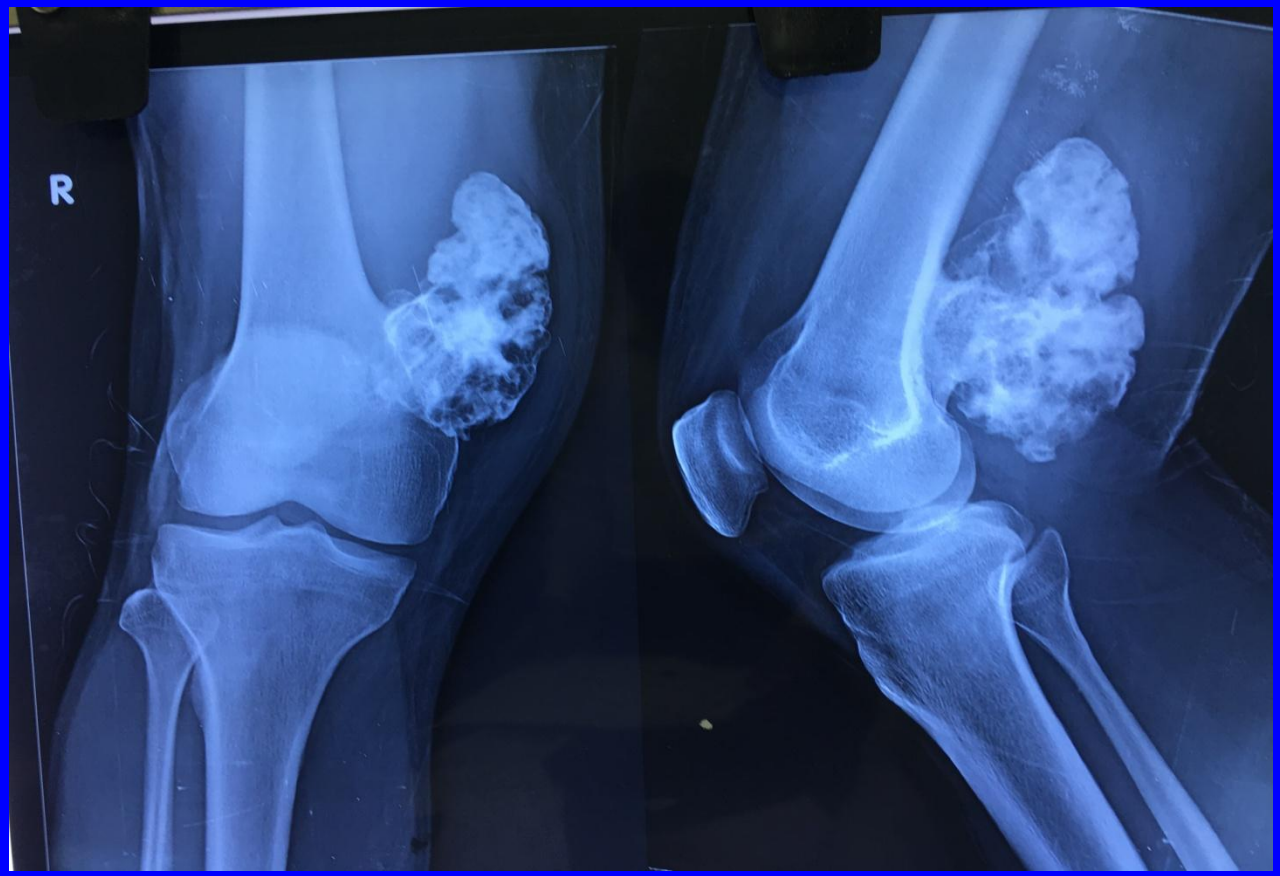
SWITCH OFF
YOUR MOBILE
PHONES

BENIGN BONE TUMORS



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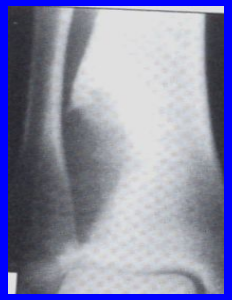
CHONDROBLASTOMA

- Rare benign tumour of cartilaginous origin
- Males, 10-20 yrs.
- Epiphysis of long bones → femur, humerus, tibia
- Pain → presenting feature
- Radiologically → radiolucent area in the epiphysis with sclerotic margins & areas of calcification which appear hazy
- Microscopically:- characteristically cell is chondroblast

  -There is chondroid production

  -Several scattered giant cells
- Treatment:- curettage and bone- grafting

CHONDROMYXOID FIBROMA



- Rare benign tumour
- One of the giant cell variant
- Metaphysis of long bones in the lower limb
- Pain & later swelling (presenting features)
- Radiograph: an eccentric osteolytic lesion with a thin sclerotic margin
- Microscopy:

  -areas of lobulated cartilaginous cells with myxomatous zones

  - Several scattered giant cells

Treatment: removal of tumour including the wall & the bone grafting

REACTIVE BONE LESIONS

Osteoid osteoma:

