Lec 7 *Dr. Ali H. Murad*

Bone Lesions

Benign Fibro-osseous Lesions

A collection of non-neoplastic intraosseous fibrous lesions that replace normal bone & consist of a cellular fibrous connective tissue within which nonfunctional osseous structures form.

1-Fibrous Dysplasia (FD)

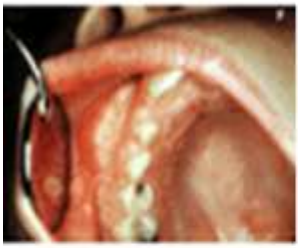
An asymptomatic self-limiting regional alteration of bone in which the normal structure is replaced by fibrous tissue & non-functional trabeculae-like osseous structures (metaplastic woven bone).

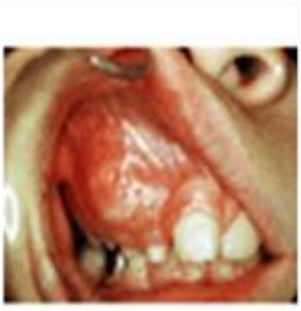
It may be Monostotic or Polystotic

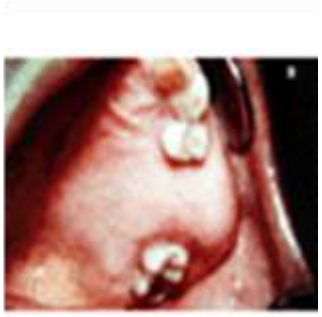
A-monostotic juvenile F.D:- It's the most common type, It grows slowly & ceases in the late teens or early twenties.

Clinically appears as facial asymmetry, mostly affect the max., & cause displacement of the teeth

This type affect a single bone



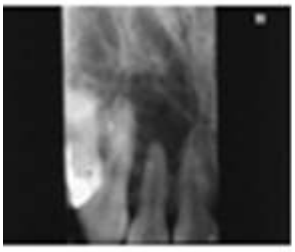
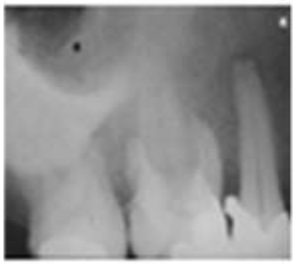
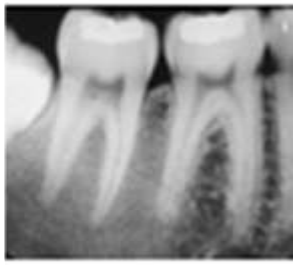




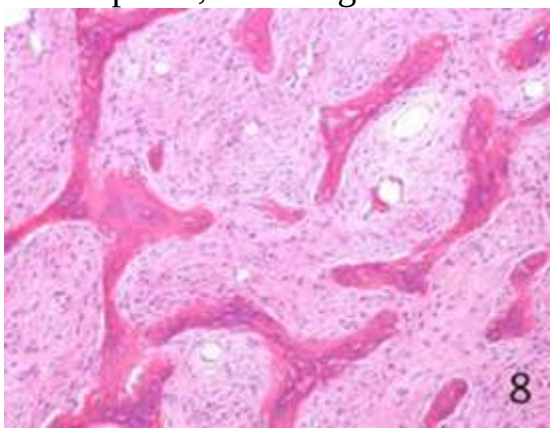
Radiographic appearance

It has different appearance, in the early stage appear as radiolucency, then in the late stage with bone formation they becoming more radiopaque giving " ground glass" or " cotton wool" appearance, in addition to expansion of the cortical plates & displacement of the root .

The lamina dura is usually obscured, & the lesion in general diffused & there is no demarcated line

Histopathology
the lesion mainly consist of cellular fibrous connective tissue that replaced the bone trabeculae & marrow spaces, with irregular islands of metaplastic bone.



Treatment:
Surgical correction for cosmetic reason, but this done when the patient reaches adulthood age.
Radiotherapy is excluded because of risk of malignant transformation

B- Monostotic adult fibrous dysplasia:
Appears as asymptomatic diffuse expansion of the cortices with teeth movement.

X-ray:
It show a mixed radiolucency-radiopacity (cotton wool) pattern, it blend with the surrounding bone, & expansion with thinning of the cortical plates.

Histopathology:
Show cellular fibrous connective tissue with immature metaplastic woven bone that diffused with the surrounding normal bone, this distinguished it from ossifying fibroma.

Treatment:
it differ from juvenile type. It is not self-limiting. & complete surgical removal of smaller lesions. While in larger one bone shaving is done.

C- Polyostotic F.D.

Is affect more than one bone, mostly confined to the cranio-facial area or distributed throughout the skeleton. & accompanied by skin pigmentation & endocrine dysfunction.

