



Radiology II



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Hand Out

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CRC

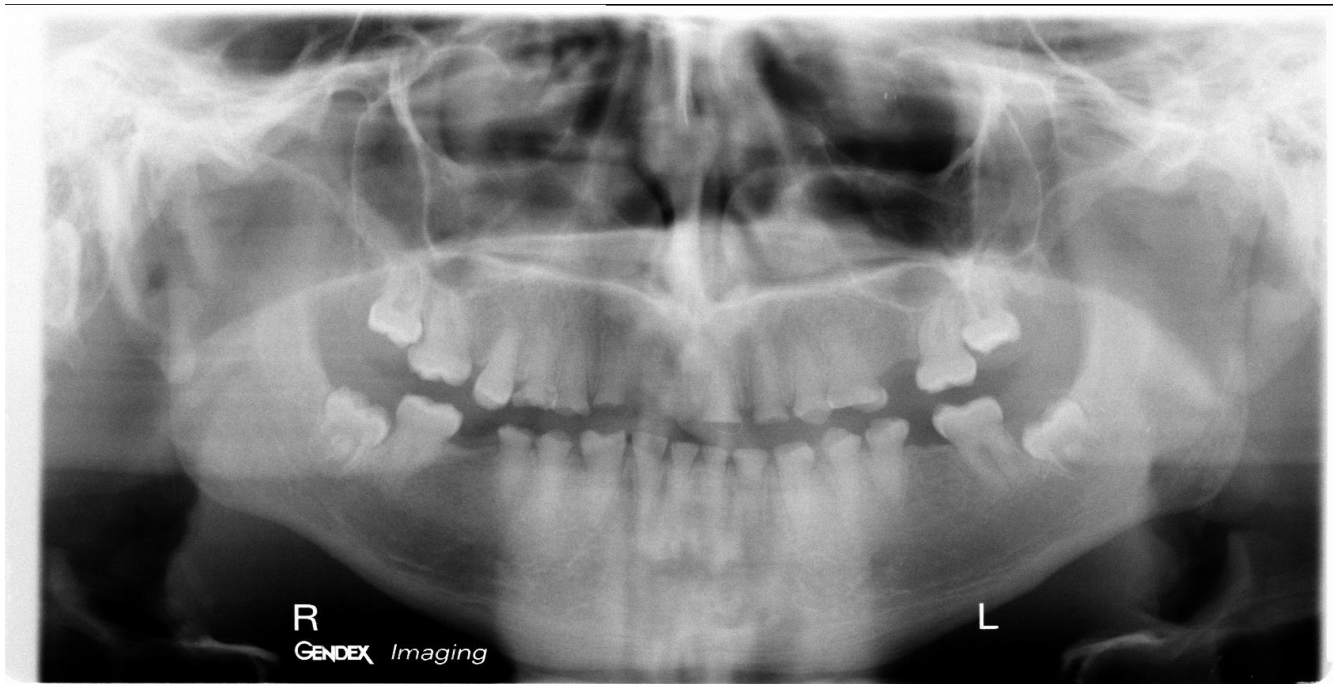
(Congenital & developmental anomalies)

CRC mean: clinco-radiographic conference.

*in this lecture we will discuss some developmental and congenital anomalies.

When we describe any case we always start by mention the type of this radiograph , then we talk about it in general description , so let's start :

Case 1:



This is a panoramic radiograph for an adult patient (the edentulous are the 6's followed by 7 & 8) . The abnormality in this radiograph are :

- 1-obliterated pulp chamber.
- 2-generalize attrition.
- 3-generalize spacing between the teeth.

Some one mention that there is a problem in the root of anterior teeth , don't forget that there is a focal trough in the anterior area which can show the anterior teeth without apex, smaller or even larger than normal .

In this radiograph we can't see any generalize root problem like root resorption , because root resorption mean loss of root tapering . in this radiograph the taper found , that's true they look short but there is symmetry between left & right (both look short) . so there is no loss of taper or lamina dura around the root , so no root resorption .

The attrition in the anterior & premolar more than molar , so it is not related to a parafunctional habit ,because in the para functional problem loss of tooth structure strongly associated with function so it will be greater in molar area . so in our case we start thinking about congenital disease which is more likely to be dentinogenesis imperfecta.

