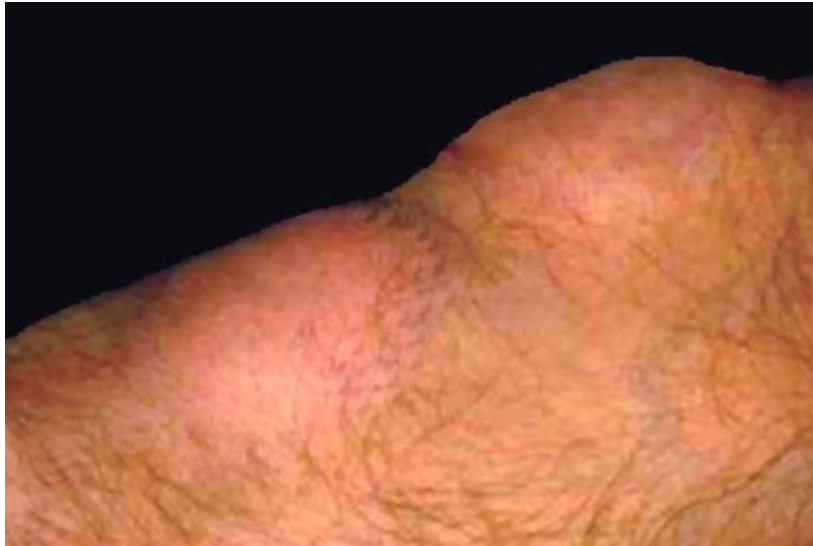


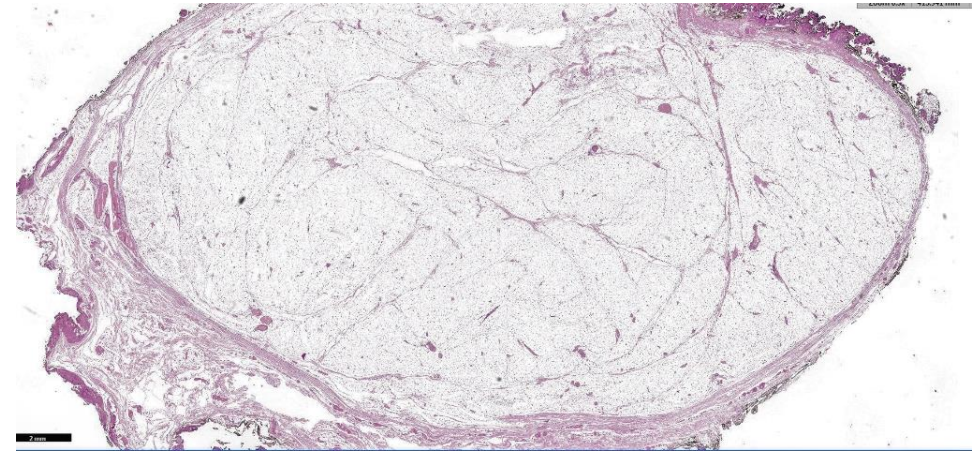
MSS PATHOLOGY LAB

Dr.Eman Kreishan

Lipoma Gross and histological features

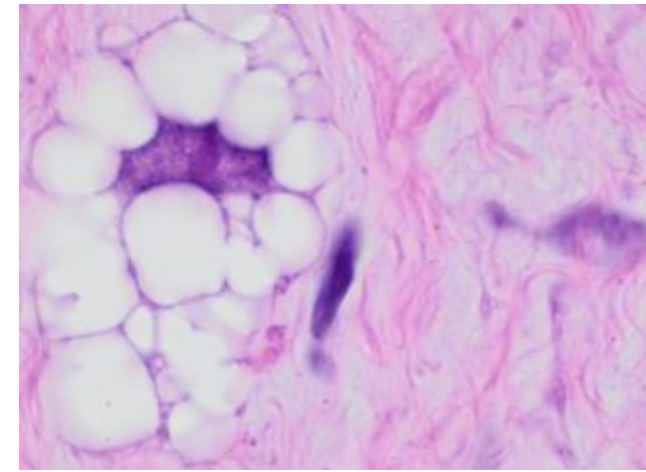


- Well circumscribed, Nodular



- Proliferation of mature adipocytes

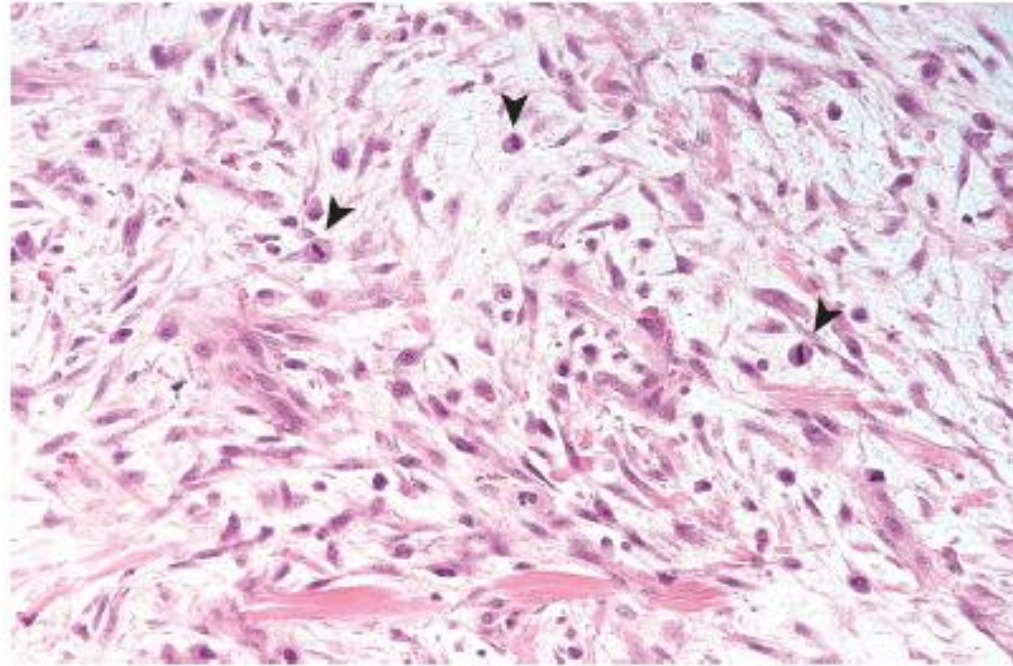
II. LIPOSARCOMA:



- Liposarcomas are malignant neoplasms with adipocyte differentiation.
 - They occur most commonly in the fifth and sixth decades of life.
 - Most liposarcomas arise in the deep soft tissues or in the retroperitoneum.
- In most cases, cells indicative of fatty differentiation known as **lipoblasts** are present; they have cytoplasmic lipid vacuoles.