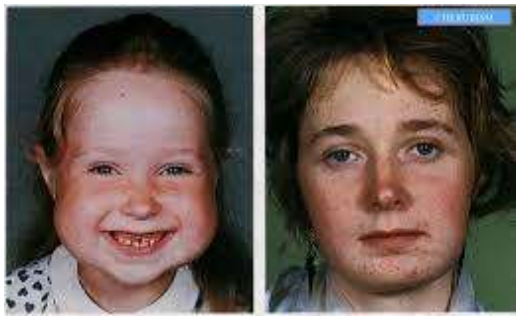
Clinically
1-The lesion give the patient an unpleasant appearance
2-Many patients have large light pigmentation known as (café au lait spots) on the skin
3-The lesion most commonly involve the ribs, cranium, max. ,femur,tibia
4-When endocrine dysfunction present (Albright syndrome) clinical features begin in early childhood, like premature vaginal bleeding, breast development in female.

X-ray & Histopathology
Are similar to that of Monostotic type

Treatment
By surgical management to correct the functional disturbances & cosmetic surgery to improve appearance

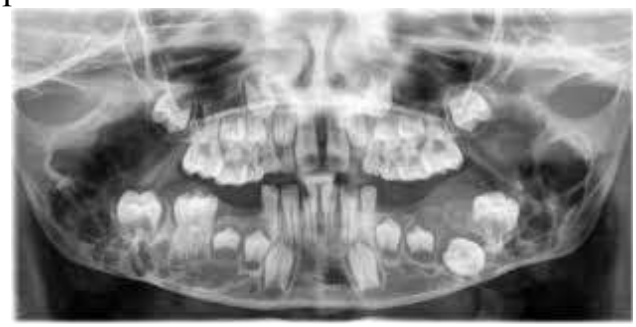
2-Cherubism

It's autosomal dominant fibro-osseous lesion of the jaws
Involving more than one quadrant, usually the mand. In a bilateral symmetrical manner at early childhood. The disease is slowly growing, associated with sever malocclusion. The condition stopped when the patient reaches puberty.

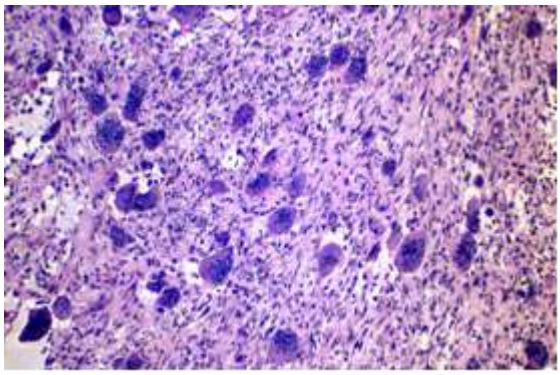


X-ray appearance

In early stage show large area of radiolucency, exhibit massive expansion with malaligned & disturbed eruption of teeth.
Later when the disease mature it appears with more radiopaque & give "ground glass" appearance.



Histopathology
It consist of giant cell tissue (multinucleated giant cells) with mononuclear cells.Then during maturation it replaced by cellular fibrous tissue with metaplastic woven bone. Then the lesion show a bony dominant.



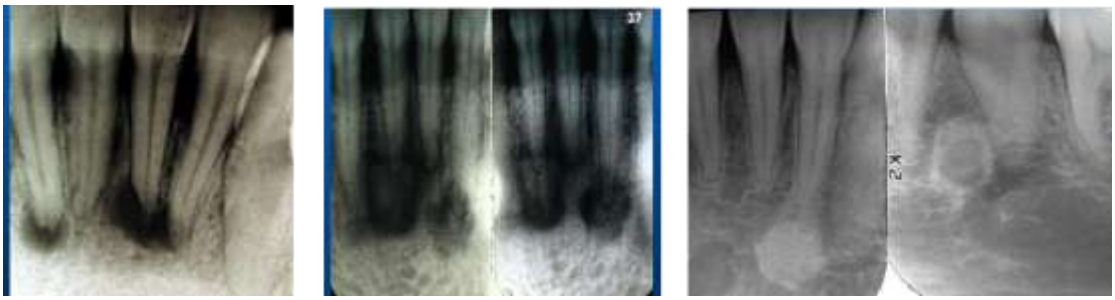
Treatment:
Cosmetic surgery after puberty.

