

MALIGNANT
TUMOURS OF BONE

Classification of malignant tumors of bone:

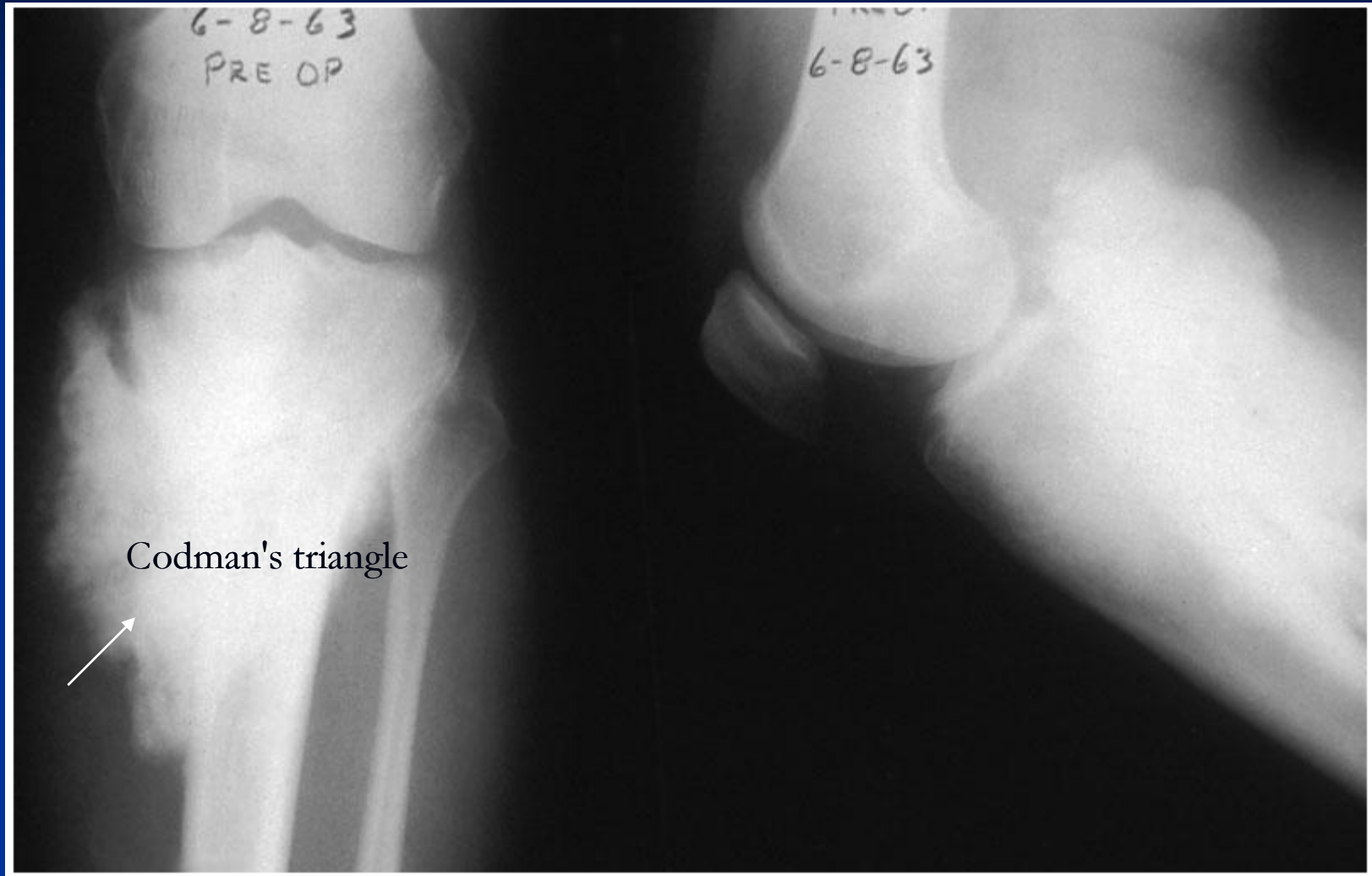
1. Osteosarcoma (Osteogenic sarcoma)
2. Chondrosarcoma
3. Osteoclastoma (Giant cell tumor)
4. Ewing sarcoma

Osteosarcoma (Osteogenic sarcoma)

- Most common primary malignant tumor of bone
- Clinically:
 - Males > females
 - Most occur in teenagers (age 10-25 years)
 - Localized pain and swelling

■ Classic X-ray findings:

