Pathology lab 1

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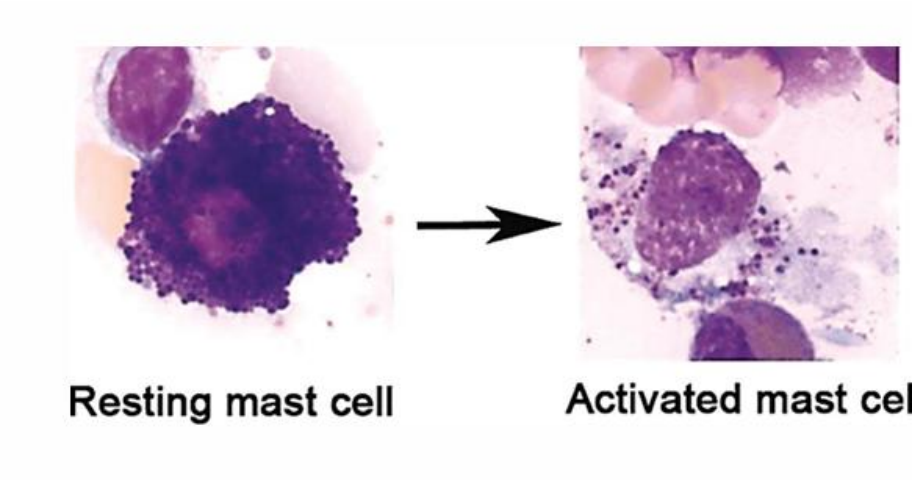
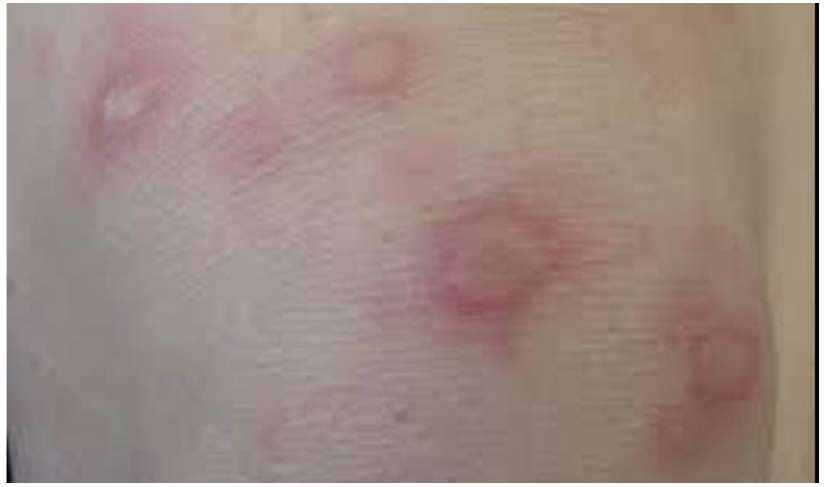
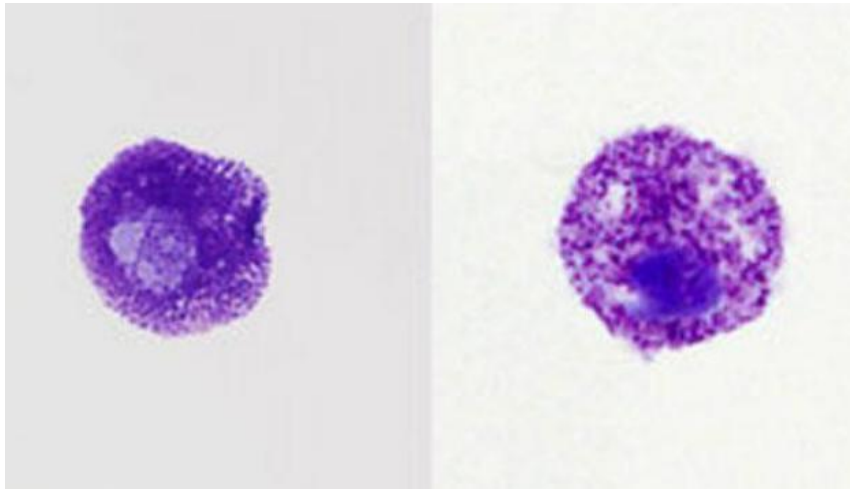
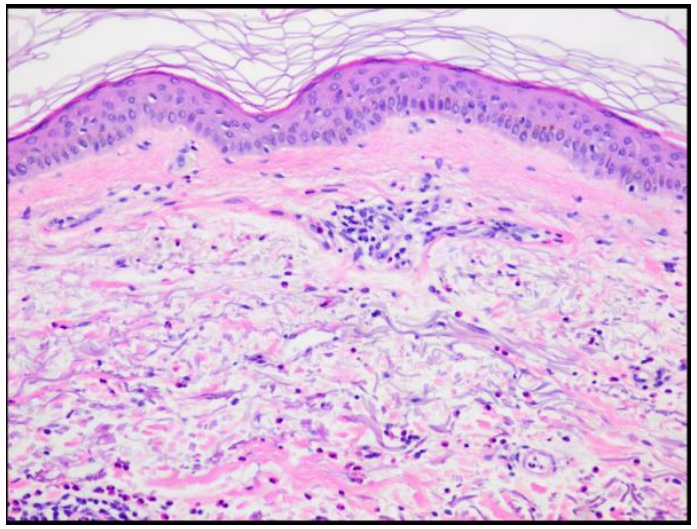
A. Urticaria.





