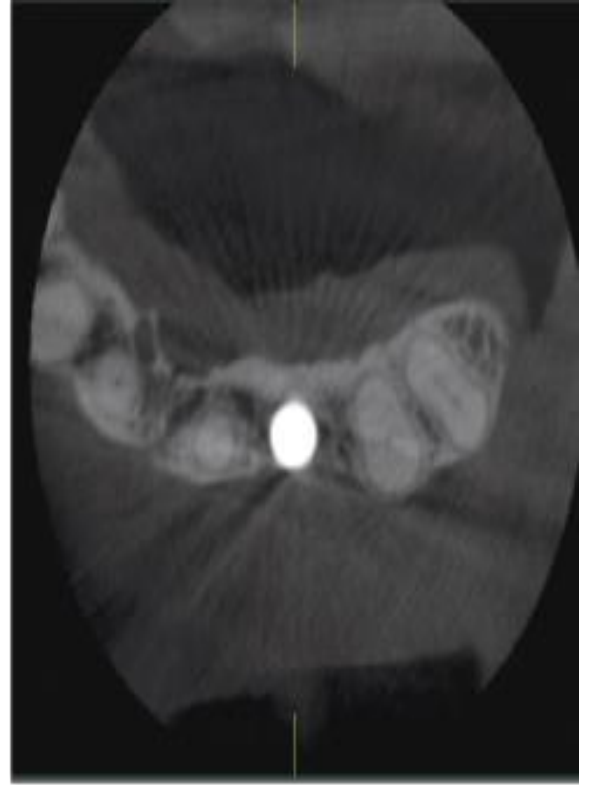
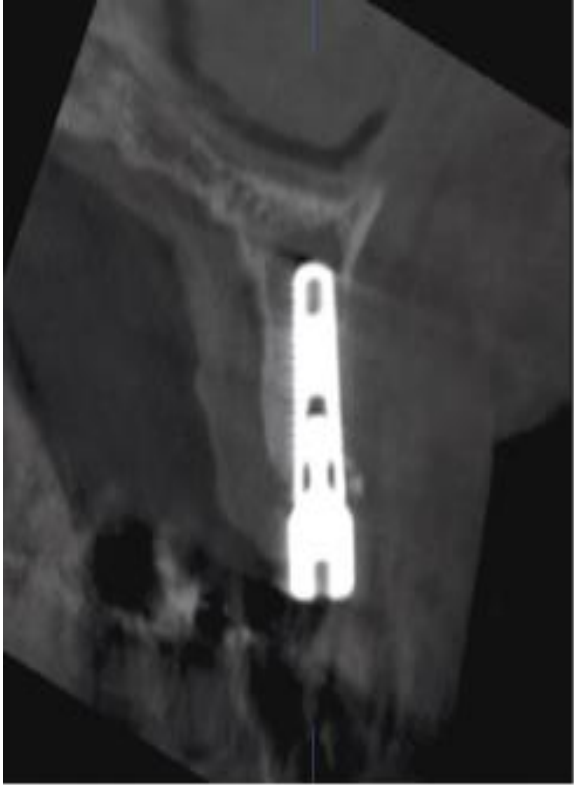
SAGITTAL

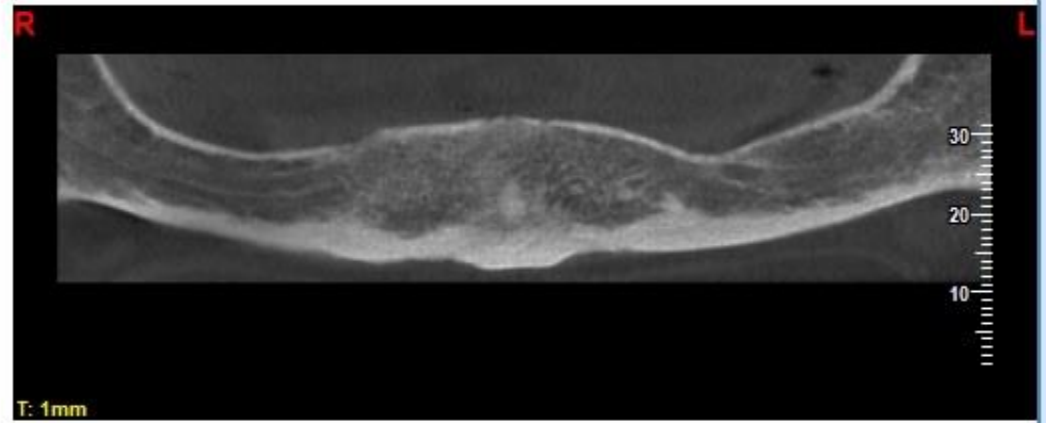
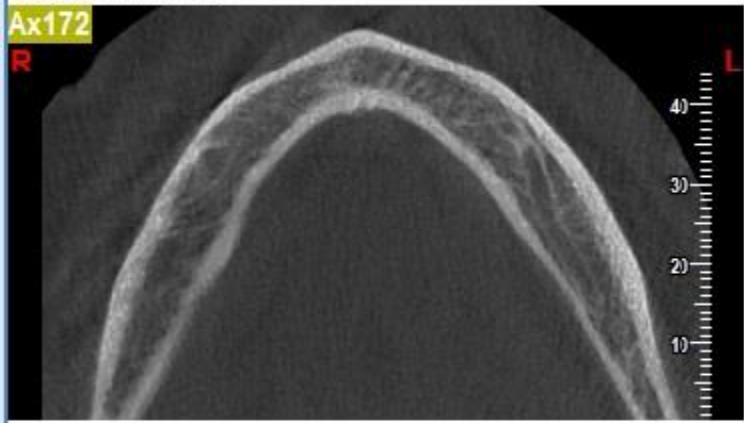


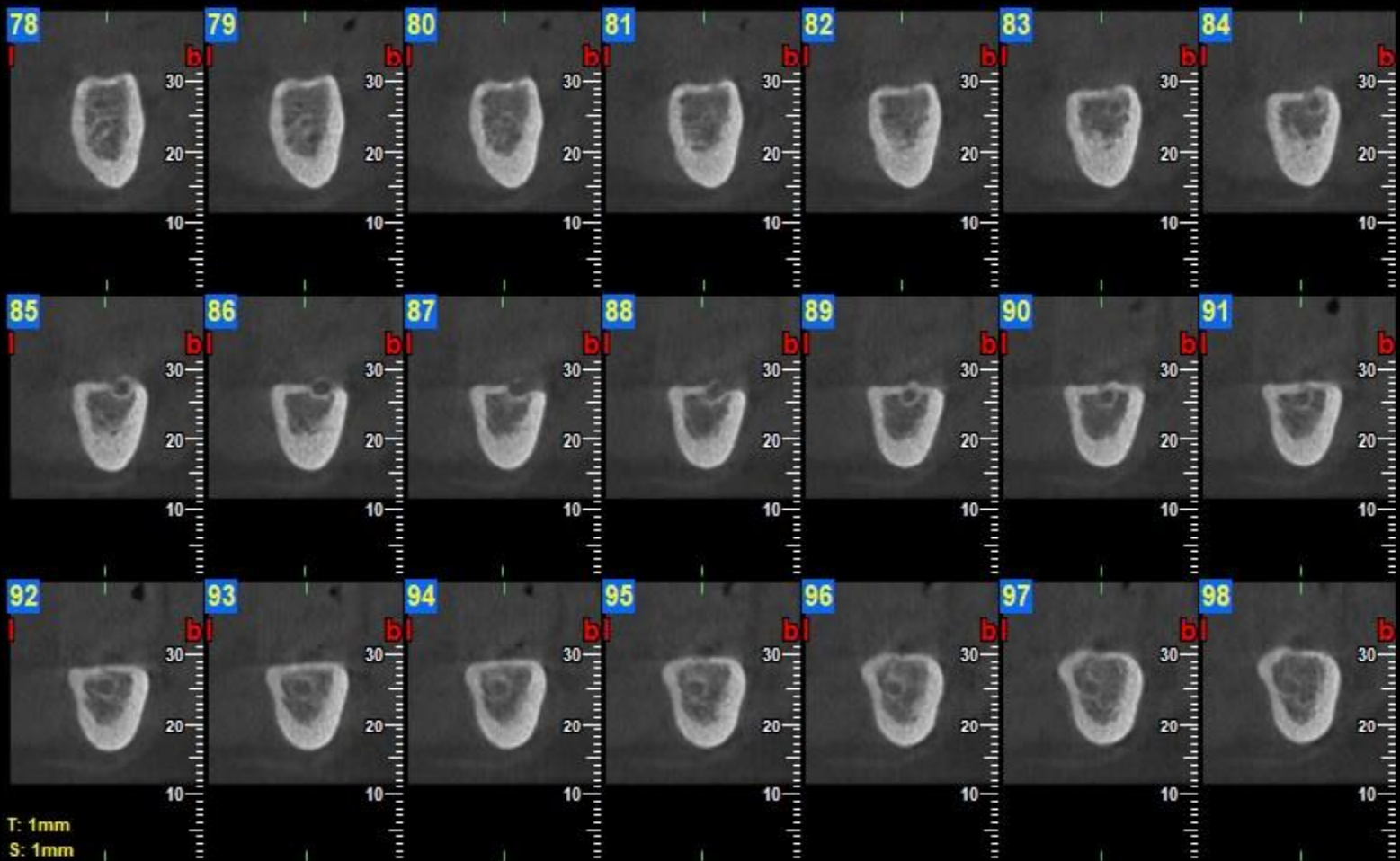
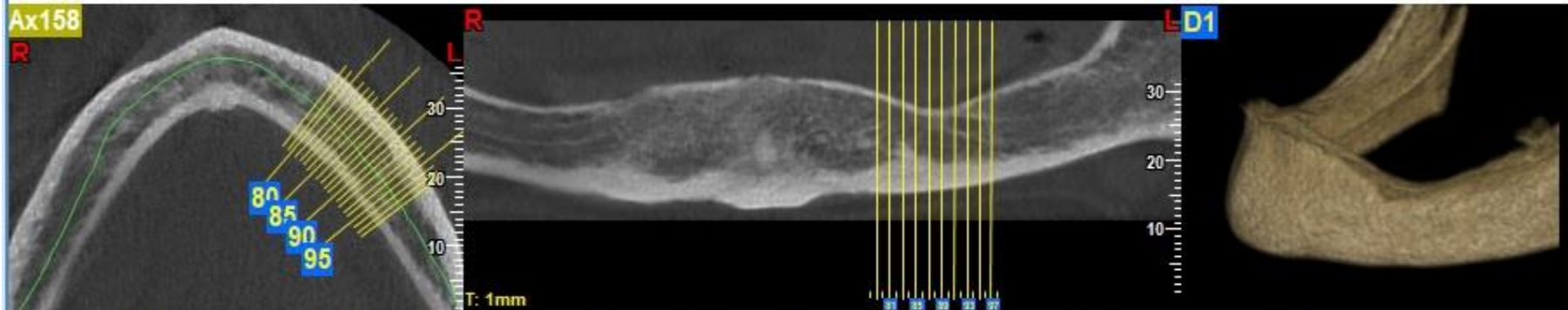
INDICATION

- Implant site assessment
- Extension of pathologies
- Bone quality
- Maxillary sinus
- TMJ
- truma
- Diagnostic requirements in endodontics, orthodontics, periodontics, maxillofacial surgery