Nodular Fasciitis

Microscopic features

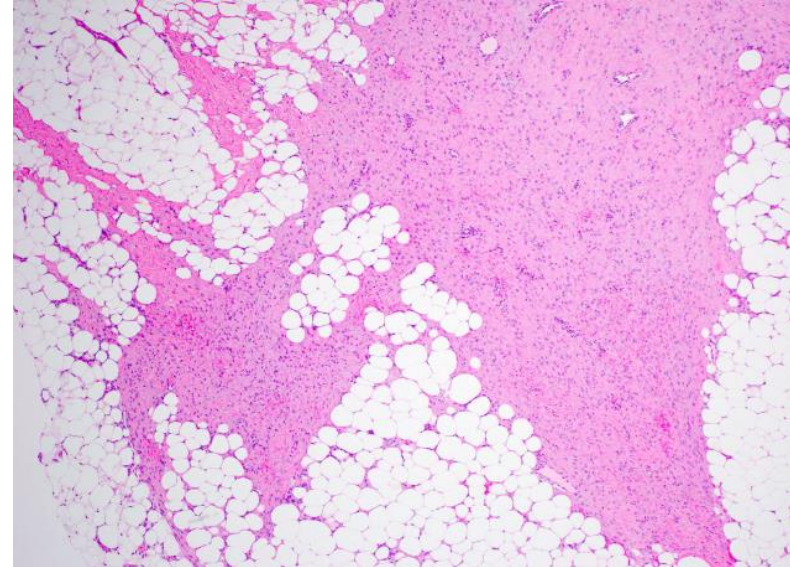


highly cellular lesion composed of plump, randomly oriented spindle cells surrounded by myxoid stroma.
Note the prominent mitotic activity

Fibromatoses Gross and histological features



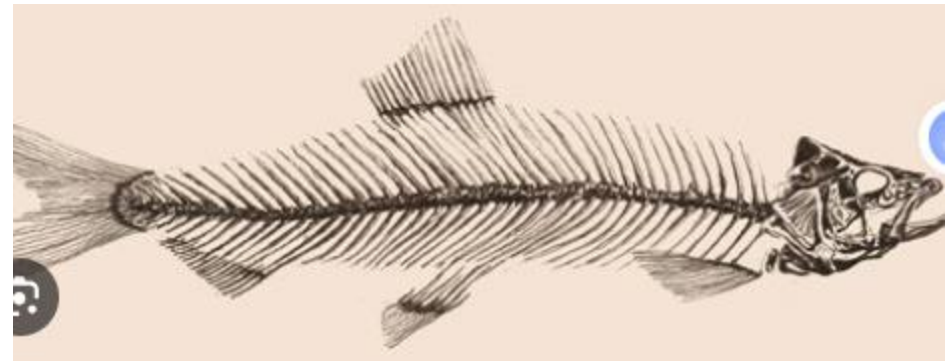
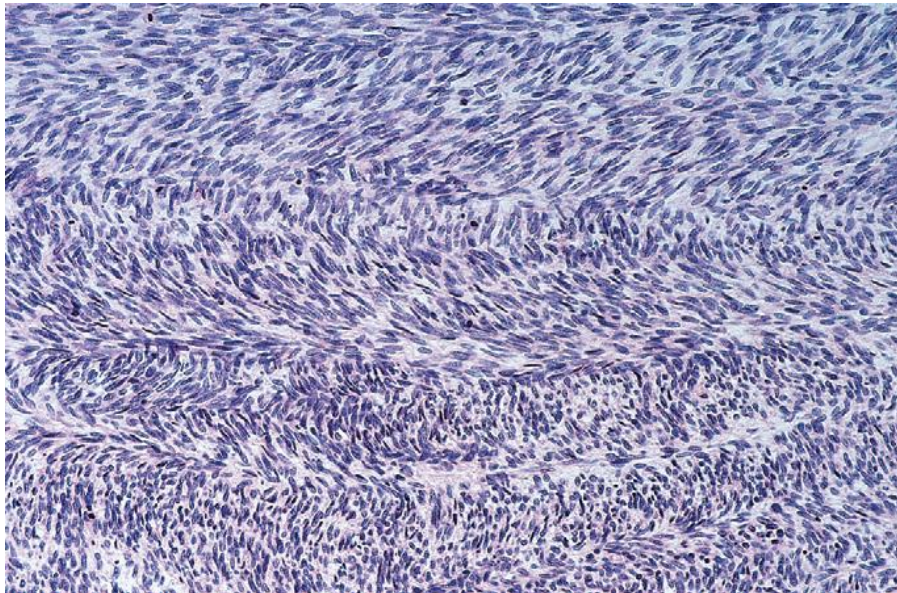
Macroscopically: Fibromatoses are gray-white, firm to rubbery, poorly demarcated, infiltrative masses 1 to 15 cm in greatest dimension.