This disease associated with:

1-blue sclera

2-osteogenesis imperfecta.

Etc.....

*a student mention that there is an radiolucent area in the lower right side of the body of the mandible, this is the famous concavity in the mandible where the submandibular gland locate.

We also must remember that in the panoramic radiograph we usually see:

-the shadow of the spine.

-the ghost of the contra lateral ramus.

-the submandibular gland concavity.

Case 2:



This is a panoramic radiograph for adult patient.

We can see that there is something abnormal in this radiograph , so we take a cephalometric radiograph for this patient. The problem here is not technical problem , because the patient eyes & external auditory meatus are parallel to the skull and the maxilla, but we can see a lateral posterior open bite ,

(مستحيل المريض يكون فاتح بس نص تمه , يا اما فاتح تمه بالكامل او مسكر بالكامل)

Also if we look to his condyle we can see that one of them look bigger than the other. So we have 2 possibilities:

1-the big condyle is the abnormal one. 2-the small condyle is the abnormal one.

So we will look for other clues . if we decide that the smaller condyle which locate at the sama side of the open bite is the abnormal one, we must look for the glenoid & the angle of the mandible on that side . to consider it as abnormal the glenoid must be under develop and the angle of the mandible must be obtuse and that what we can see in this radiograph.

Sometime in the difficult case we use other investigation to help us like nuclear imaging (bone scan) , this image help us to see if there is an area in the mandible more active than other area.

Don't forget that the earlier the problem is , the more adaptation happen , so in this patient if he born with this problem the occlusion will adapted to this & we will see this open bite . so in this case the cause might be :

- tumer
- truma
- autonomous hyperplasia

We can't consider it facial microsomia which affect half of the face and affect other bone with mandible like zygoma , orbital boundaries & soft tissue.

Case3:

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This is panoramic radiograph for an adult patient. In this x-ray we can see some morphological abnormality which is taurodontism , this abnormality associated with down syndrome , dentinal dysplasia

For this patient the first thing we are thinking about it is dentinal dysplasia (80%) because we see a rootless teeth, but this patient had rhabdomyosarcoma when he was child , so he exposed to

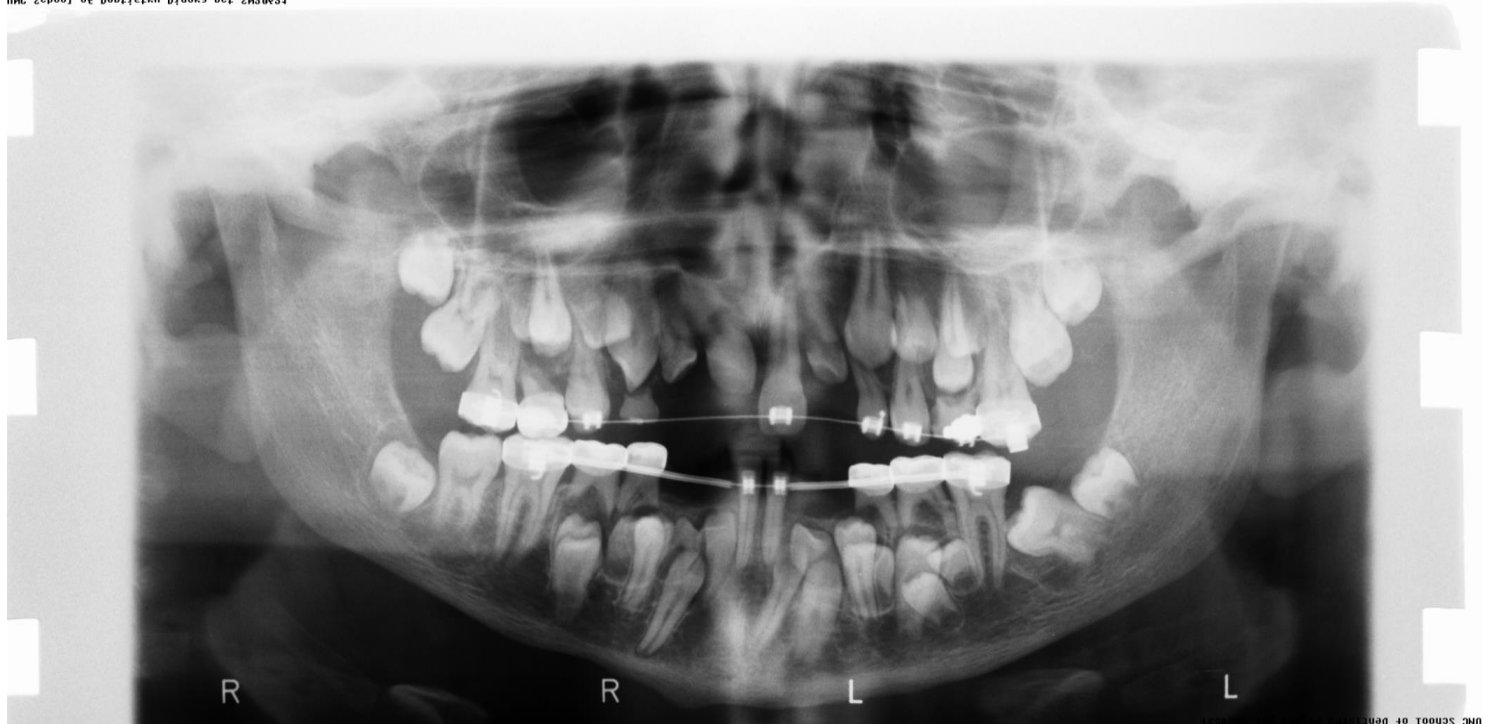
Midline radiotherapy + chemotherapy for a long period so this affected the root of his teeth.

