



Radiology II



Sheet

Slide

Hand Out

Lecture No.	1
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In This coarse we will try to match the basic information that we got in the pathology, surgery and ortho , so it is combination of most of the basic knowledge that we got .

We'll go through pathological entities in a systematic way ,so we will take every single pathology as a module , the first lecture will be about something as cyst or trauma or tumor ,we will have alittle chat about them , lecture no 2 will be dedicated for cases that fools within the same category

((The reference of the subjects is (white and farrow)

What is expected from GP is to be able to tell the differences between categories of diseases ,so

1 : is this a normal radiograph or not ,?

2 : what category of disease ma I dealing with ?, because radiology is not as easy as clinical diagnosis .

TERMONOLOGY

* A radiographic interpretation is the ability to see and under stand , we will notice that things those we see in a radiograph image after this coarse will be different

* * Major principle

1 - you have to know the basic information of anatomy (there will be some Questions about them in midterm)

2 - independence of radiographic signs to imaging modality , each category of diseases will actually give a similar appearance on all kinds of radiographic image (periapical , panorama ,MRI ,CT.... Etc)

3-- principle of symmetry , we have to compare the two sides of the face ,if there is any diffrene , then we should decide if it's radiographic error , variation of anatomy or pathological entity

4 - terminology and description

** We have three basic views :

1-sagittal : from side to side

2- coronal : anterior posterior

3- axial : up - down

Viewing sequence :

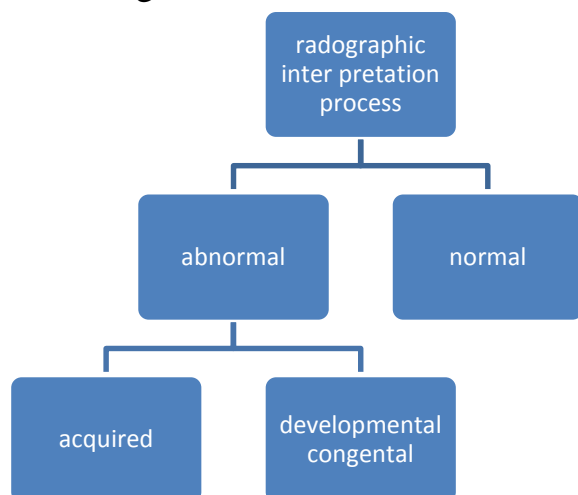
(when we see a radiograph we have to start the description generally then we go more specific)

1- asses symmetry

- 2 -- follow cortical boundaries (inferior cortex of the mandible , cortex of mandibular canal ,cortex of max sinus , nose cortex ...
- 3 - count teeth
- 4 - local stops : lamina Dura periodontal ligament state ,root form root canal anatomy, crowns

systemic approach

- systemic info : age , gender , society (the diagnosis of the same appearance of a radiograph will be different according to these factors)
- history : pain , parasthesia
- symptoms :ulceration , color
- clinical examination
- existing diagnostic radiograph
- image selection (type of the radiograph)
- initial examination image



If it's acquired it could be

- 1- trauma most of time we know from history
- 2- inflammatory (red , temp ...
- 3-vascular
- 4- fibro osseous
- 5- cystic
- 6- tumor
- 7- systemic metabolic disease

- The differential diagnosis that we got from a radiograph is an impression (a clue) , because in most of the diseases you can't just tell by a radiograph , the definite diagnosis is detected by clinical exam

Language and terminology :

- radio opaque
- radiolucent
- benign
- malignant

RADIOLUCENT lesions :

1 - corticated uni locular

black one circle with white border (cortex)

2 -non corticated unilocular

black one circle without white border , which mean that the lesion lost it's cortex because of super infection

3- -multi locular : small multiple locules (can be in different shapes) inside the same lesion , the disease process which looks as this is different from the disease process that cause unilocular appearance

(most of multi locular lesions are tumors and most of the uni locular lesions are cystic)

4 -multi focal : multiple lesions , which actually include very few diseases in differential diagnosis

* tarawneh's question :will the recurrent disease have the same feature as the original disease ?
bdo ga3deh el so2al

5- mouth eaten radiolucency or(ill-defined radiolucency)or (a radiolucency with a wide zone of transition) ,” dr 7akat mrtb6eh be so2al tarawneh “ :

we can't visually tell the different between normal bone and diseased bone

at the *** edge of that lesion , the cell are not growing to together , and the cells are grow fast in away that doesn't give the bone a chance to make a cortex around it

it's either osteomyelitis (inflammatory) or malignancy

so mouth eaten lesion it is not a lesion that can be treated in a dental clinics

we should take the location of the lesion in consideration when we try to know the differential diagnosis as ex: a unilocular corticated radiolucency around an impacted tooth is one of three :
dentigerous, keratocyst . mural amino blastoma

Radio opaque lesions :

1 -well-defined : focal: one spot of white stuff ,it's calcified lesion and it's come in different shapes

2- target like: radio opaque center surrounded by a radiolucent area surrounded by another radio opaque cortex as a target circles < it can be (PCOD , impacted tooth , supernumerary complex compound odontome ,)

3-multifocal conluent : different lesion

4- irregular

5- ill defined : malignancy(osteo sarcoma , condrosarcoma) inflammation (sclerosis osteo milites

6- ground glass appearance :irregular type of configuration radio opaque lesion with radiolucent areas , it's usually connected to fibrous dysplasia

7- mixed density : it has enough radio opaque (calcified material) and enough radiolucent , (odontome , OT , CTOT)

8- and some time they come in soft tissue places

When we want to describe a radiograph

we should begin with the name of the radiograph, the patient info

then we should describe the radiographic sign which are

1- radiographic density

2 - margin characters

3 -shape

4 - location and distribution

5- size

6-internal architecture

7- effect on surrounding structure

** The Difference between the benign and malignant lesions

	Benign	malignant
Margin	- well –defined - smooth corticated	- ill- defined - ragged - mouth eaten
shape	-round /oval - unilocular	-Irregular (no margin) - multilocular
Cortical bone	- expansion - in aggressive benign may erode	- erosion - destruction (we can't trace a cortex)
Effect of nerve canal	- Displacement - no nerve sensory deficiency	- invasion and destruction of the nerve – anesthesia / parasthesia
Tooth site	- displacement - may prevent eruption	- floating teeth
Tooth root	- cause short roots because of horizontal resorption	- more variable - sometimes no resorption -spiked root (vertical resorption) (mbawaz)

* periodontal ligament space and lamina dura*

Asymmetrical widening of the periodontal space area could be

- 1- scleroma (because the tumors cell begin there growth in the periodontal area)
- 2- vertical root fracture (which have symptoms)
- 3- ortho movement