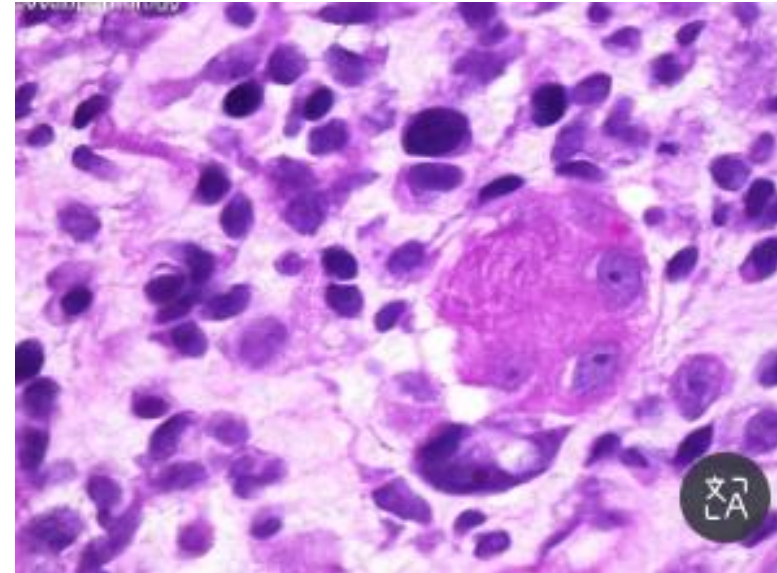
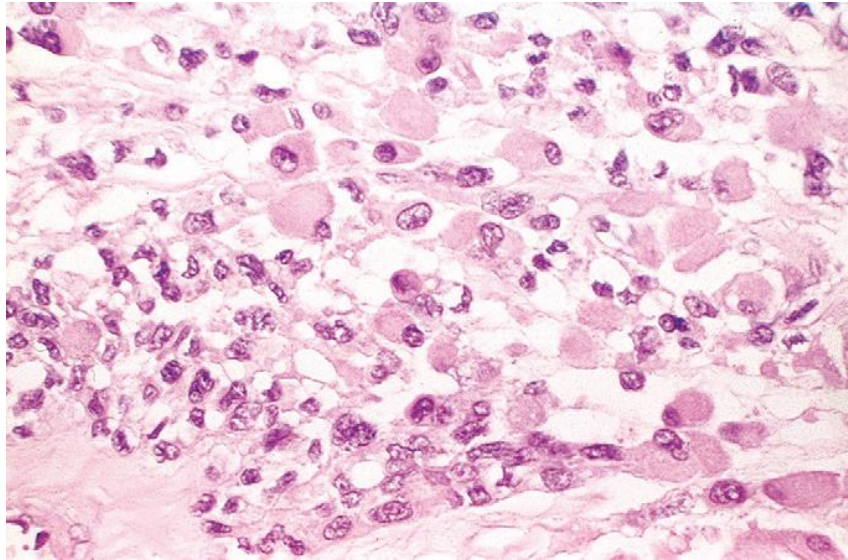
Microscopically:

On histologic examination, they are composed of plump spindle cells arranged in broad sweeping fascicles that penetrate the adjacent tissue; mitoses are few in number.

Fibrosarcomas. Malignant spindle cells here are arranged in a herringbone pattern.



Rhabdomyosarcoma.
The rhabdomyoblasts are large and round and have abundant eosinophilic cytoplasm.

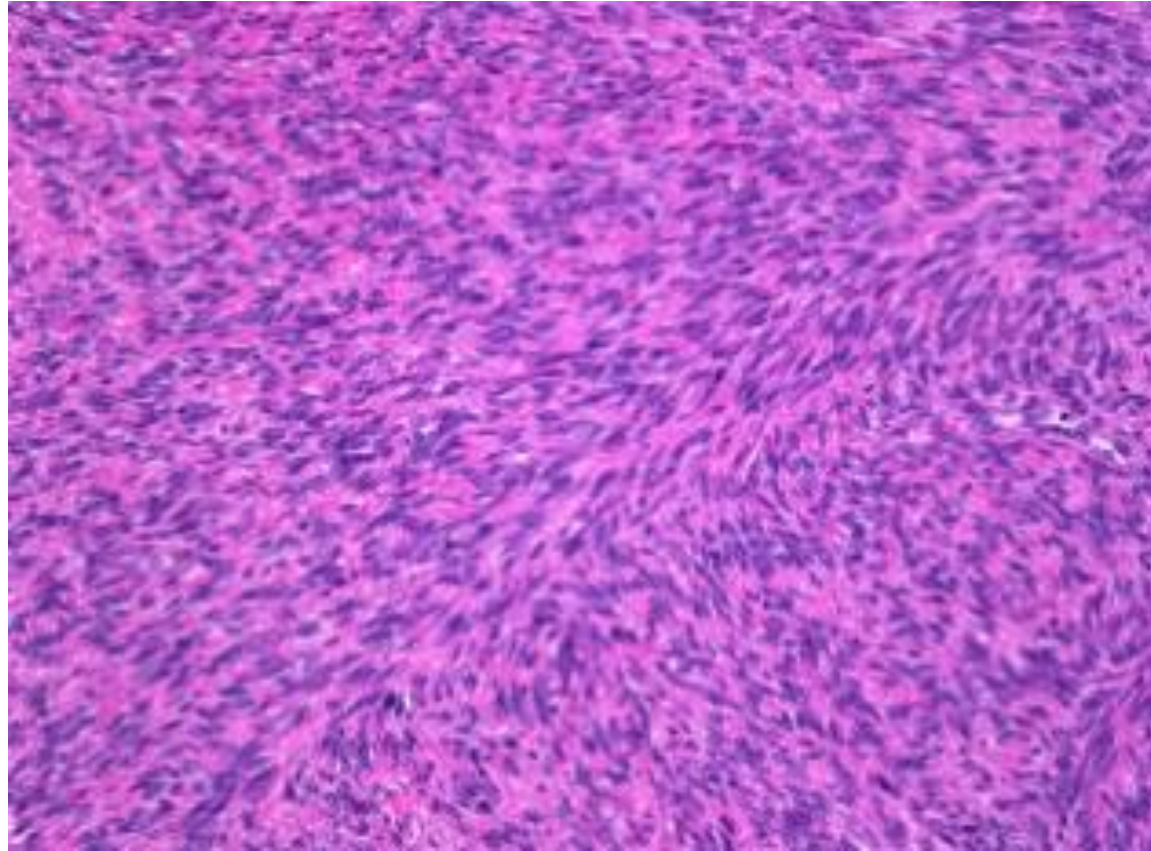


SMOOTH MUSCLE TUMORS

Leiomyoma

- ✓ Benign smooth muscle tumors are common, well-circumscribed neoplasms that can arise from smooth muscle cells anywhere in the body but are encountered most commonly in the uterus and the skin.