*again the most common cause for rootless teeth is dentinal dysplasia and in a very rare case radiotherapy and chemotherapy might be the cause.

For this patient after extraction an implant therapy must be done.

Case4:

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this is a panoramic radiograph for a mix dentition patient . we can see a lot of supernumerary which will affect the eruption of the permanent teeth which will cause retained primary teeth.

Because he has many retained primary teeth we will start thinking about syndromes like:

- Gardner syndrome : here we have multiple supernumerary+ multiple ostoma
- cleidocranial dysplasia(the most common cause)

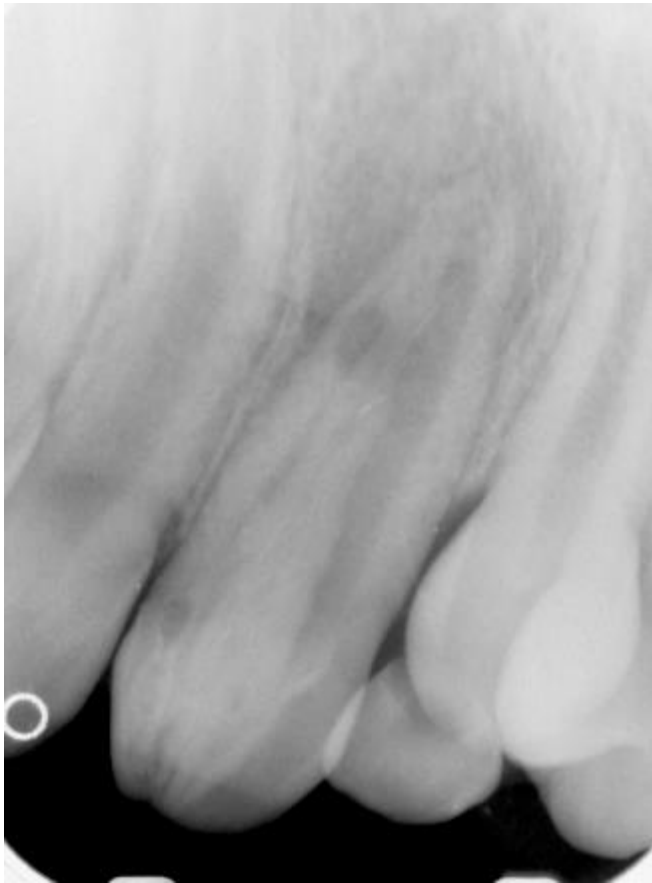
As we know some supernumerary look like natural tooth we call it (supplement) , some of them have peg shape, microdont , etc...