T: 1mm
S: 1mm

D3



D2



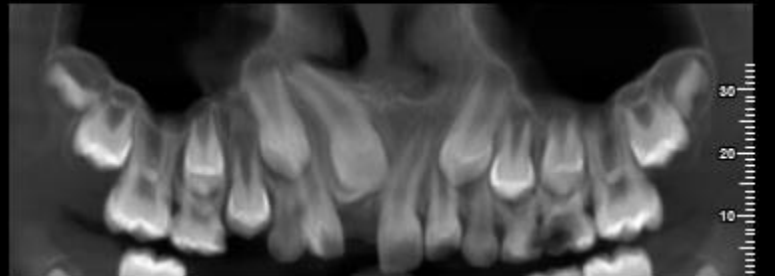
Ax112

R

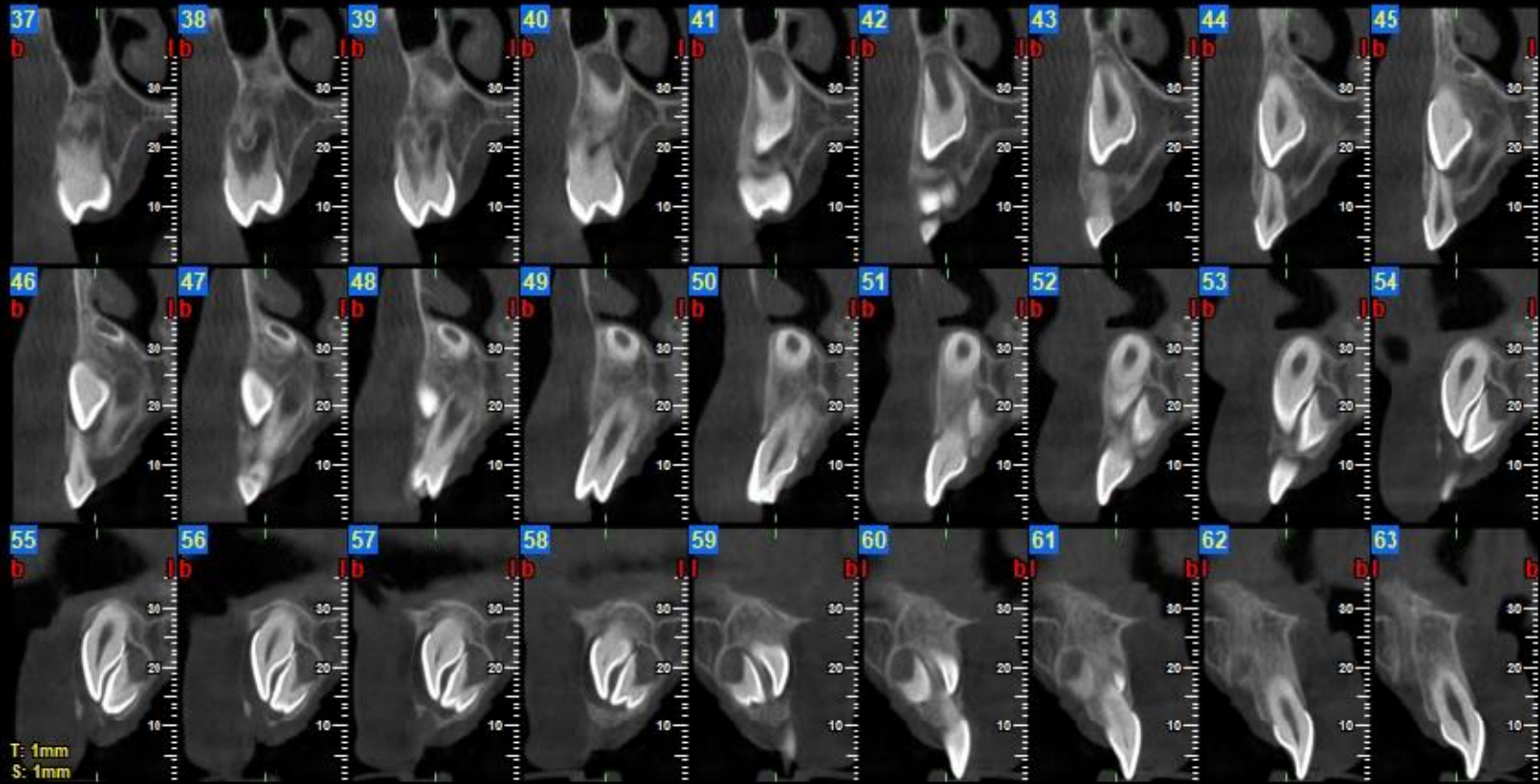
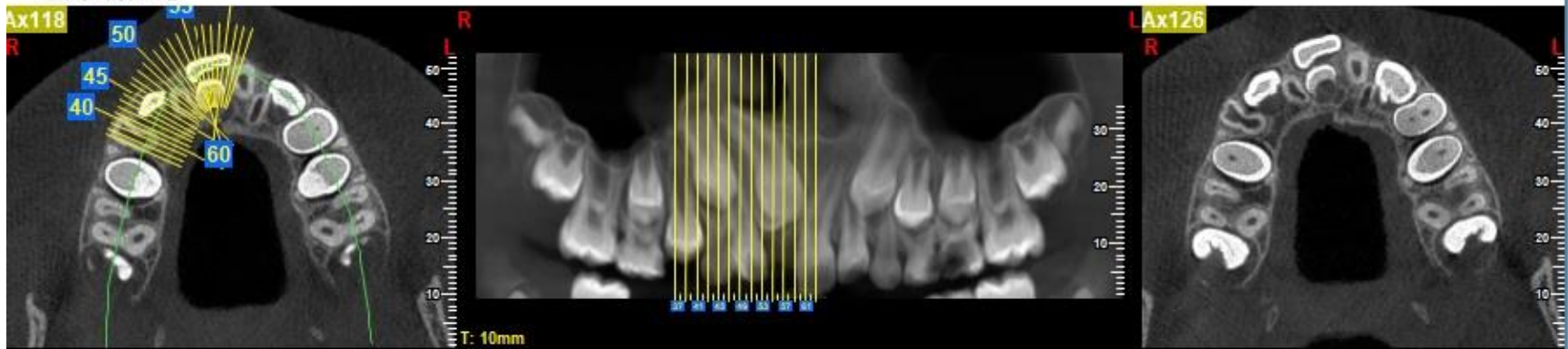