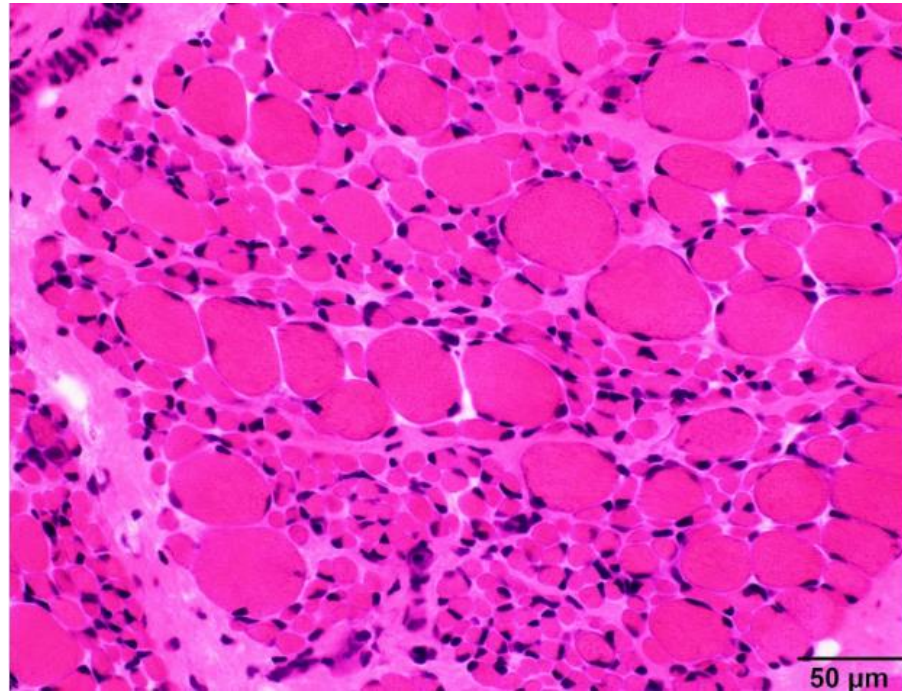




Histologic examination shows spindle cells with cigar-shaped nuclei arranged in interwoven fascicles.

Spinal Muscular Atrophy

SMA



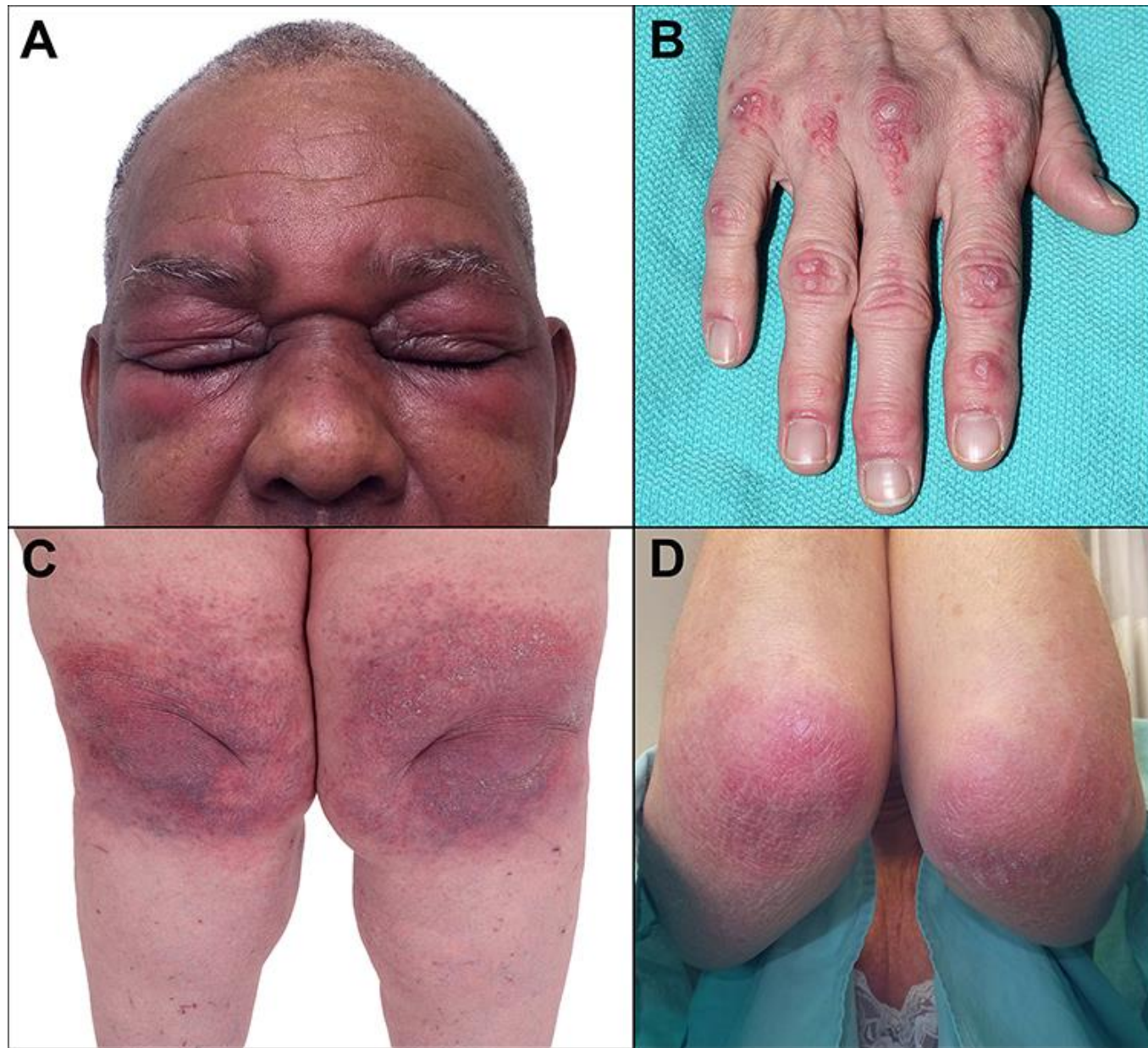
H&E shows an infantile denervation atrophy pattern. Small fibers are in groups (group atrophy) and round rather than angulated. Large fibers are hypertrophied. There is minimal interstitial fibrosis.