- A reactive bone lesion simulating a tumour
- Exact pathogenesis is not clear

Clinical features:

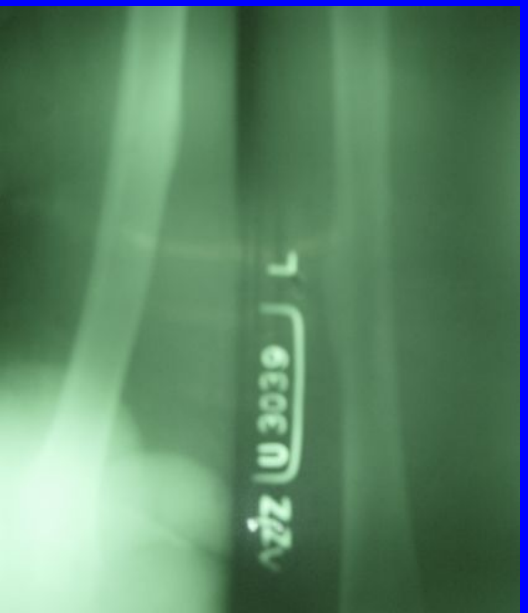
- Children & young adults (10-30yrs)
- Males
- Cortical areas of femur, tibia & vertebra
- Localised pain in the bone → progressively increases with time

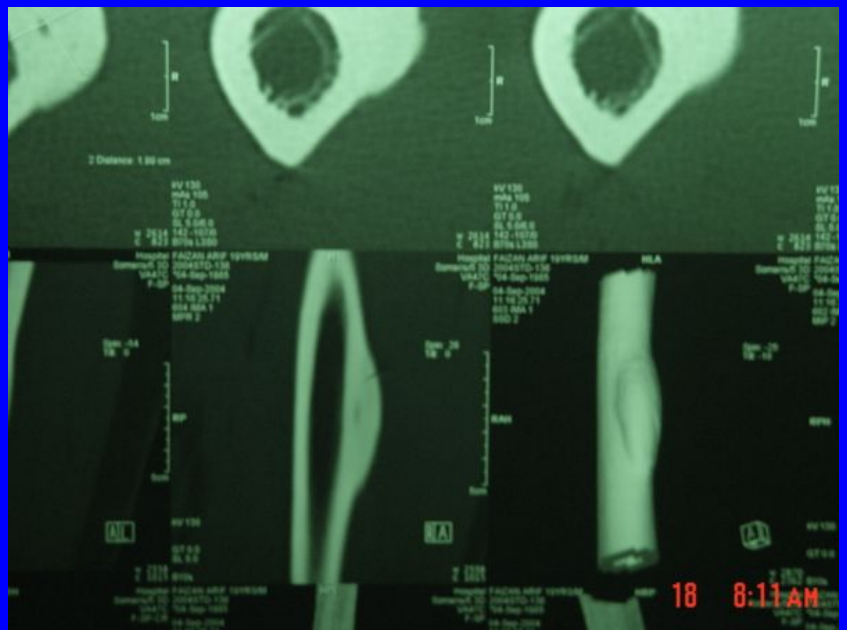
- Pain is worse at night & typically responds to salicylates
- Gradually → tender swelling at the site with no inflammatory signs
- Lesion in lamina, pedicle painful scoliosis

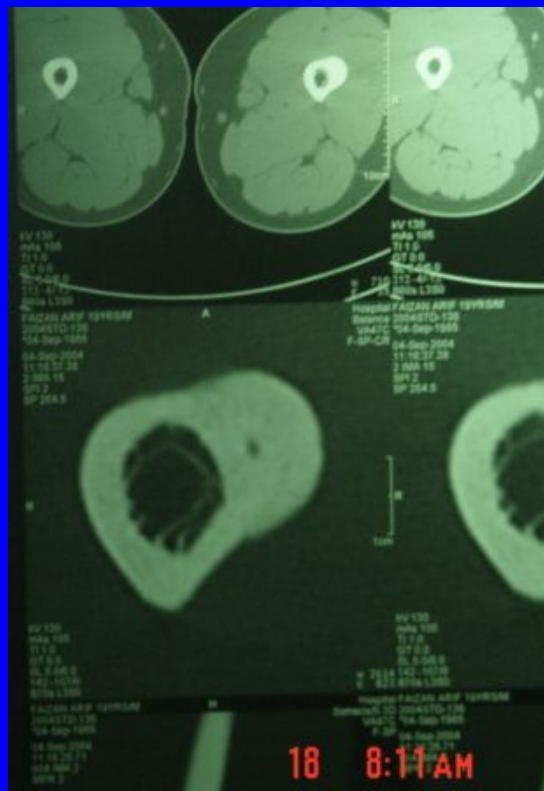
- radiological features:

- a small osteolytic lesion in the cortex / sub-periosteal region surrounded by a dense sclerotic area

- a small dense spot in the centre of the area – nidus (better demonstrated in the CT)







Histological features:

- Nidus consists of osteoid tissue or woven bone lying in the fibro-vascular stroma
- Spicules of calcified osteoid tissue at the periphery