R

L



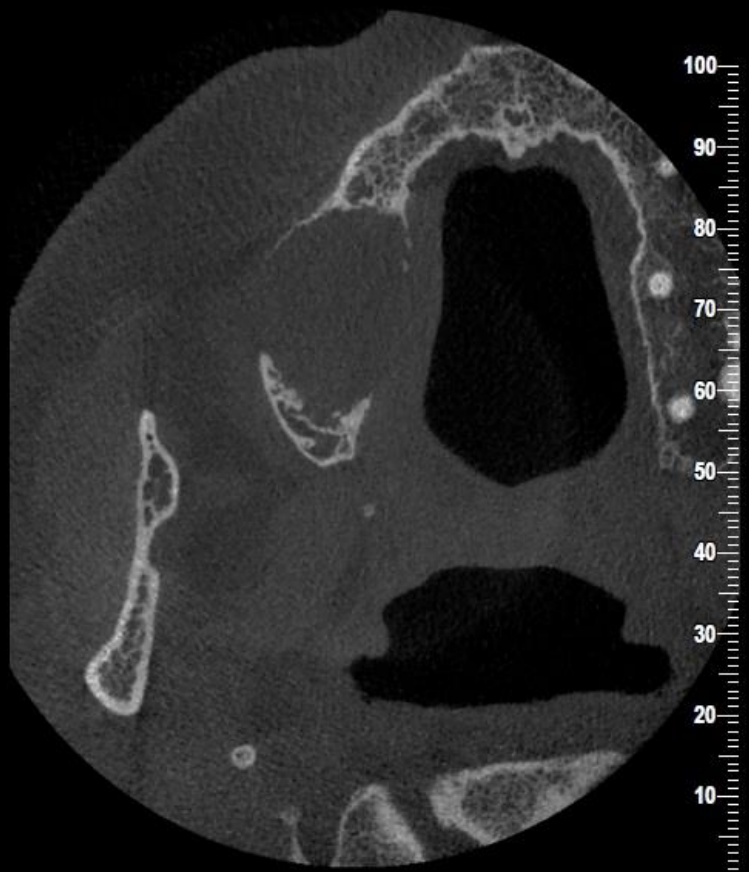
T: 10mm



Ax165

R

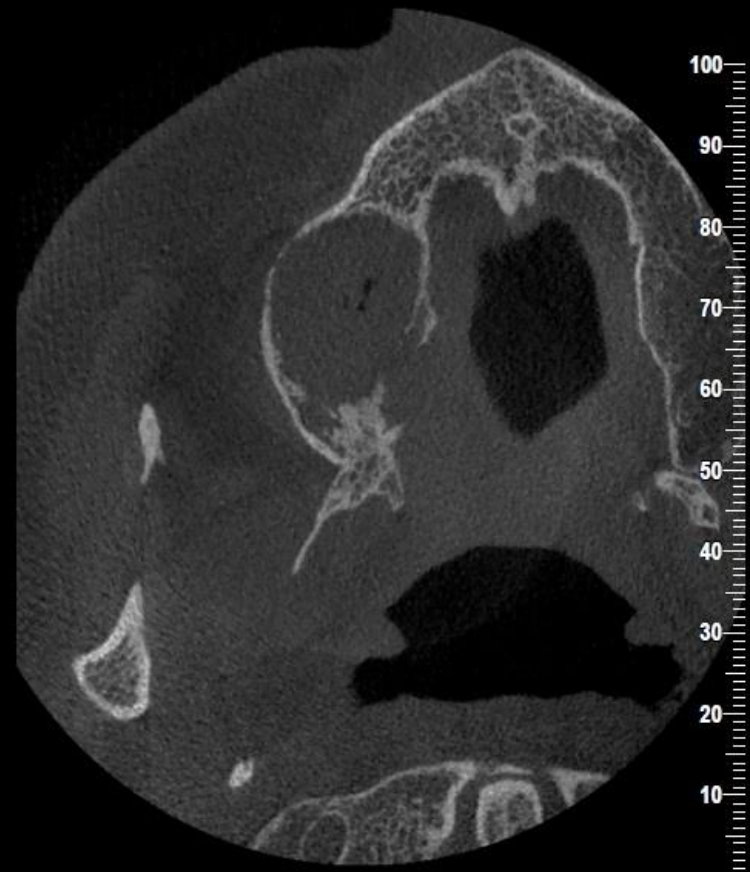
L

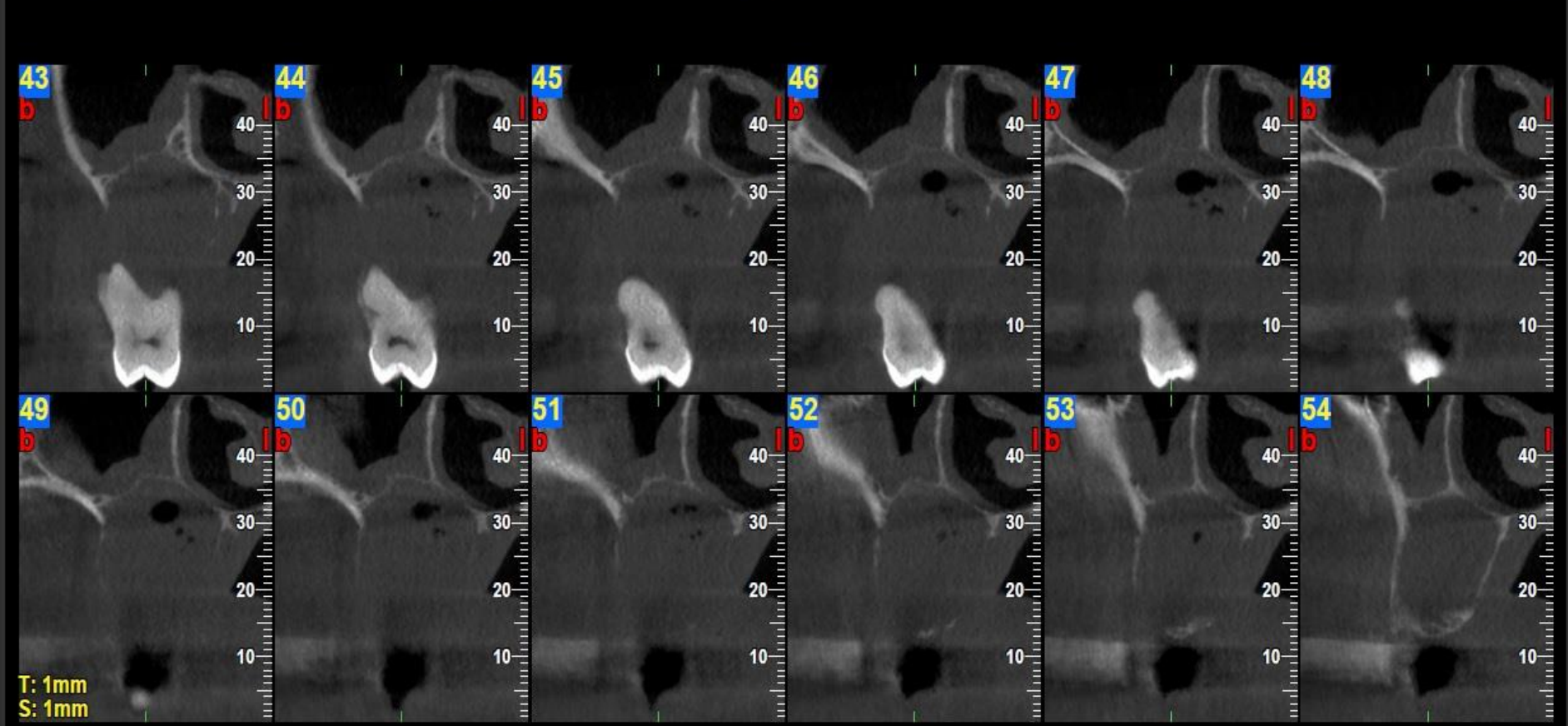


Ax193

R

L





CBCT IN ENDODONTICS

- periapical radiographs have been used as an adjunct to help endodontists diagnose pathology and aid the clinician in developing a treatment strategy.
- Interpreting radiographs is also difficult when roots of teeth overlap and anatomical structures are present.
- Dental materials such as crowns, posts, and filling materials may also add additional difficulty in interpreting the radiograph



Endodontics Applications

- *Pre Operative Assessment :
- *Complex Anatomy
- *Failed Root Canal Treatments
- *Dento- Alveolar Trauma
- *Tooth Resorption
- *Pre Surgical Planning

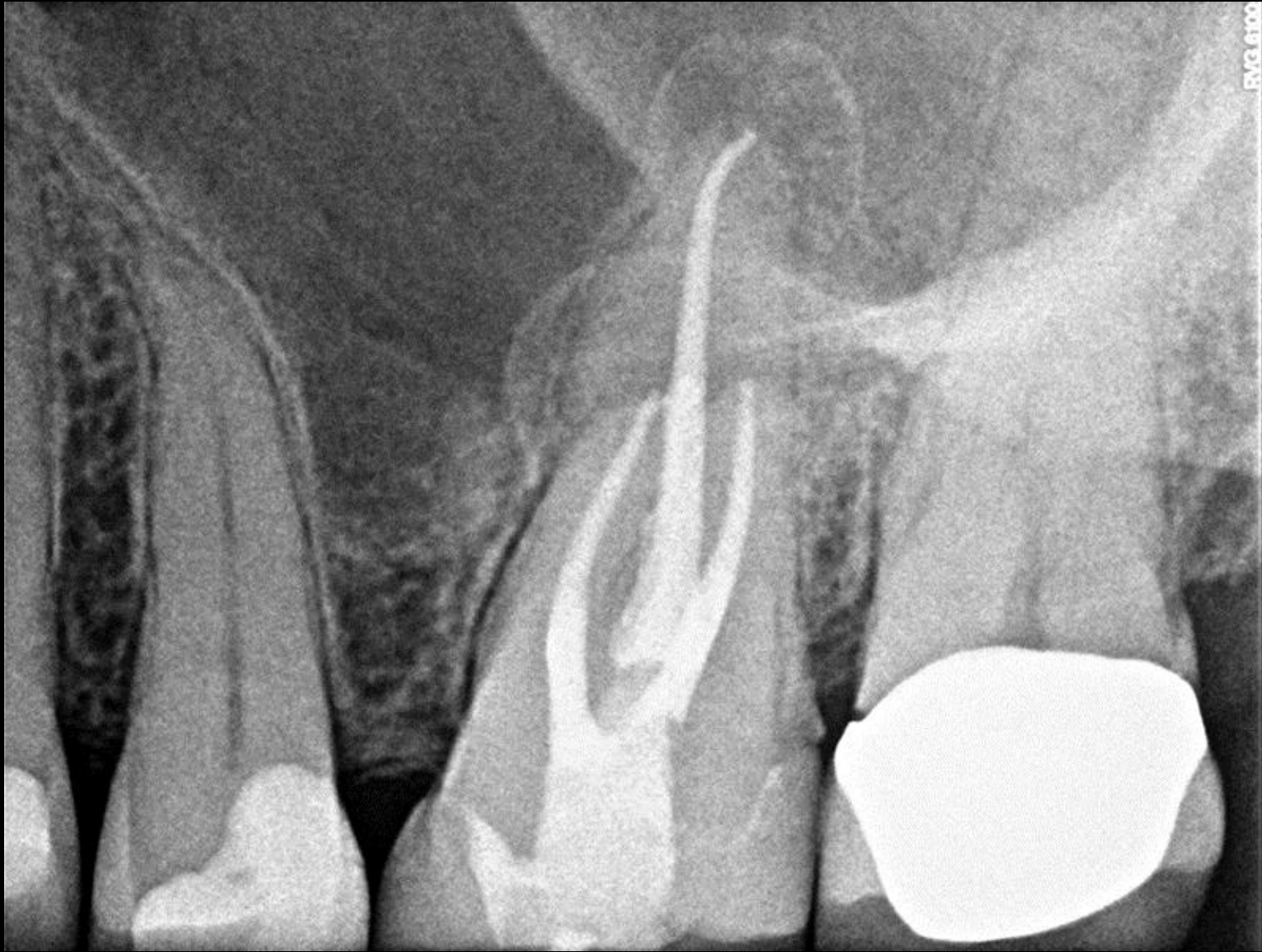


CASE

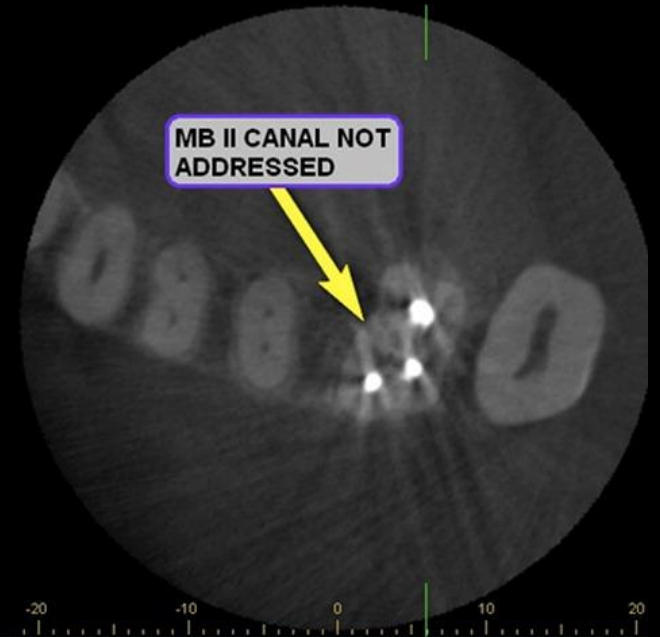
A 56-year-old woman was referred for evaluation and potential retreatment of tooth number 14.

The tooth was treated approximately 2 years earlier

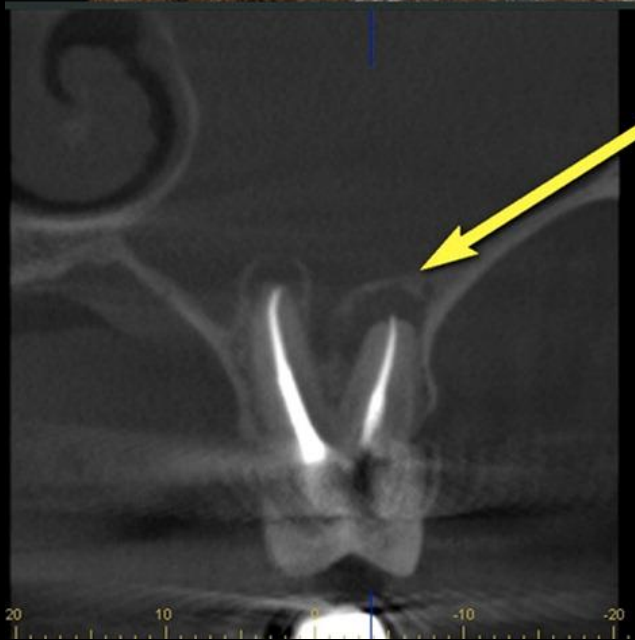
The patient reported pain and discomfort in the upper left quadrant.