Dermatomyositis

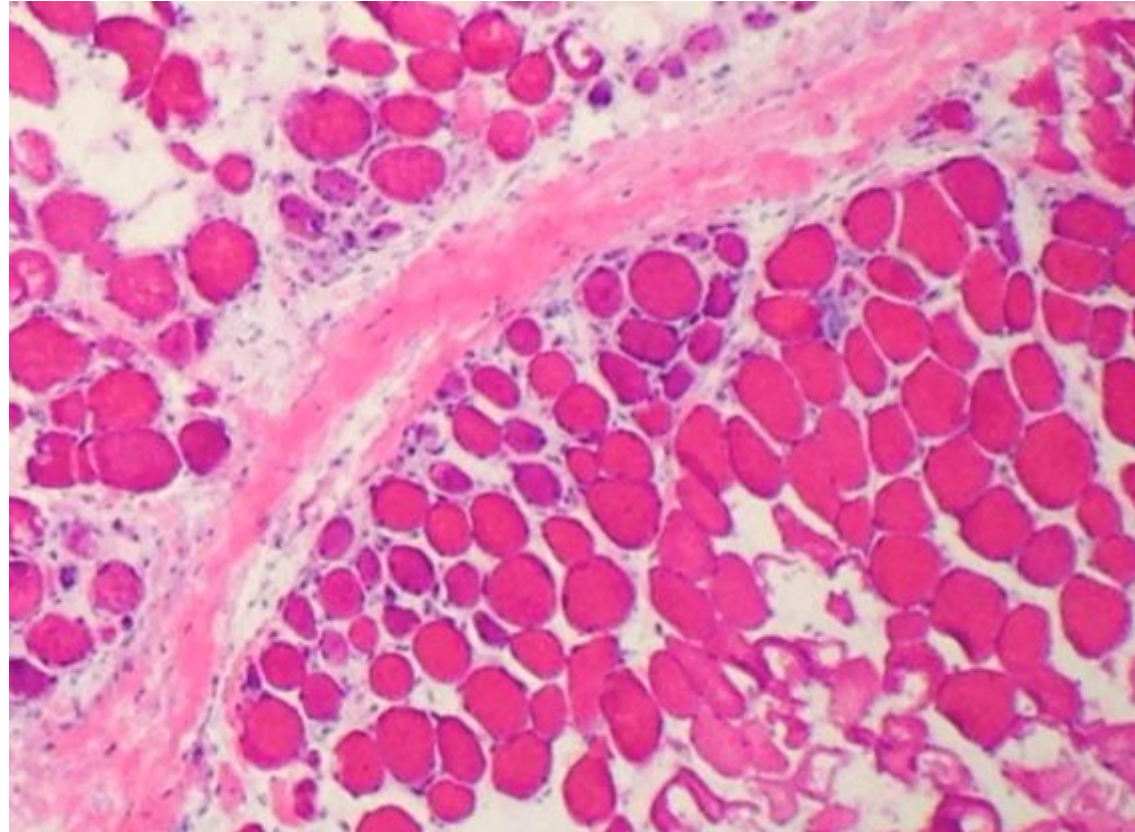
- Idiopathic process that leads to an inflammatory myopathy with skin manifestations.
- Dermatomyositis is thought to be caused by a microangiopathy affecting skin and muscle.
- myositis with perifascicular muscle fiber atrophy and generally inflammatory infiltrates around intramuscular vessels