1. Codman's triangle (periosteal elevation)
2. Sunburst pattern
3. Bone destruction



Osteosarcoma



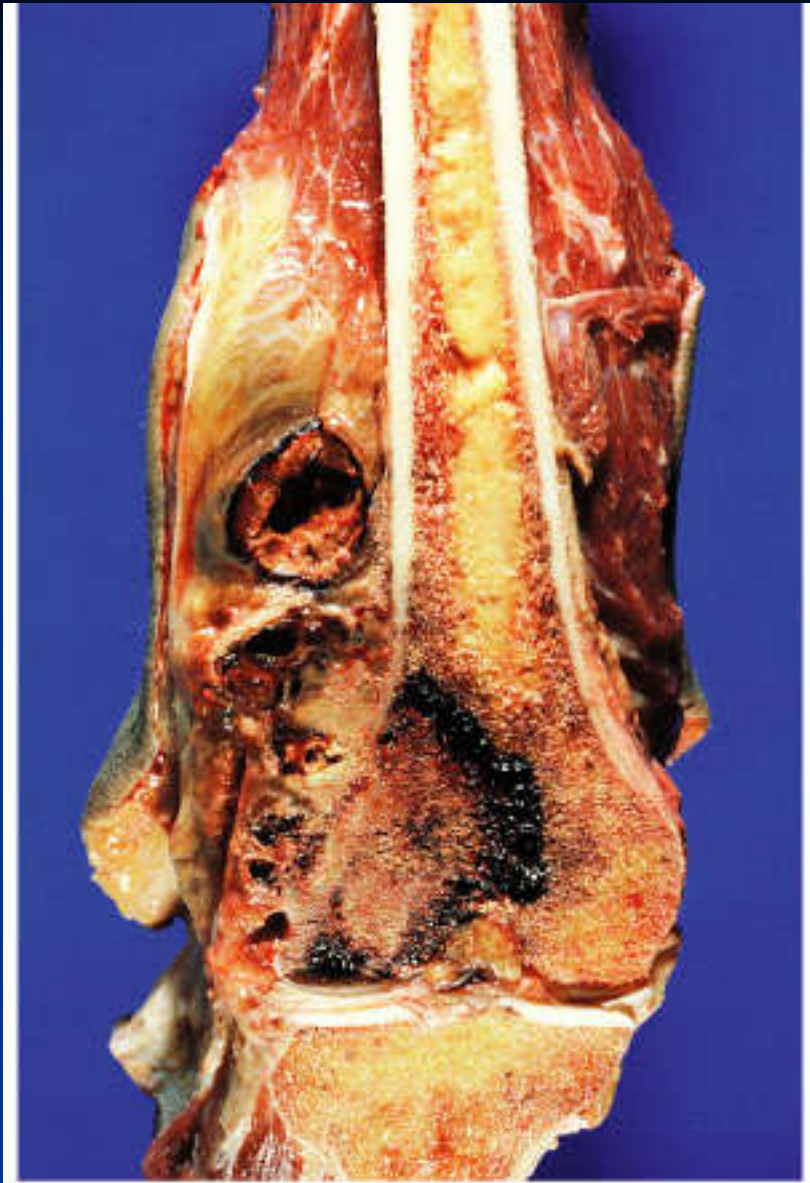
Osteosarcoma

■ Pathology:

- Often involves the **metaphysis** of long bones
- Usually **around the knee** (distal femur and proximal tibia)
- Large firm white tan mass with necrosis and haemorrhage



Osteosarcoma



Osteosarcoma

■ *Secondary osteosarcoma:*

- Occurs in old people
- Associated with Paget's disease or chronic osteomyelitis
- Highly aggressive

Chondrosarcoma

■ Definition:

- Malignant tumor of chondroblasts

■ Etiology:

- The tumor may arise de novo (primary) or secondary to preexisting enchondroma, exostosis (osteochondromas) or Paget's disease

■ Clinically:

- Male > females
- Age: 30-60 years
- Enlarged mass with pain and swelling
- Typically involves the pelvic bones, spine and shoulder girdle



Chondrosarcoma





Chondrosarcoma

Giant cell tumor (Osteoclastoma)