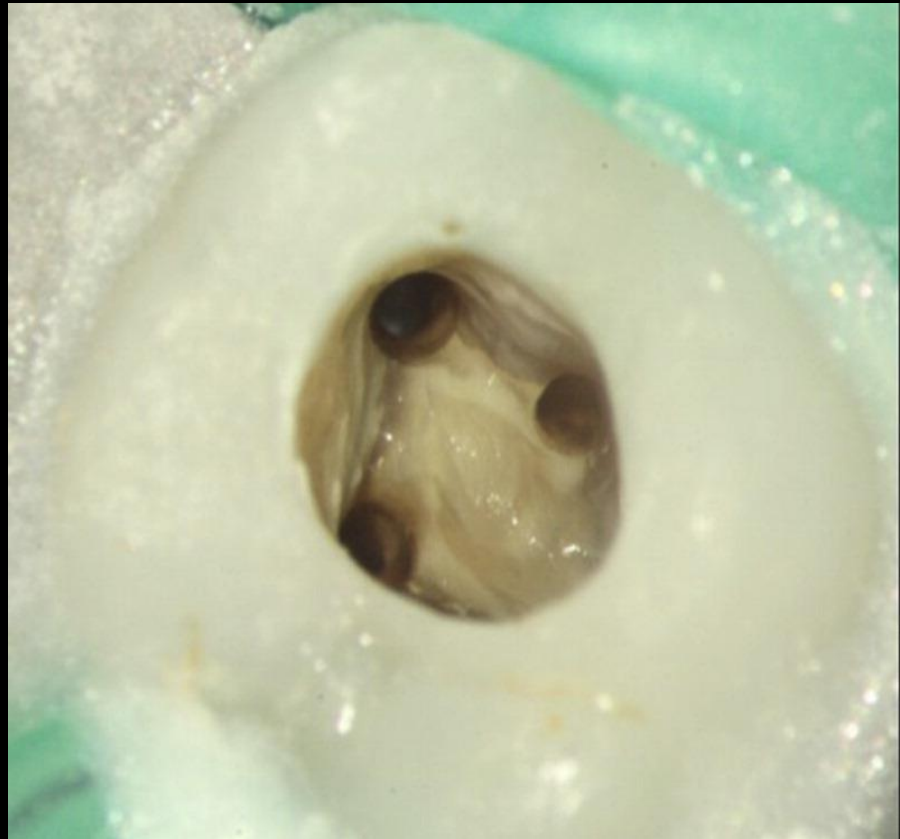
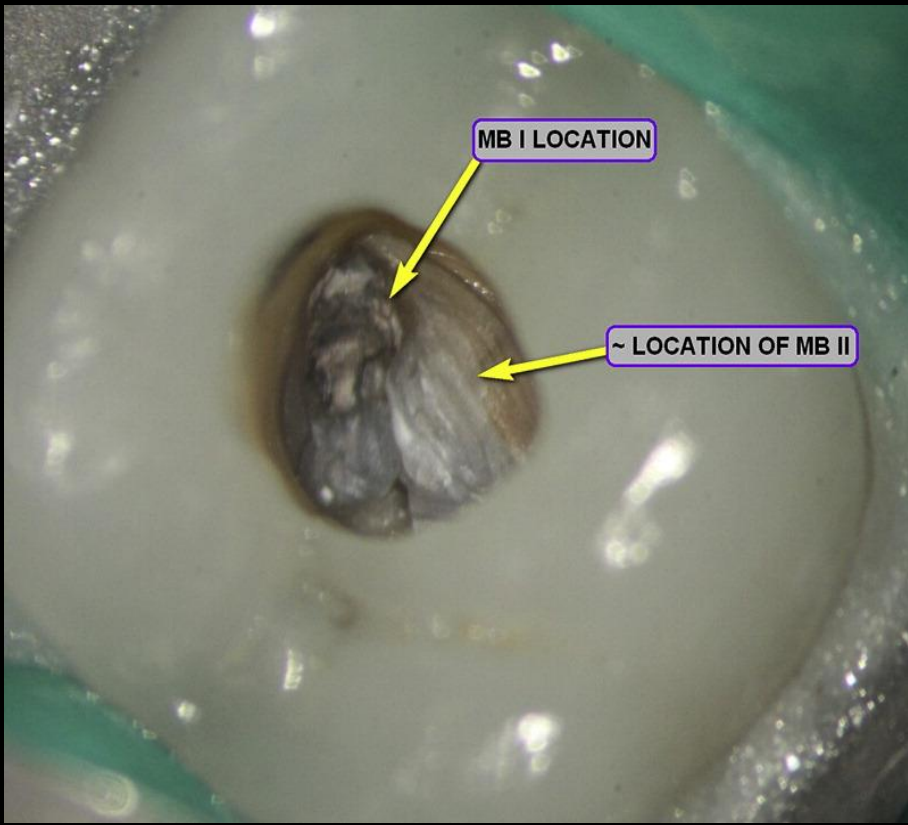


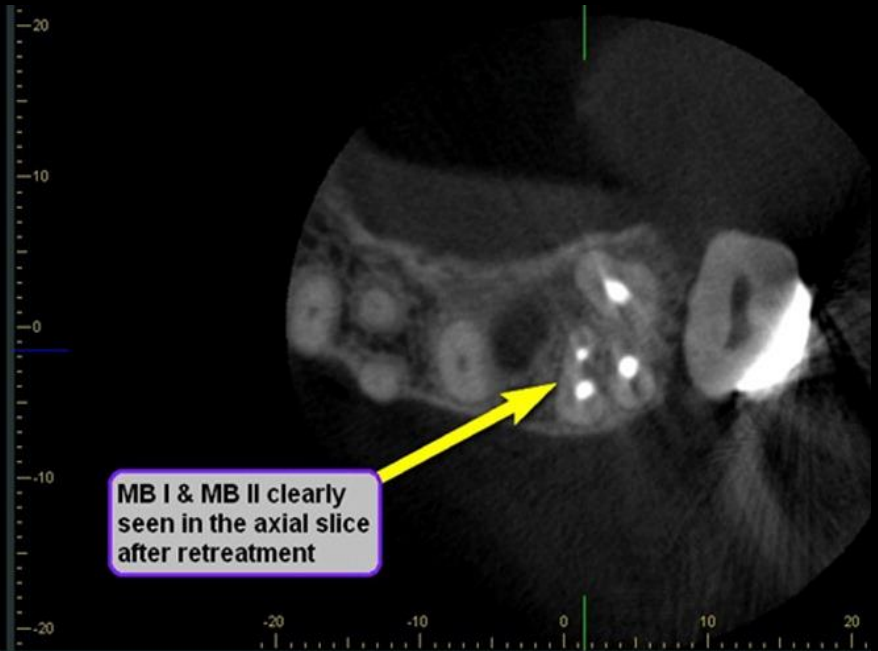
RM3 6100



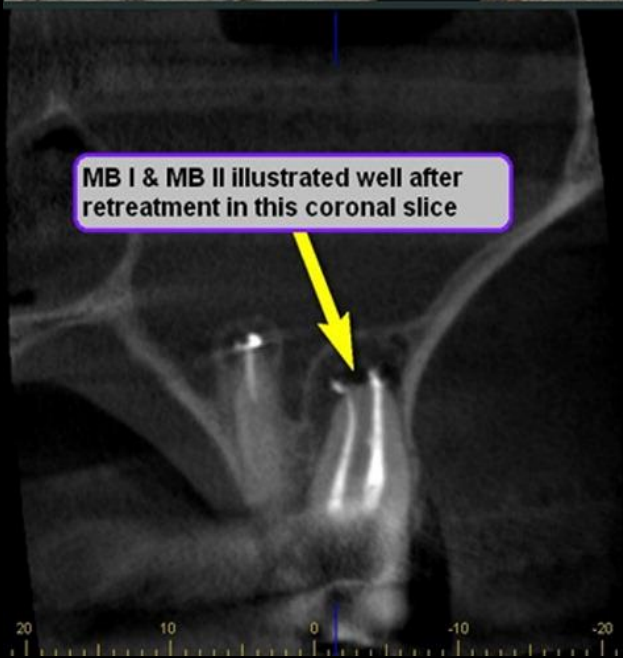
**Lesion of Endodontic Origin (LEO)
lifting the floor of the maxillary sinus**