Source: IMACS



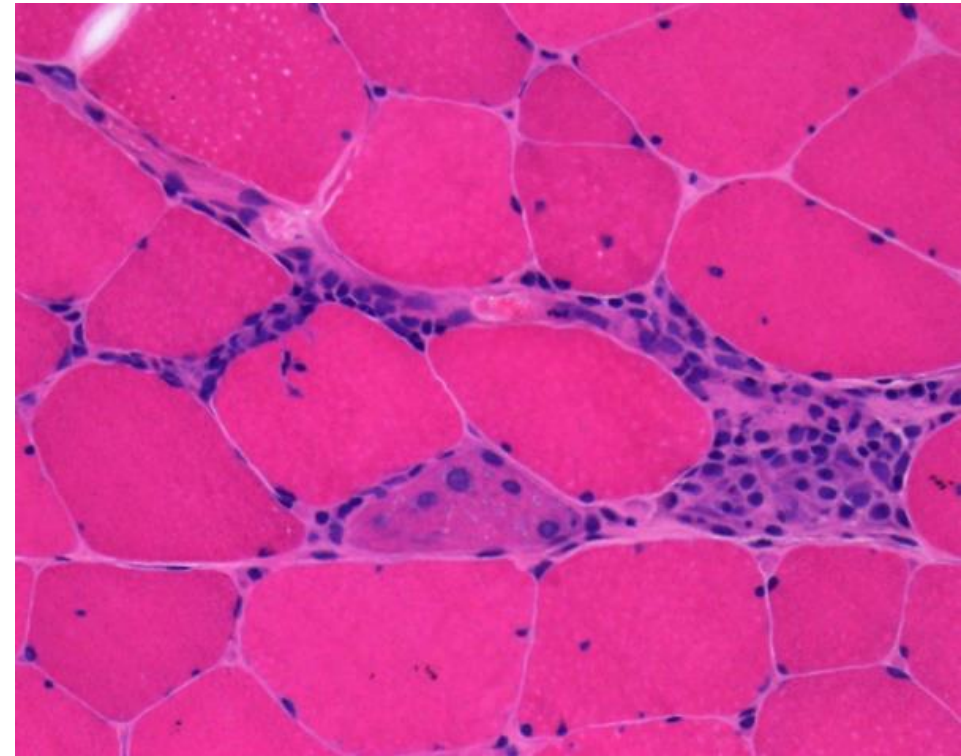
Morphology



Perifascicular atrophy is the hallmark of dermatomyositis

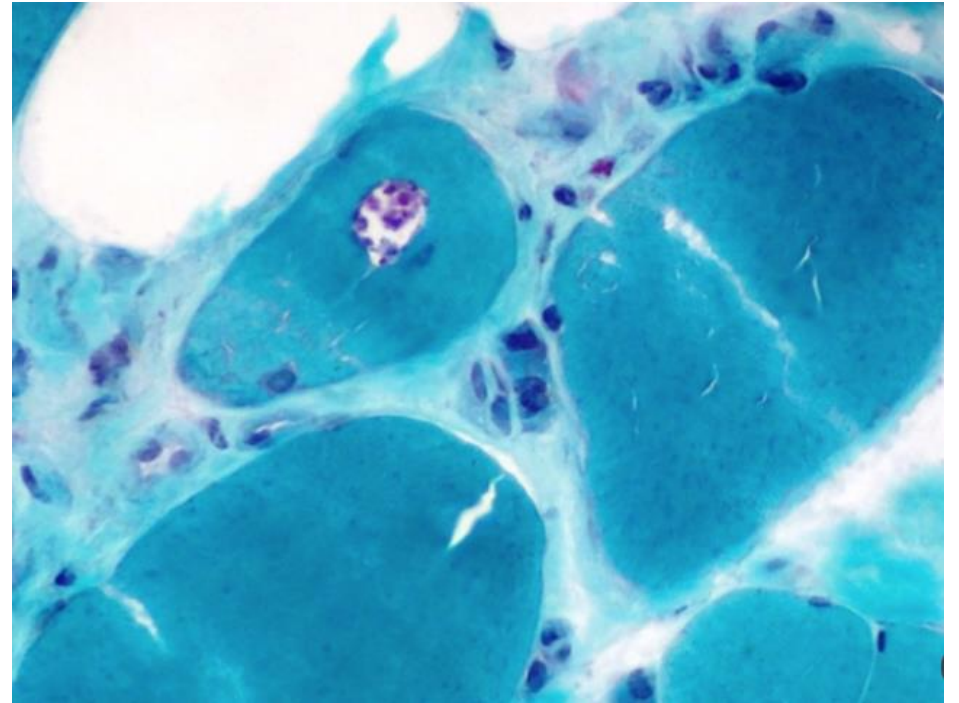
Polymyositis morphology

- lymphocytic infiltrate may be accompanied by macrophages
- myopathic changes including myofiber size variation with small rounded myofibers and increased internalized nuclei



Inclusion body myositis Morphology

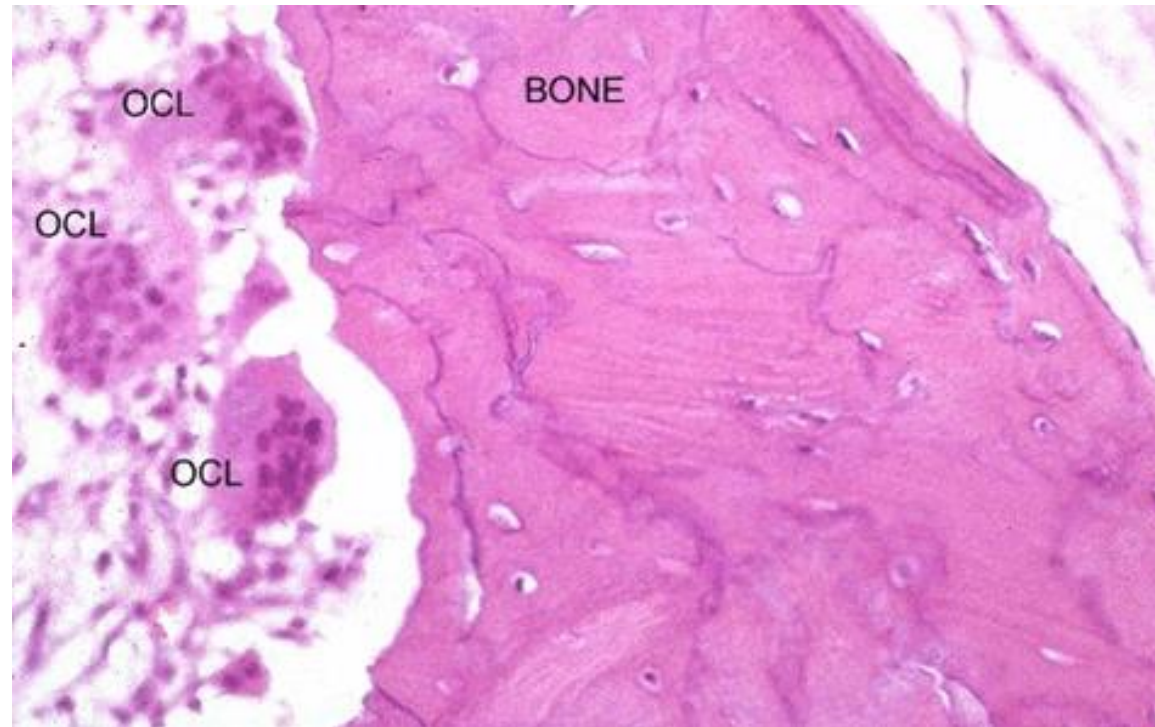
The main histologic finding is rimmed vacuoles with accumulation of specific proteins of autophagy (intracellular depositions of b-amyloid protein and hyperphosphorylated tau proteins suggest abnormal protein folding as an etiology).



Inclusion body myositis. This section is stained with a Gomori Trichrome stain. In the center of the myofiber, there is a 'rimmed vacuole' which is a classic feature of inclusion body myositis.