3-Cemento-osseous Lesions

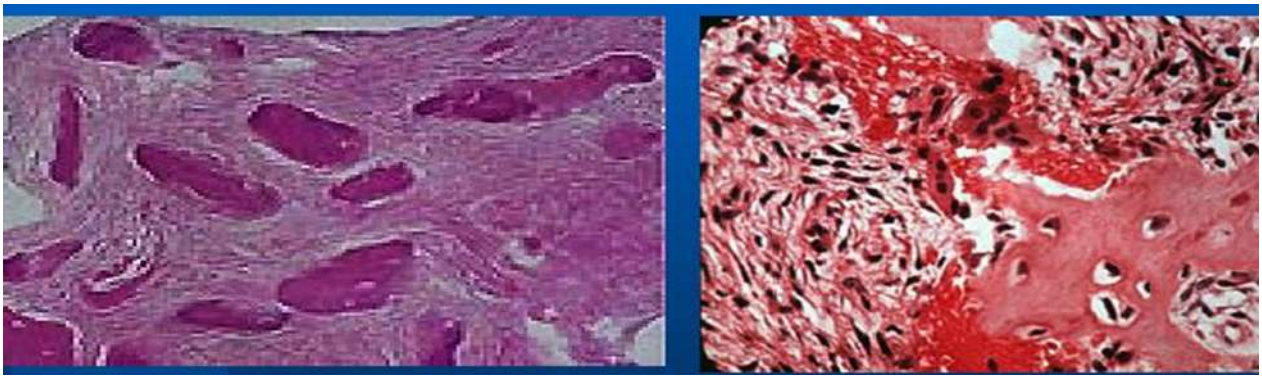
A-Periapical cemental dysplasia:

1- The disease characterized by the replacement of normal bone by cemento-osseous tissue
2-mainly affect the anterior portion of the mand.
3-The lesion is asymptomatic & the teeth overlying the lesion remai vital

X-ray
it has 3 pictures, depending on the stage of maturation.
1- osteolytic stage: appear as well defined radiolucency at the apex of one or more teeth, which are free from caries or restoration.
2- cementoblastic stage: appear as demarcated radiolucency containing nodular radiopaque deposits.
3- mature stage: appear as well defined, dense nodular radiopaque. The Pd membrane can be seen separating the lesion from the teeth.



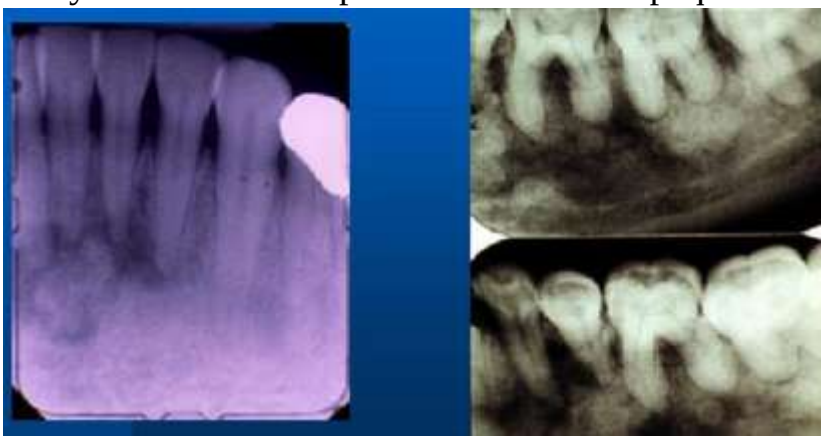
Histopathology:
the osteolytic stage consists primarily of cellular C.T. replacing the normal trabecular bone with small calcified structures
then in cementoblastic stage, further displays a mixture of spherical calcification & irregular shaped deposits of osteoid & mineralized bone, surrounding by osteoblasts & containing osteocytes
at mature stage, the lesion composed of coalesced spherical calcification & sclerotic mineralized bone with little C.T.



B-Florid Cemento-osseous dysplasia

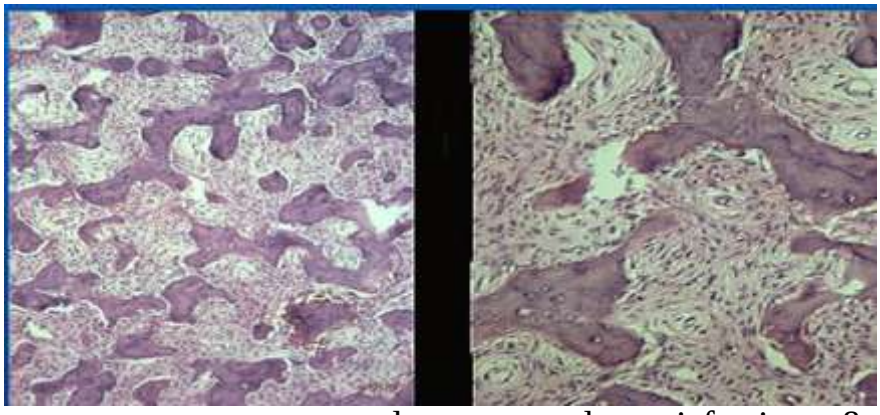
It's a diffuse asymptomatic intra-osseous lesion, that involve one or both arches. Mostly affect the females young age. Some time the patient may experience pain or discomfort due to secondary infection from periapical lesion or after extraction.

X-ray: consist of multiple radiolucent-radiopaque diffused lesion



Histopathology

the lesion show cellular C.T. containing many small & large spherical calcifications & bones.



Treatment: no treatment unless secondary infection & complicated osteomyelitis, in this case debridment, drainage & antibiotics is necessary.