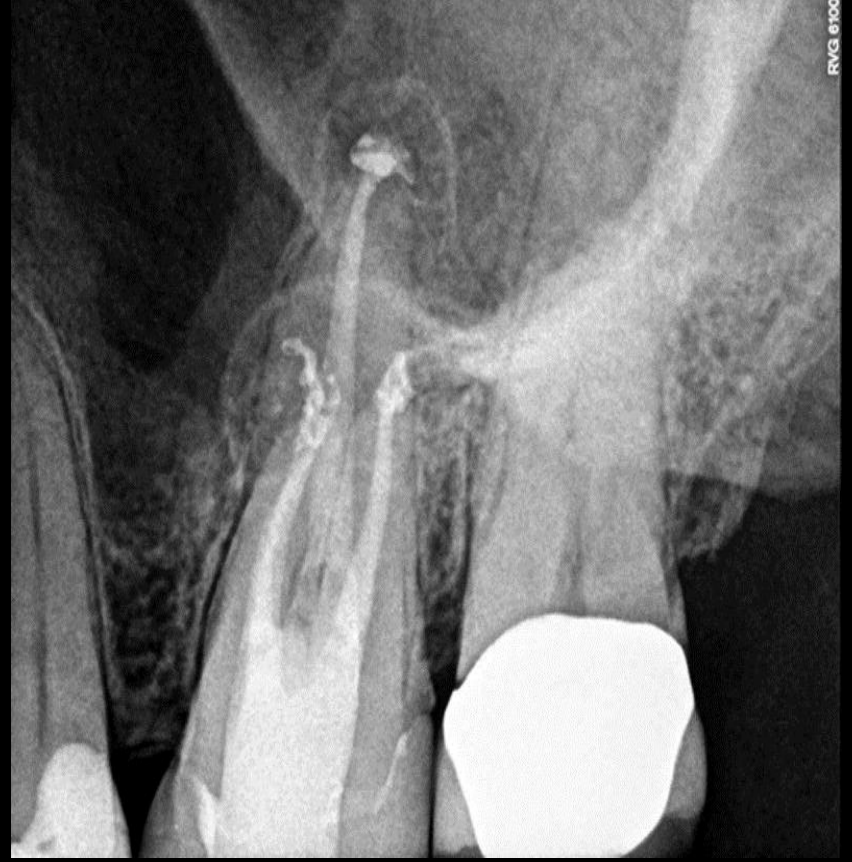


MB I & MB II clearly seen in the axial slice after retreatment



MB I & MB II illustrated well after retreatment in this coronal slice





Ax85

R

L



50

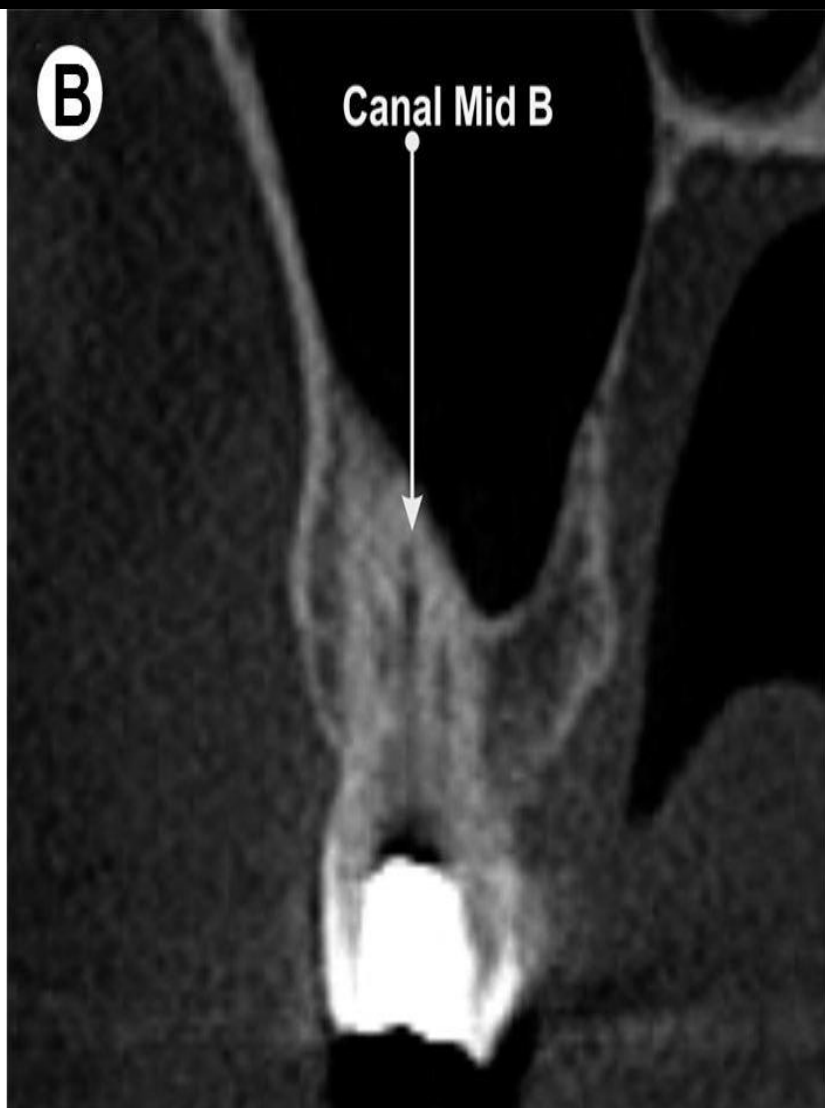
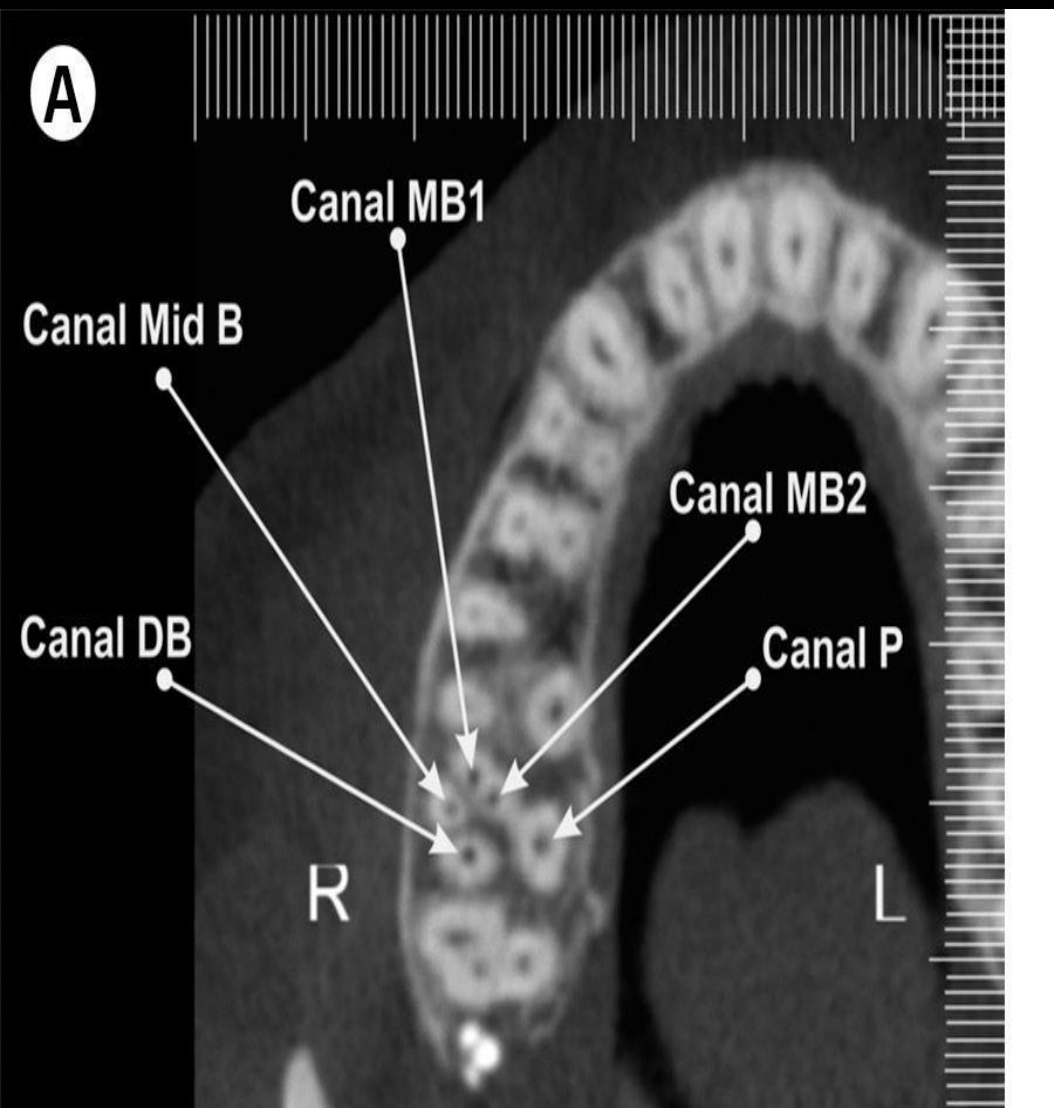
40