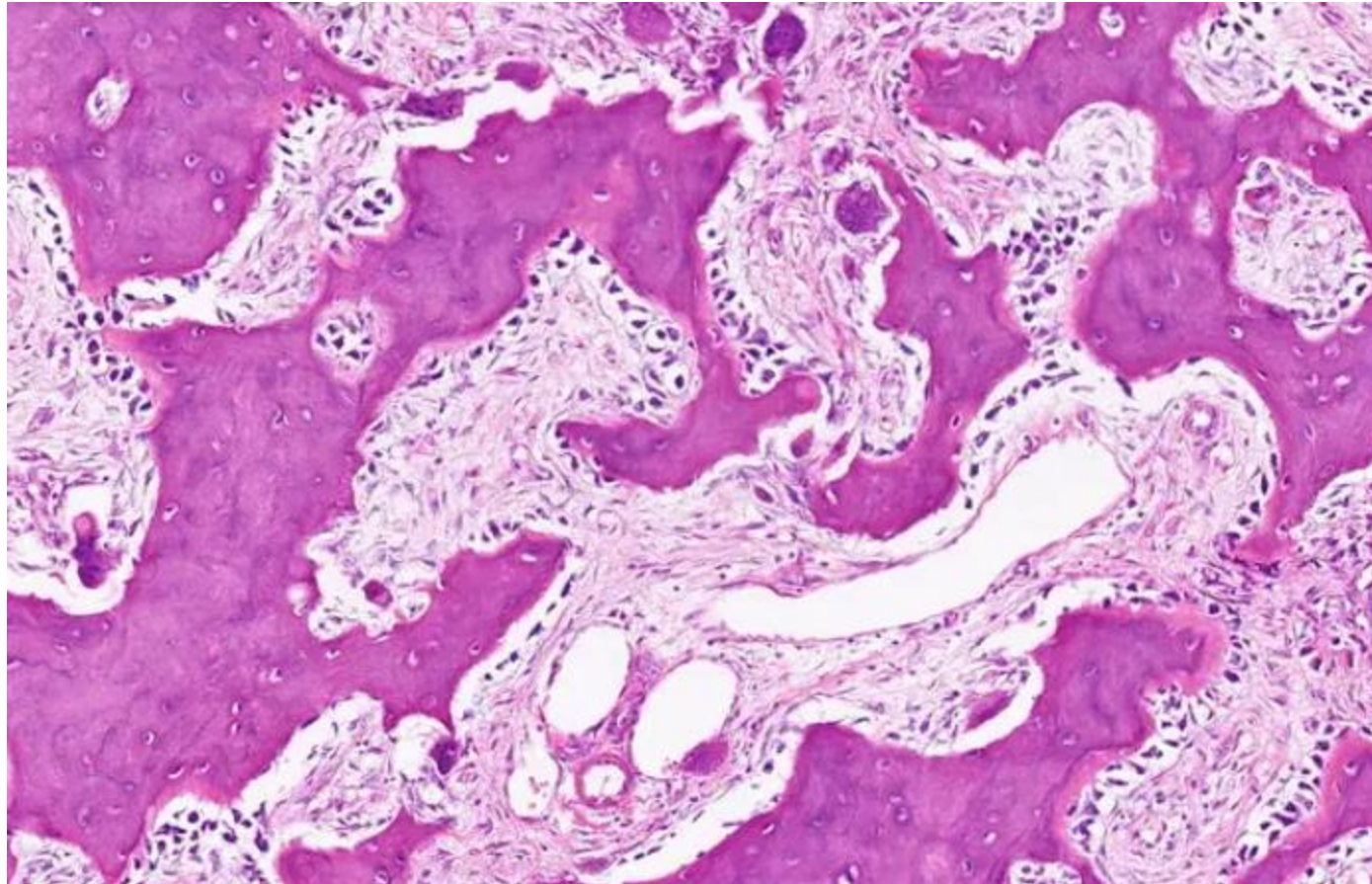
LYTIC PHASE

- Disease begins with lytic phase.
- The bone is resorbed by osteoclasts that are more numerous, larger and have more nuclei (up to 100).



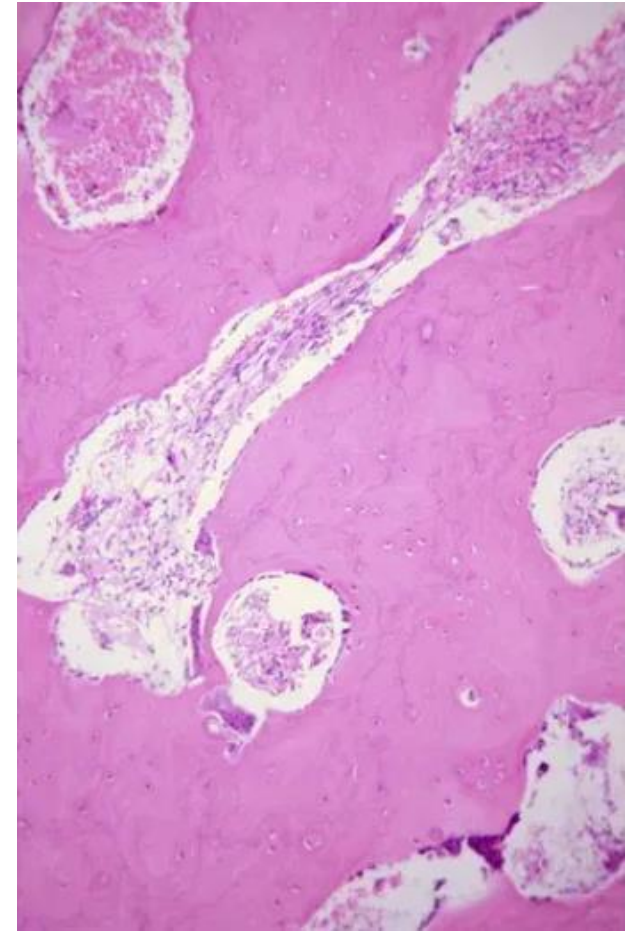
Mixed Lytic and Blastic phase

- Rapid increase in bone formation from numerous osteoblasts.



Sclerotic Phase

- The bone formation dominates and has a disorganized woven pattern and is weaker than normal bone. Woven pattern allows the bone marrow to be infiltrated by blood vessels leading to hyper vascular bone state.



Clinical presentation

- Initial presentation is commonly after pathologic fracture or incidental finding after imaging studies or serum alkaline phosphatase for other reasons
- Bone pain and deformities
- Bone overgrowth or deformity can cause osteoarthritis.



Investigations

- Serum Alkaline phosphatase will be increased.
- Serum calcium and phosphate levels will be normal.
- X-RAYS: Long bones (bowing thickening of cortex).



Pathogenesis

Bacteria form a biofilm
in the metaphysis (**primary focus**)



Biofilms protect bacteria
from host immune response



Abscess in metaphysis



Sub periosteal abscess



Sequestrum formation (bone death)