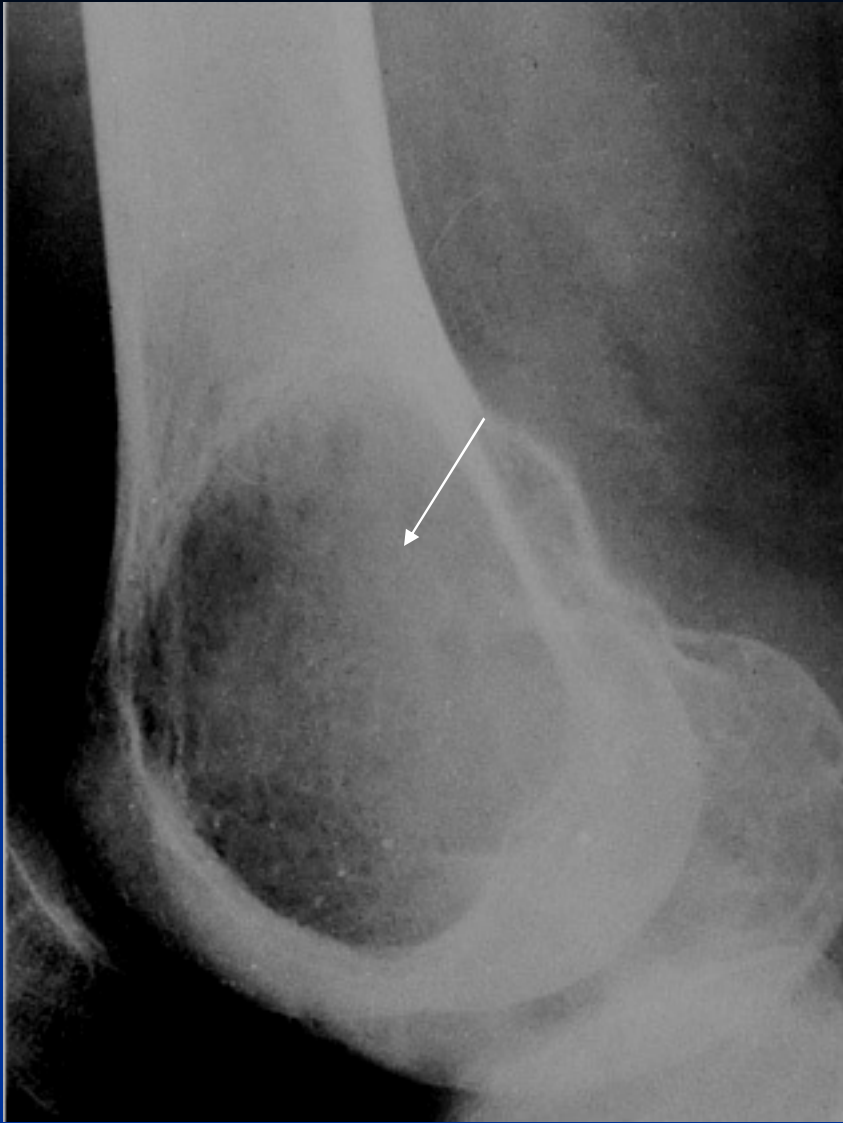
- Uncommon malignant neoplasm containing mult-inucleated giant cells admixed with stromal cells
- It is a locally malignant bone tumor with a high rate of recurrence

- Clinically:

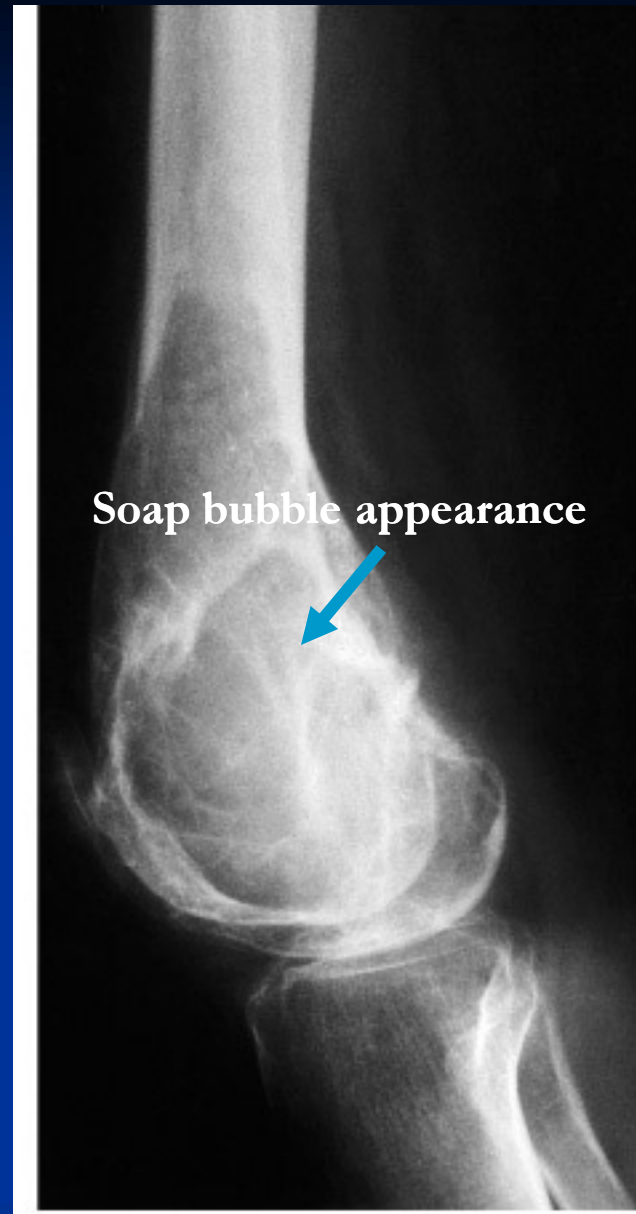
- Females > males
- Age: 20-50 years
- Bulky mass with pain and fractures