30

20

10



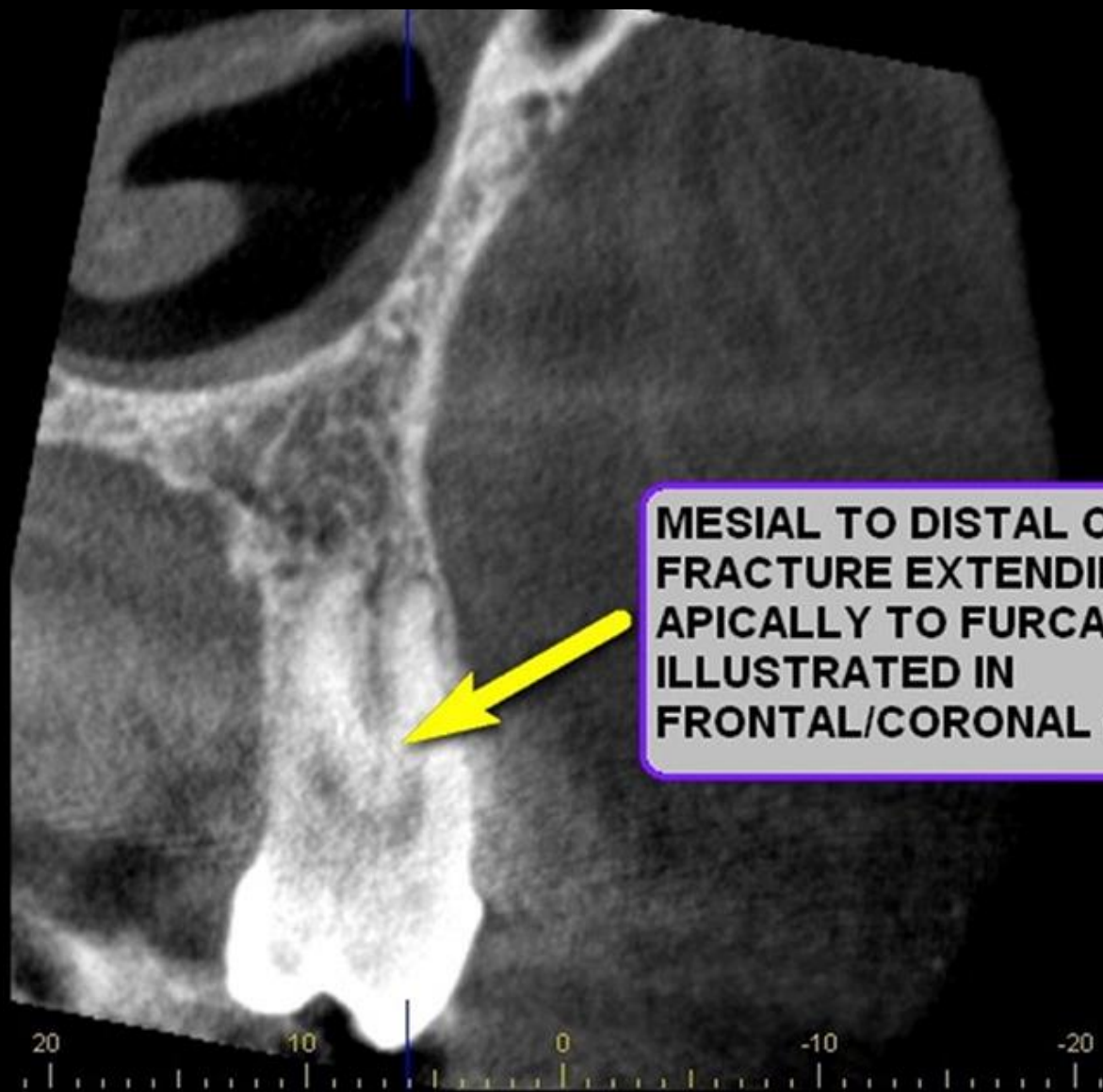


CASE

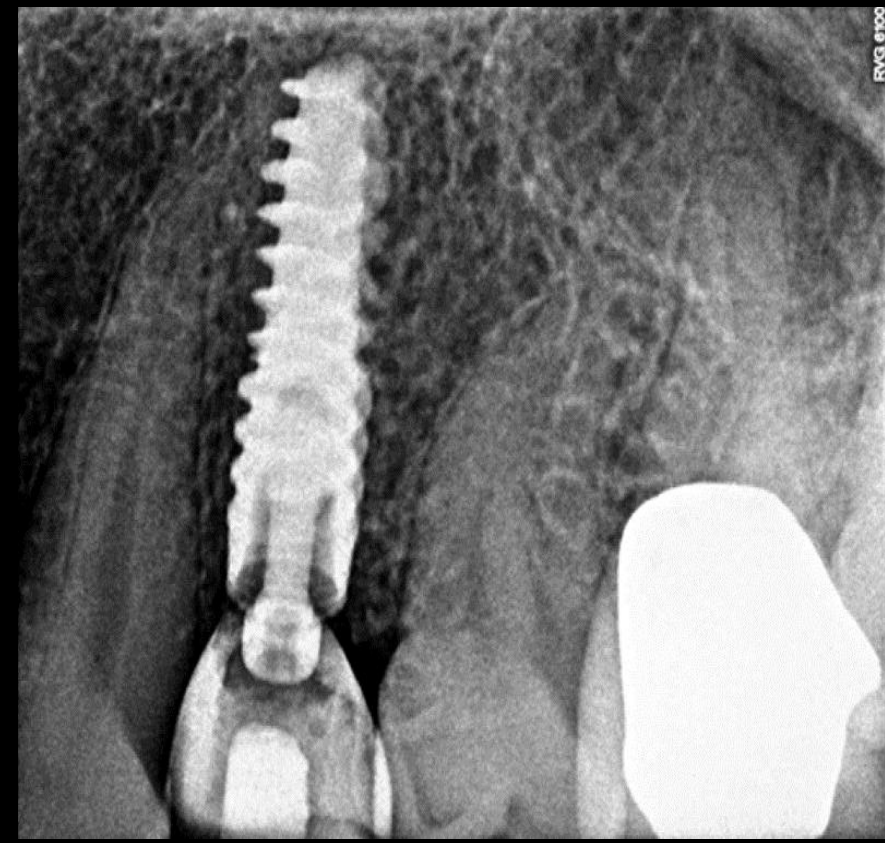
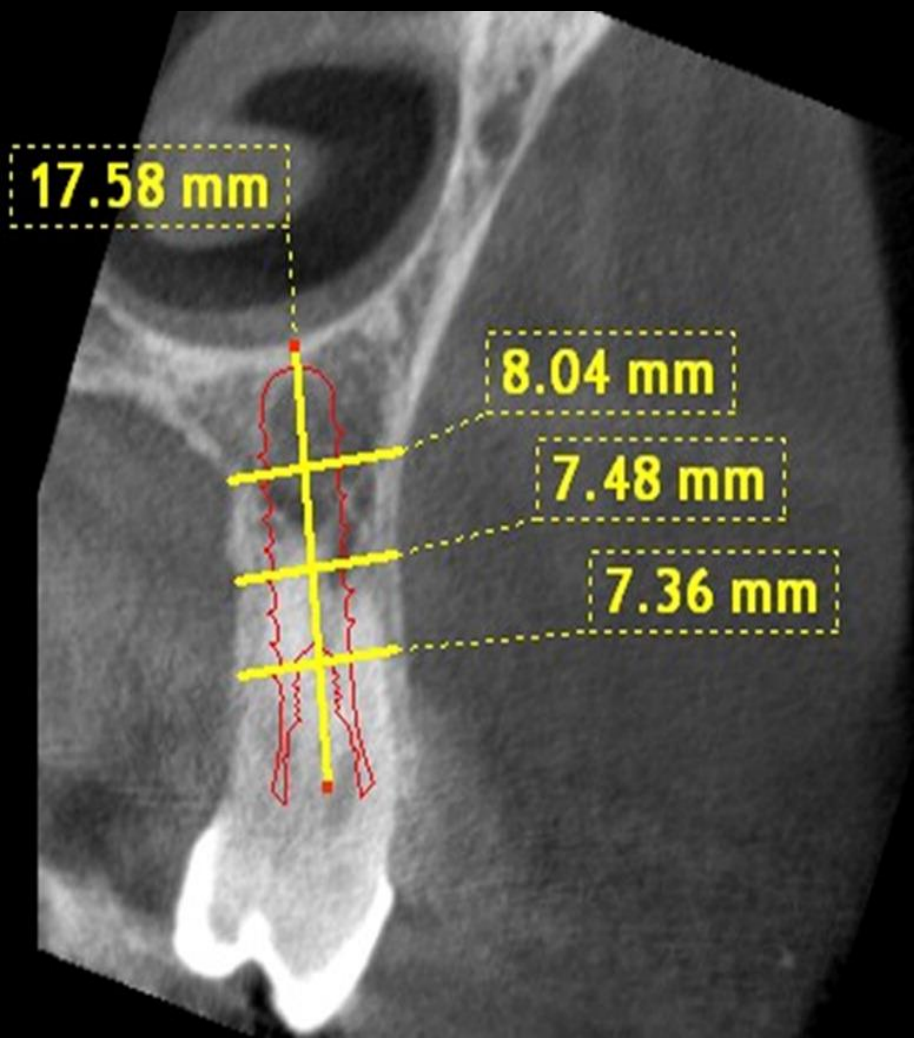
A 36-year-old man

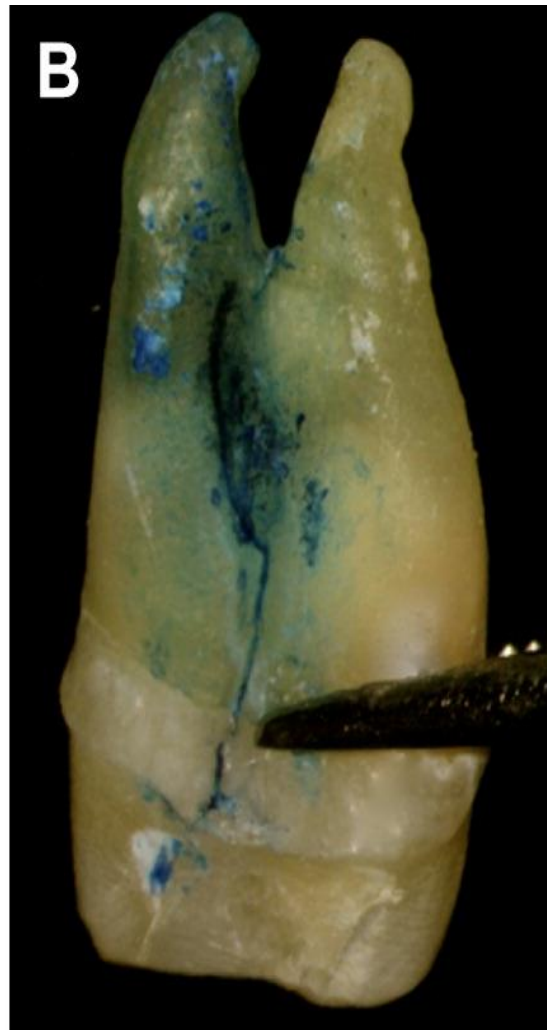
The patient reported pain and discomfort in the
Tooth number 12 exhibited class III mobility





