Part 2 sheet 4

RICKETS & OSTEOMALACIA

-result from adefect in the normal activity of the metabolites of vitamin D.

-rickets → the disease affects the growing skeleton in infants & children(affect teeth since they are still developing)

-osteomalacia → this disease affects the mature skeleton in adults .

****radiogrphic features :**

Looks radiographically same as hyperparathyrodism

Thin cortex,bone radiolucent,

-Radiographic changes associated with the teeth in **Rickets** , rickets in infancy or early childhood may result in hypoplasia of developing dental enamel . radiographs may reveal this early manifestation of rickets in unerupted & erupted teeth . lamina dura & cortical boundary of tooth follicles may be thin or missing

-Osteomalacia does not alter the teeth because they are fully developed before the onset of the disease , the lamina dura may be thin with long standing or severe osteomalacia . in osteomalacia , bone problem occur , thin cortices and pseudo fractures but teeth are not involved.

Pt usually has taken for them skull and panoramic x-ray

-bone changes are the same in the rickets & osteomalacia.

HYPOPHOSPHATASIA

-rare inherited disorder that is caused by either reduced production or defective function of alkaline phosphatase "this enzyme is required for normal mineralization of osteoid" .

-infant &adult type depends on teeth development.

-radiograph same as OSTEOMALASIA —>can't differentiate between them

-absent of cortex in sever cases

-less opaque bone,thin cortex,wide pulp,small roots,delayed development of teeth.

-like any disease without proper mineralization …. Poor growth ,fractutes , closure proplems,poor calcification .

- the teeth may be hypoplastic & may be lost prematurity .

RENAL OSTEODYSROPHY

-Renal failure disease →affect Ca&pi balance -
-long term renalfailure may be give radiolucent appearance OR radiopaque - appearance''sclerotic appearance '' in some patients depends on what stage of failure &what treatment they are taking.
-thin cortex -
-bone resorption -
-in the radiographs →radiolucency, no cortex "very thin " black area",loss of - bone mass, loss of lamina dura ,"resorpative pattern"
- in other pic → sclerotic "radiopaque" bone"sclerotic pattern" -
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- HYPOPHOSPHATEMIA

-in phosphate enzyme while PHOSPHOTASIA in phosphorus —>both looks the same radio graphically
-infant &adult type
- in the radiographs → thers deffrential diagnosis .. may br rickets ,hypophosphatemia, hypophosphatasia,hyperparathyroidism ….. sooo it depends on history background ("family history ,,, or about sclera "about osteogenesis imperficta " ,,,renal disease …..)

OSTEOPETROSIS

-easily detected on radiograph
Problem in osteoclast

-sereously dense bone
-the bone is dens ,fragile that are susceptible **to fracture**" brittle" & infection
-results from defect in the defrentiation & function of osteoclasts . the lack of normally osteoclasts results in abnormal formation of primary skeleton & generalzed increase in bone mass
-imbalance between osteoclasts and osteoblasts
-bone marrow spaces don,t exist enough—>affect vascularity of the bone
-foraminae getting nearly moderne &title—>neural issues
Clinical features:-multiple fractures
-neural issues
Pt grow full potential
-it's not one disease,it has 3 subtypes,&there's types incompetent with life,some are mild enough so they can came to our clinic.

-in some cases the dense bone prevent teeth from eruption(impact ion problems)
-osteopetrosis showing dense clacification of all the bones , skull , facial,chest, pelvis …..
- pt has high tendency to fractures &osteomyelitis,infections(especially in ill fitting dentures)

Other systemic disese:

Sickle cell anemia & thalasemia

-hemolytic disorders,defective RBCs
-theres active bone marrow space (hyper plastic bone marrow)
-hair on end appearance(bone marrow is growing,trabecular cells space more vertical من التركيبة العشوائية العادية)
-can't differ between them but depend on pt origin (African pt—>sickle cell anemia,Lebanese pt—>thalassemia)

The face develops prominent cheekbones & protrusive premaxilla

-n the radiographs :
Thick diploic space , thin cortex , hair-on-end bone pattern , large bone marrow spaces , change in the bone shape,,,,,, thick body of mandible

-SCLERODERMA:
- connective tissue problem,, in collagen ,,, the pt come to clinic with limited mouth opening, tight skin……

- causes →symmetric & generalized widening of periodontal ligament space
Crystal bone level is normal,lamina dura is intact&no pocketing(to differentiate from periodontitis).

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