- X-ray:

- Expanding lytic lesion surrounded by a thin rim of bone
- It may have a soap-bubble appearance



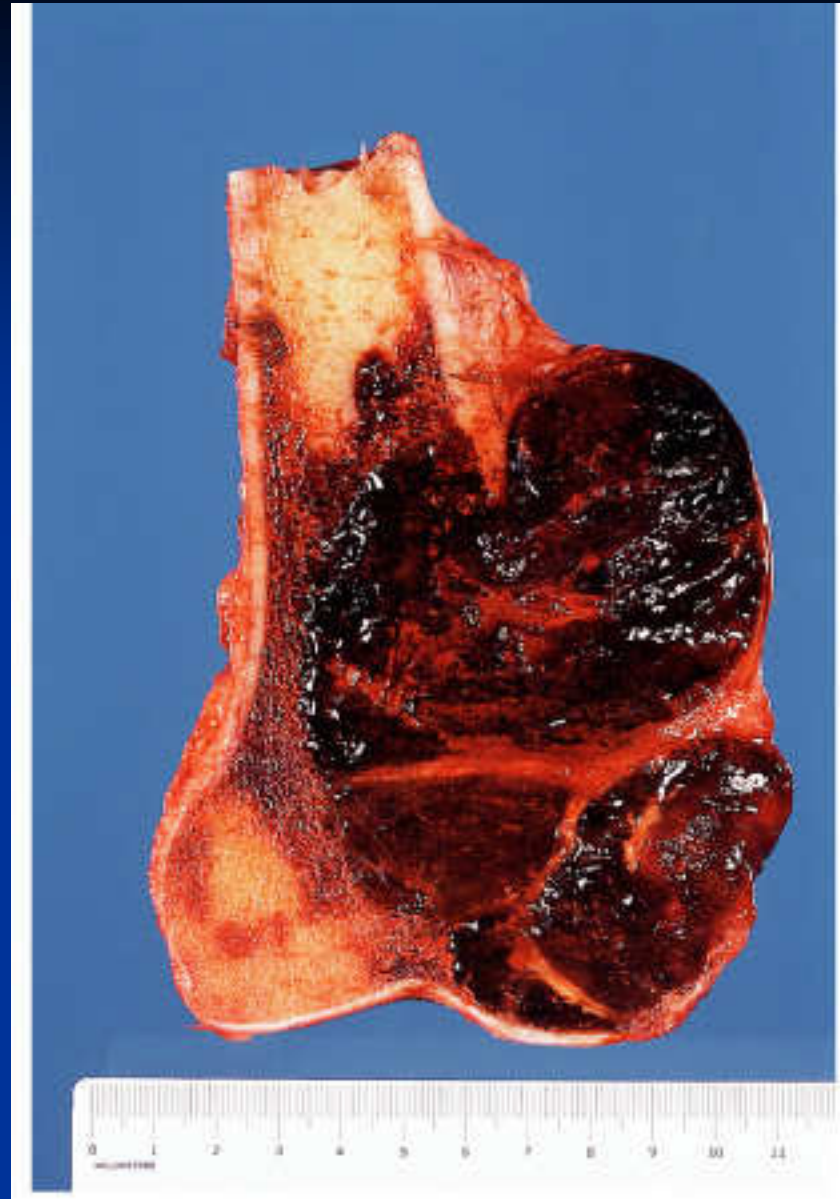
Osteoclastoma



Soap bubble appearance

■ Pathology:

- Often involves the epiphysis of long bones
- Usually around the knee
- Red brown mass with cystic degeneration



Osteoclastoma



Osteoclasts-like giant cells

Osteoclastoma

Ewing sarcoma

- Malignant neoplasm of undifferentiated cells arising within the bone marrow cavity
- Clinical features:
 - Males > females
 - Most occur in teenagers (5-20)
 - Presented with pain, swelling and tenderness
- X-ray:
 - Concentric, onion-skin layering of new periosteal bone



Ewing sarcoma

■ Pathology:

- Often affects the diaphysis of long bones
- Most common sites are the femur, pelvis and tibia
- White tan mass with necrosis and hemorrhage



Ewing sarcoma

THANK YOU