Treatment:

- RFA
- Total excision of the lesion

OSTEOBLASTOMA
(GIANT OSTEOID OSTEOMA)

- Lesion similar to osteoid osteoma
- But size larger than 2 cm
- Children & young adults (2nd & 3rd decade)
- Spine & epiphysis of long bones
- Can present as swelling in the end of femur
- Vertebra can present with neurological sign of cord / root compression

- **Radiological features:**
  - expanding osteolytic cortical lesion with sclerosis
  - May resemble an aneurysmal bone cyst

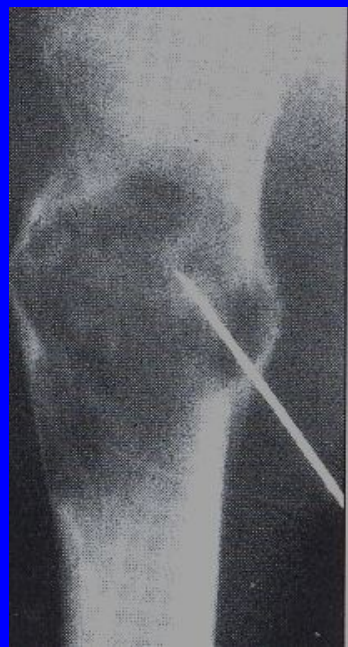
- **Microscope:**
  - Vascular connective tissue stroma with numerous osteoblasts
  - Osteoblasts → no mitotic activity

- **Treatment: - curettage / excision of lesion**

CYSTIC LESIONS IN THE BONE

Unicameral / simple bone cyst:

- Children & adolescents
- Also known as solitary bone cyst
- True cystic lesion of bone (fluid filled cyst lined by epithelial like cells)
- Ends of long bones (metaphysis)
- Common sites:
  - Prox. end of humerus – 80%
  - Proximal end of Femur – 20%



CLINICAL FEATURES:

- Usually present with pathologiocal fracture
- Ocassionally pain in the region
- Usually seen as a radiolucent area in the metaphyseal region near the epiphyseal plate
- May occupy the whole width of the bone & causing thinning of the cortex

- Fracture may be seen
- With the child's growth → shifts away from the metaphysis towards the diaphysis

- Pathological features:

- Cyst contains serous/sero-sanguinous fluid
- Inner wall shows bony ridges & is lined by a thin membrane

Microscopic features:

- Lining membrane shows connective tissue with scattered giant cells
- Exact pathogenesis not clear
- Believed to be a hemorrhagic cyst due to mild trauma & intra-osseous bleeding

Treatment:

- Curettage & packing with bone graft
- Small cyst → may heal after fracture
- Inj. Methylprednisolone into the cyst

ANEURYSMAL BONE CYST

- Solitary
- Rapidly progressive
- Expansile
- Metaphysio-epipheal
- Long bones and
- Pedicle + lamina of the vertebra
- 2nd and 3rd decade

PATHOGINESIS:

- Exact ?
- ??Arteriovenous malformations in the bone trauma
- Induced on a pre existing neoplastic pathology

Clinical features:

- Pain and swelling in the affected bone
- Tenderness
- Pathological frature → increased pain and tendernes
- Spinal lesions → ?Neurological signs

RADIOLOGICAL FEATURES:

- Osteolytic area (metaphysial region of long bone) in the vertebra
- Thin shell of cortical bone covering the lesion
- Eccentrically expanded lesion ballooning out on one aspect

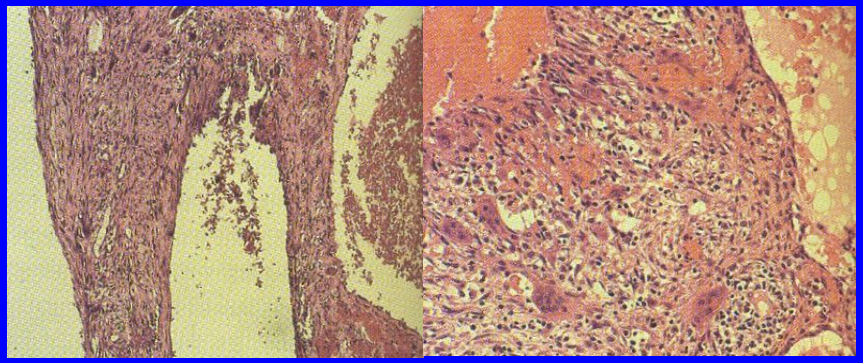
PATHOLOGY

Macroscopically:-

- Honeycomb of blood filled cavities lined by fibro-osseous cystic tissue

Microscopically:-

- Fibrous tissue septae with some osteod in it
- variable number of giant cells
- Xanthoid cells
- Altered blood pigment



TREATMENT:

- sclerosing agents
- Extra- periosteal excision / curettage
- With locally adjuvant therapy (liquid nitrogen)
- And bone grafting

} Can be curative

- High incidence of local recurrence
- Very large inaccessible cysts → treated by radiotherapy.

THANK YOU

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