We always extract the abnormal shape supernumerary, but for the supplement one , the surgeon & orthodontic decide which will extract according to the prognosis of the tooth&

The ability to bring that tooth to the line of the arch .

We take 3D x-ray (cone beam for example) when we have multiple supernumerary.

Case 5:



A periapical radiograph lateral incisor-canine projection of the left maxilla. We can see central incisor, lat.incisor , canine & the C above the canine.

In this radiograph we can see one of the anomalies which is dens in dente inside the lat.incisor.

In the cone beam radiograph for this area we can see a radiolucent lesion , this lesion occur because in dens in dente the pulp become necrotic because of the communication that happen inside the tooth.

The Dr shows us a radiograph for this tooth after endo treatment.

Case 6:



This is a panoramic radiograph for an adult patient with first permanent molar in the lower left and upper right , the remaining teeth are retained deciduous teeth without any permanent successor. !!!!

So we start thinking about the cause of the missing permanent teeth (hypodontia).

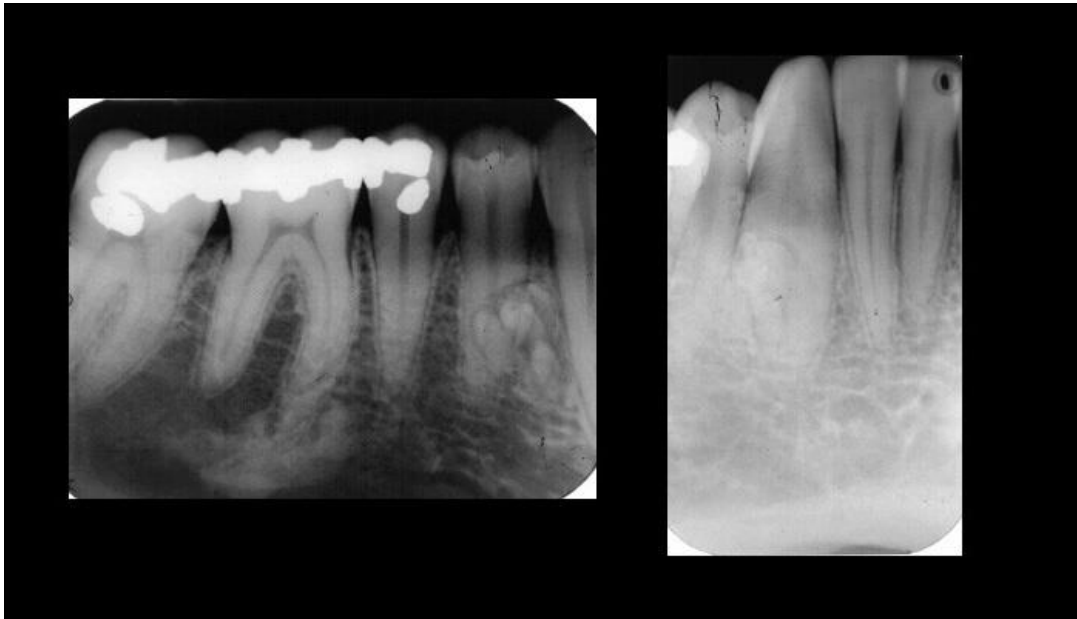
This problem isn't an incidental one , so we start looking for syndrome associated with this problem and the most common syndrome is ectodermal dysplasia.

The treatment in this case starts with a complete denture until they have a good solid bone to do an implant.

*we can see this syndrome in a whole family because it has many subtypes & phenotypes.

Case 7:

Two periapical radiograph showing a radio-opaque lesion contain small denticles inside , so we can see an odontoma & as we know they classified to complex & compound , in this case the patient has a compound one because it looks like tooth structure (the complex one look like sheet of enamel & dentine).



Now we must know where the lesion locate so we follow SLOB rule.

When we move mesial the lesion moves in the same direction, so it locates lingual to the root,

This help us to decide where we will open the flap .

We must remember that odontoma has a mix density , a radioopaque center surrounded by a radiolucent border.

Good luck 😊