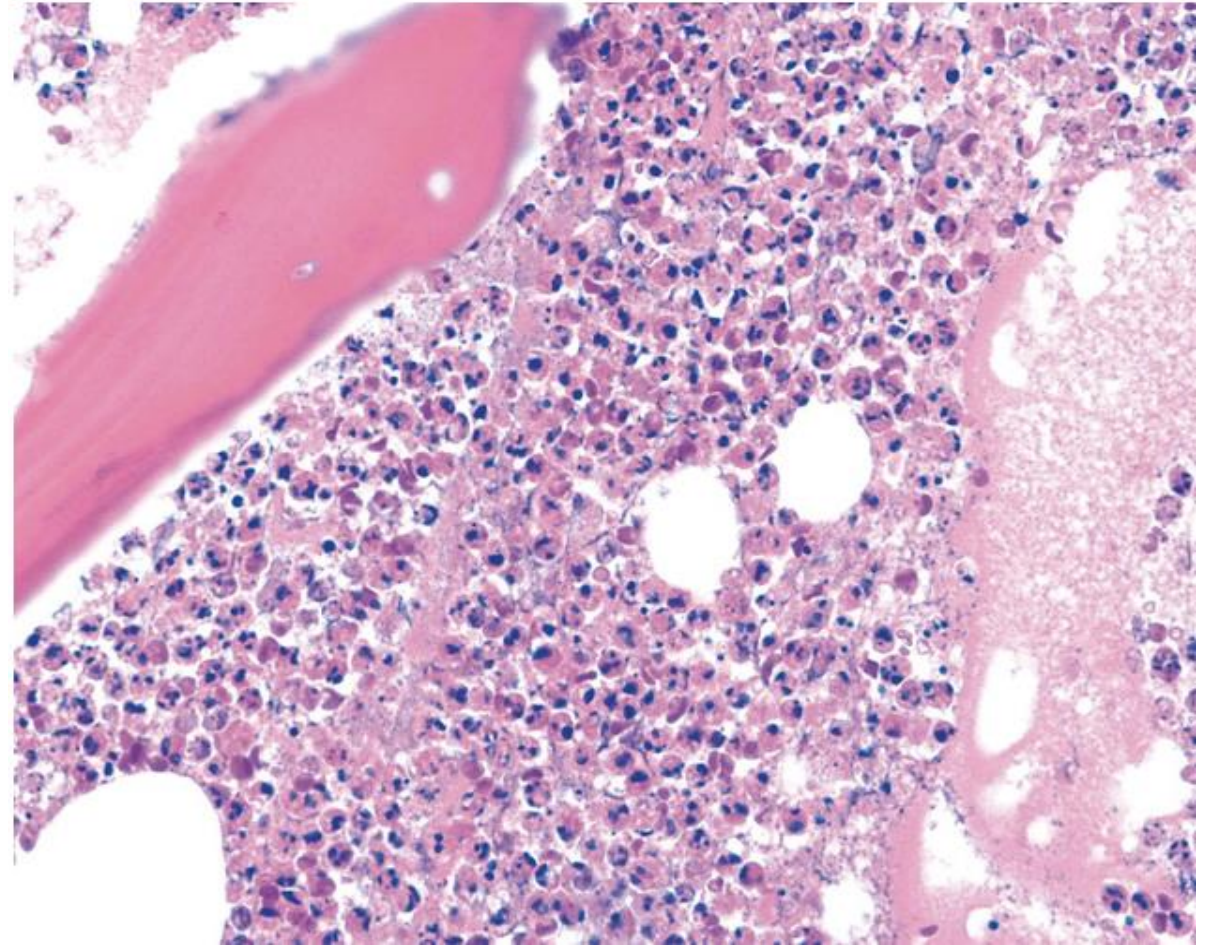
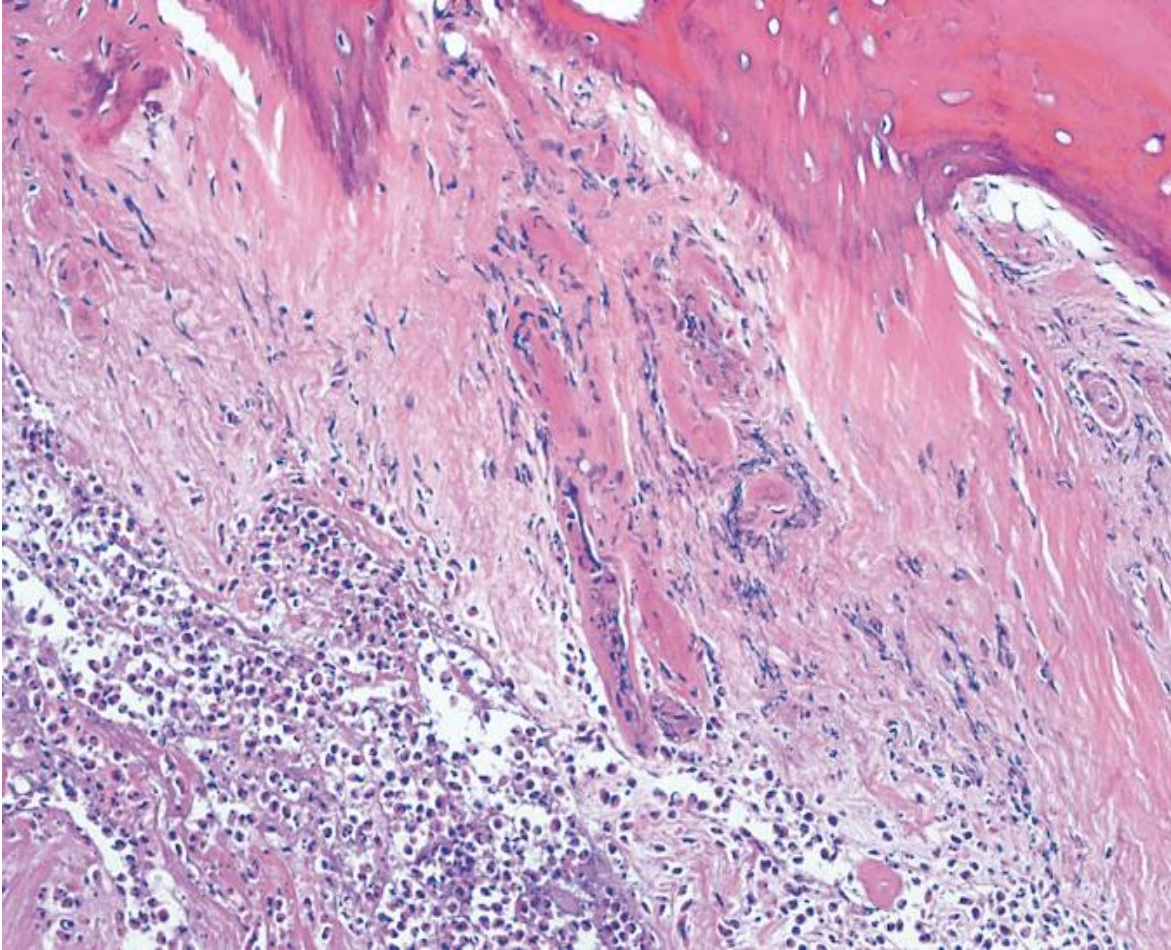
Involucrum formation
(New brittle bone formation)



Pus perforates periosteum
and forms **abscess in soft** tissues



Microscopic (histologic) description



- Inflammatory infiltrate rich in plasma cells
- Fibrosis, variable
- Granulomas, in cases of tuberculosis or fungal infection