**MESIAL TO DISTAL CORONAL
FRACTURE EXTENDING
APICALLY TO FURCATION
ILLUSTRATED IN
FRONTAL/CORONAL CBCT SLICE**





R



L

T: 10mm

Ax112

R



L

Ax112

R



L

Ax111

R

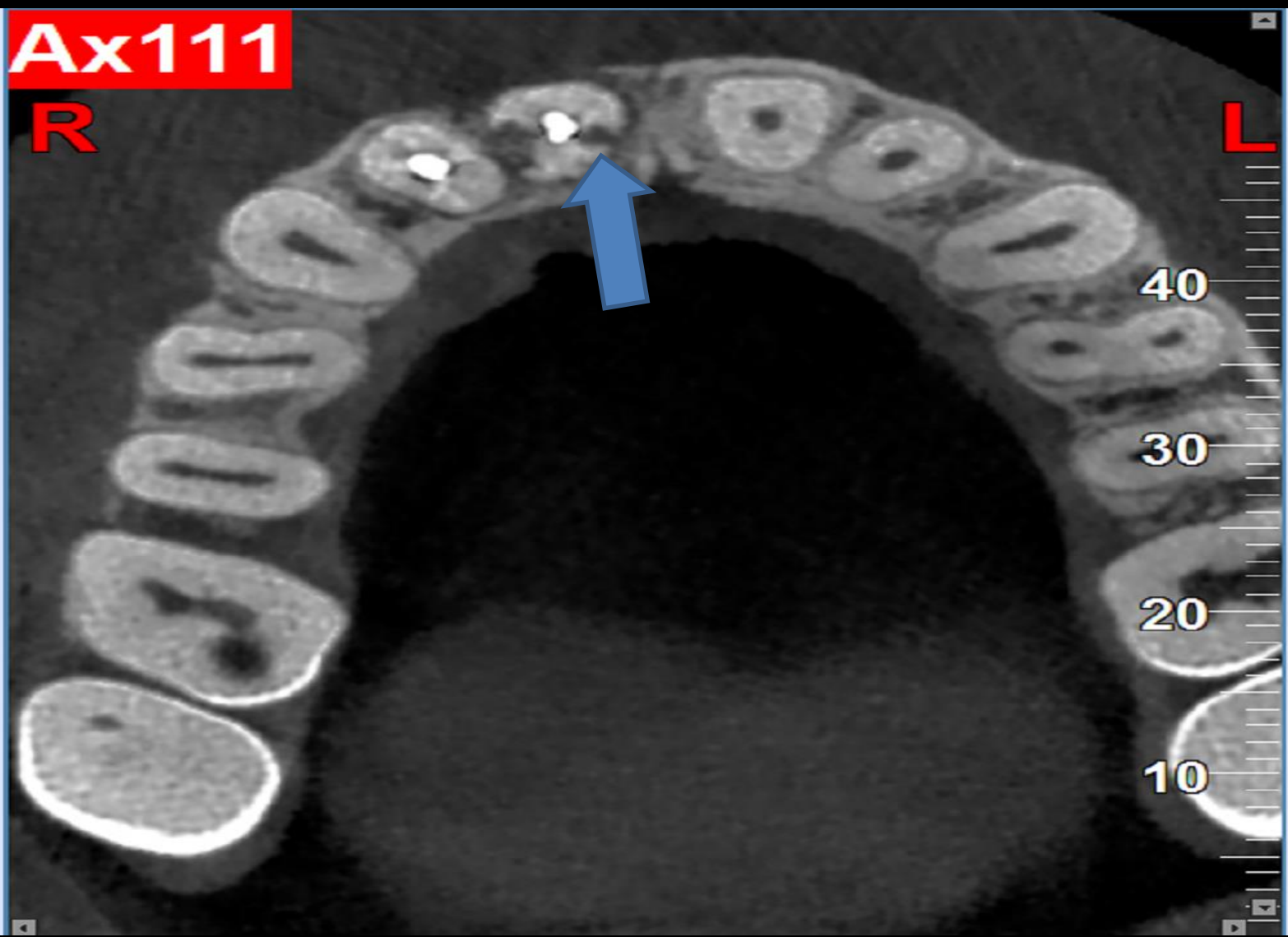
L

40

30

20

10



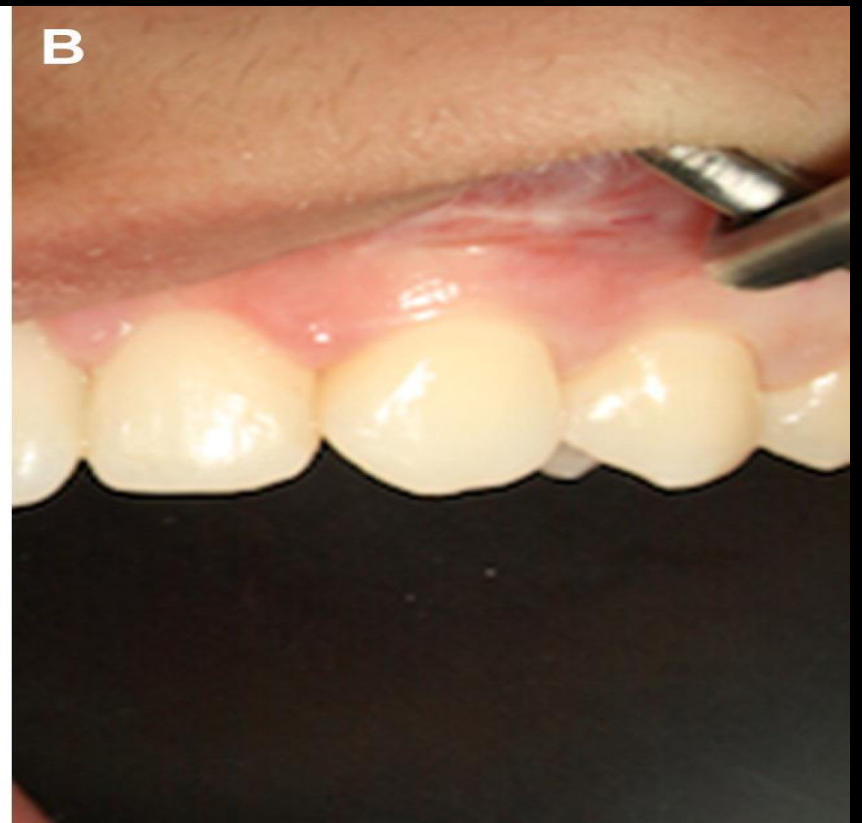
CASE

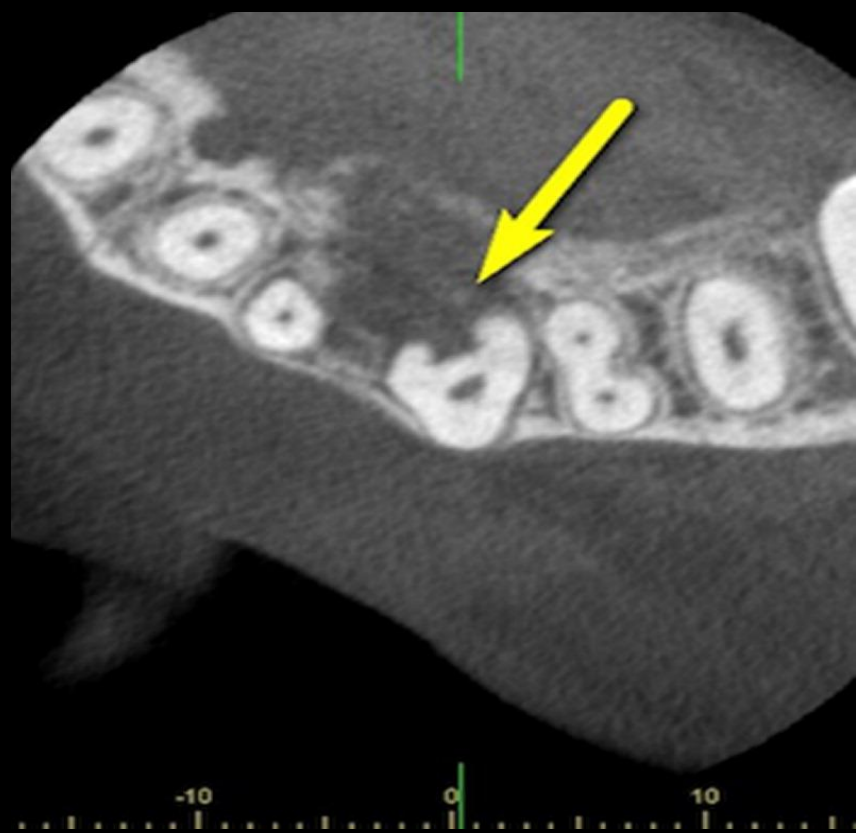
A 15-year-old girl was referred by an oral surgeon for evaluation of the area of teeth numbers 10 and 11.

The area had two surgical procedures to remove a cyst.

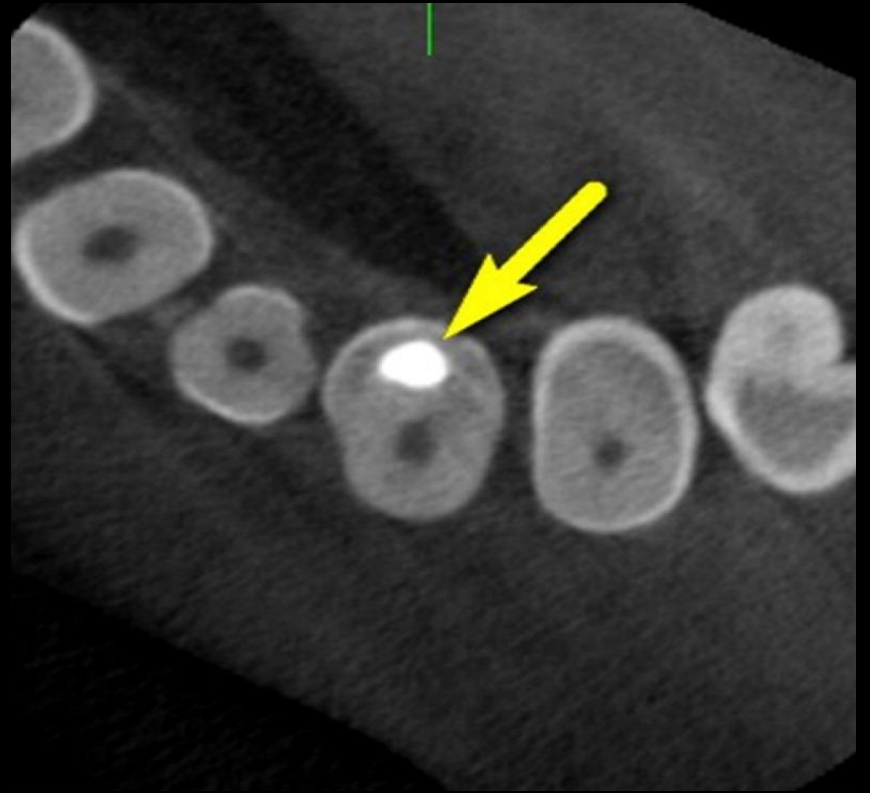
Intraoral examination revealed swelling in the palatal area and a draining sinus tract.

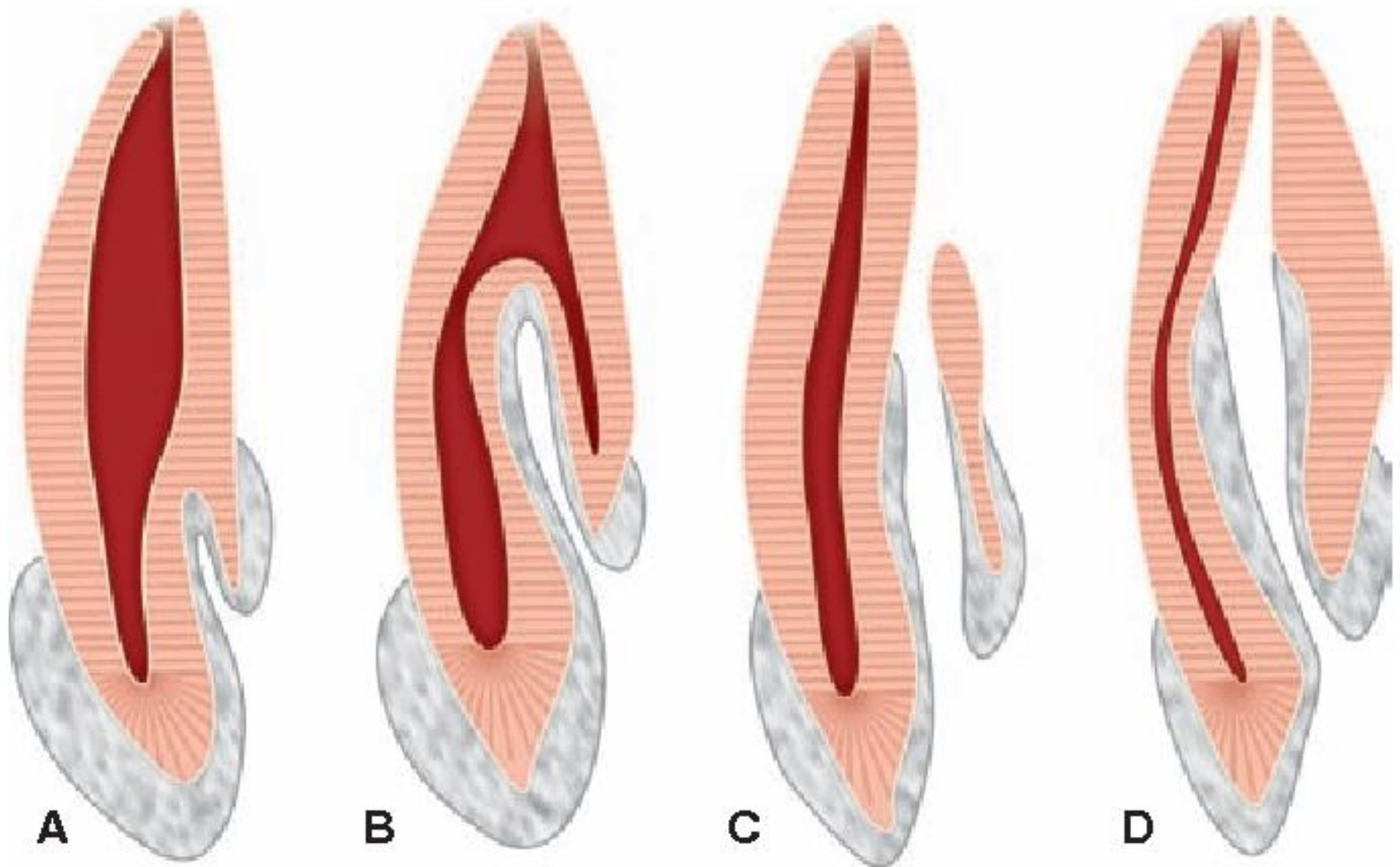
Preoperative testing indicated that all the maxillary anterior •
teeth were vital. h



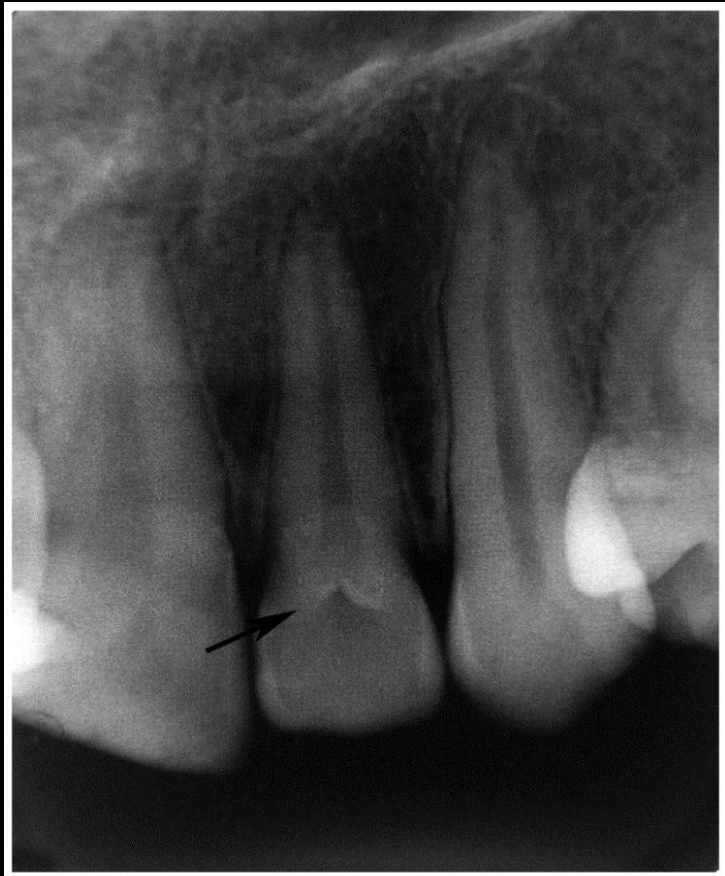








Figs 1A to D: Classification of dens invaginatus by Oehlers

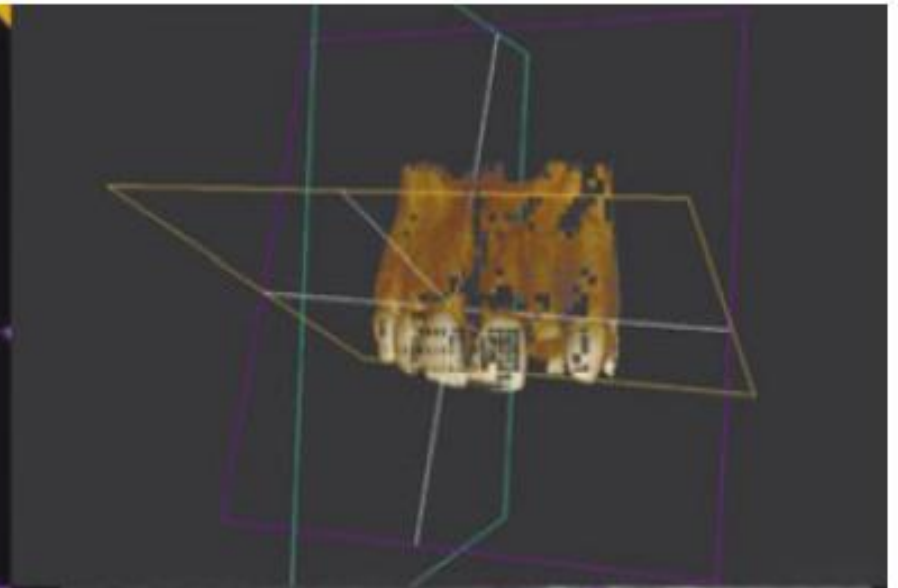
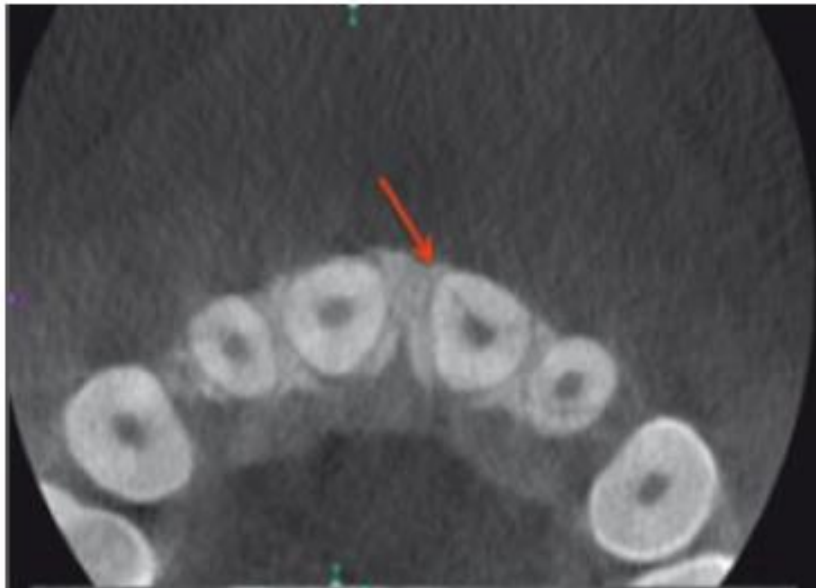




CASE

A 15-year-old men with trauma to the maxilla



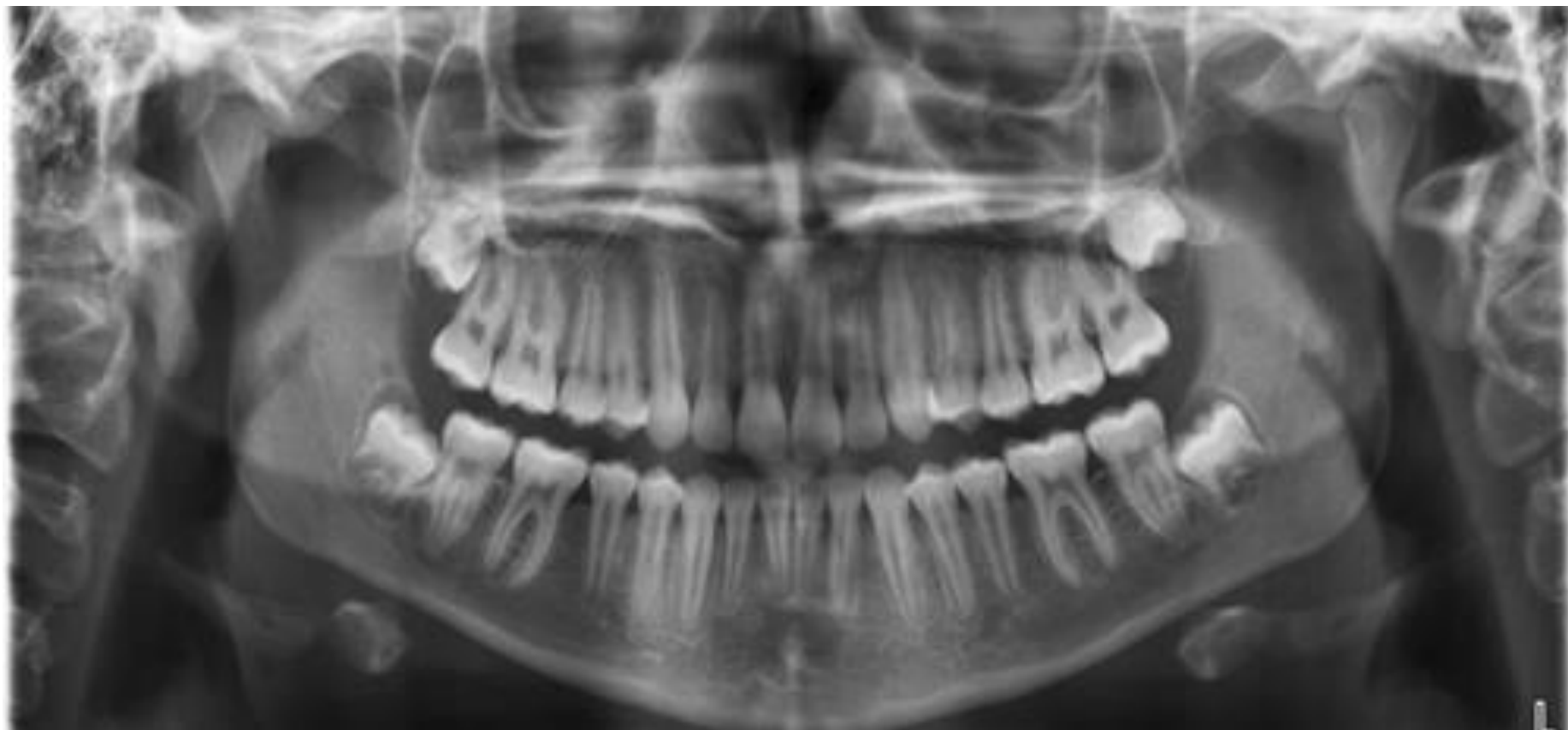




CASE

A 16-year-old man

The patient reported pain and discomfort in the left maxillary posterior teeth.





Ax219

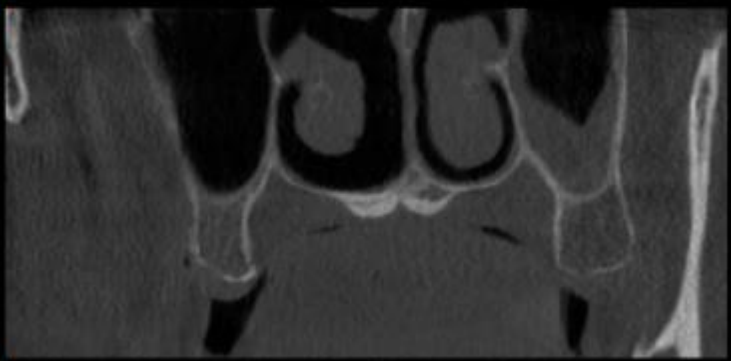
R

L



52

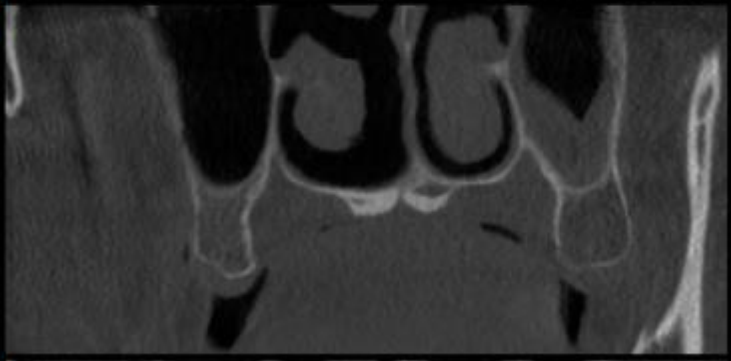
I



b

53

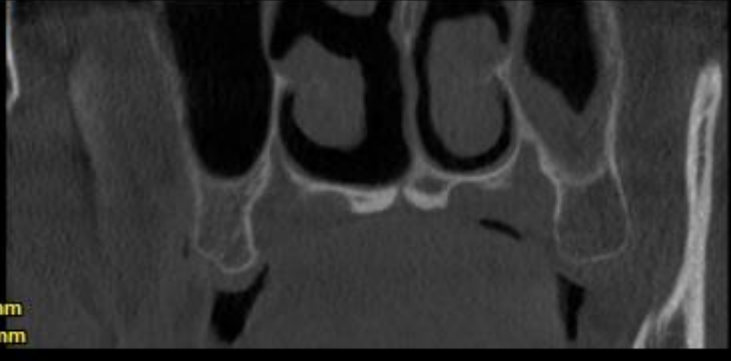
I



b

54

I



b

T: 1mm
S: 1mm

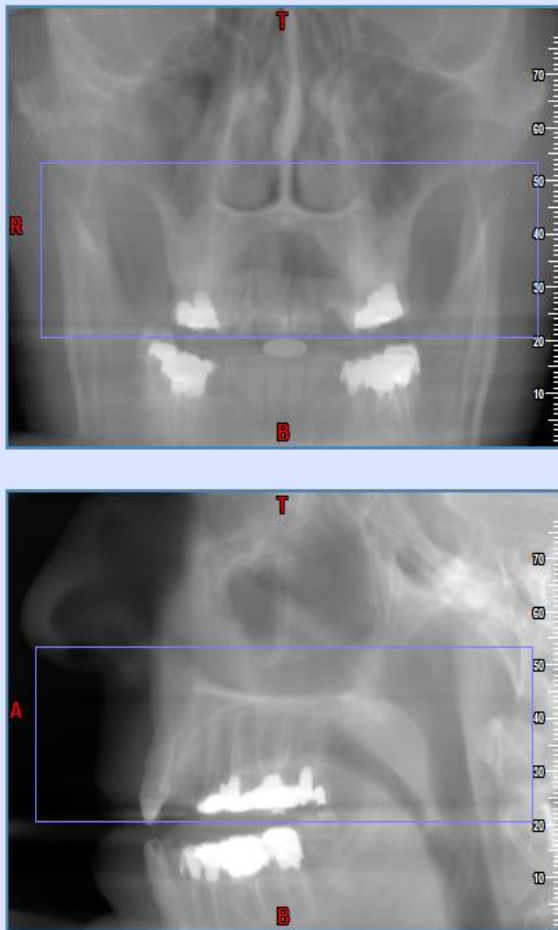


NNT VIEWER SOFTWARE

File Edit Images creation Report Tools View Help

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Info [2] Axial [219] MPR [3] Free cut [0] Cross [0] Panorex [0] Multiplanar [1] 3D [0]



GHAZVINEH NEDA - 12/30/1981

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DAP: 1010.95 mGy · cm²
CTDI_w: 6.85 mGy
CTDI_{vol}: 6.85 mGy

زندگی یافتن یک قالب است،
نه همان نقش و نگاری که خودت می خواهی،
نقشه را دوست که تعیین کرده
تو در این بین فقط می بانی
نقشه را خوب ببین!

نکنند آخر کار قالبی زندگیست را نخرند