- A common disorder mediated by localized mast cell degranulation, which leads to dermal microvascular hyperpermeability.
- The resulting erythematous, edematous, and pruritic plaques are termed wheels.



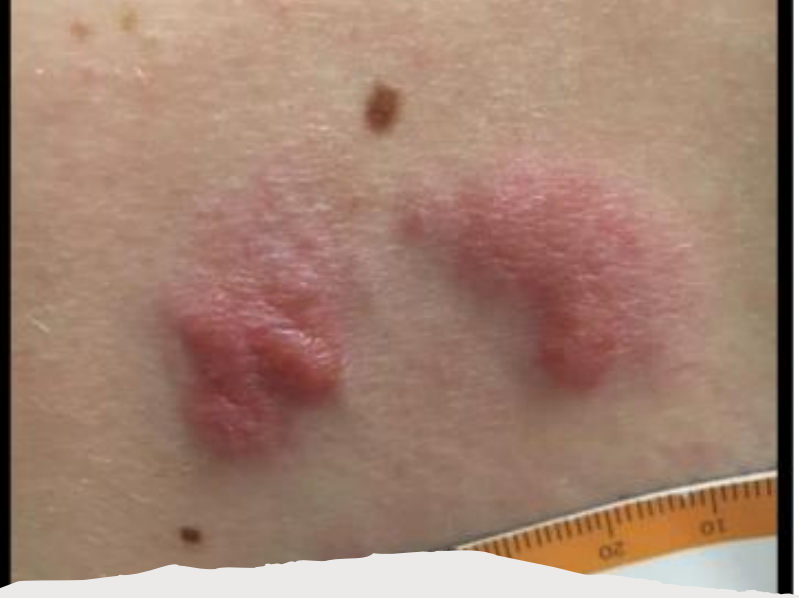


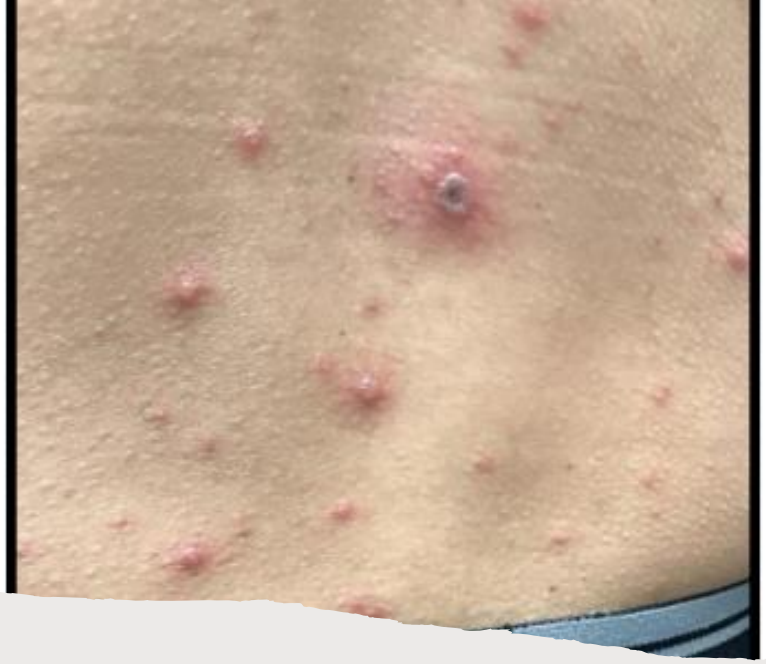
Histologic features of urticaria

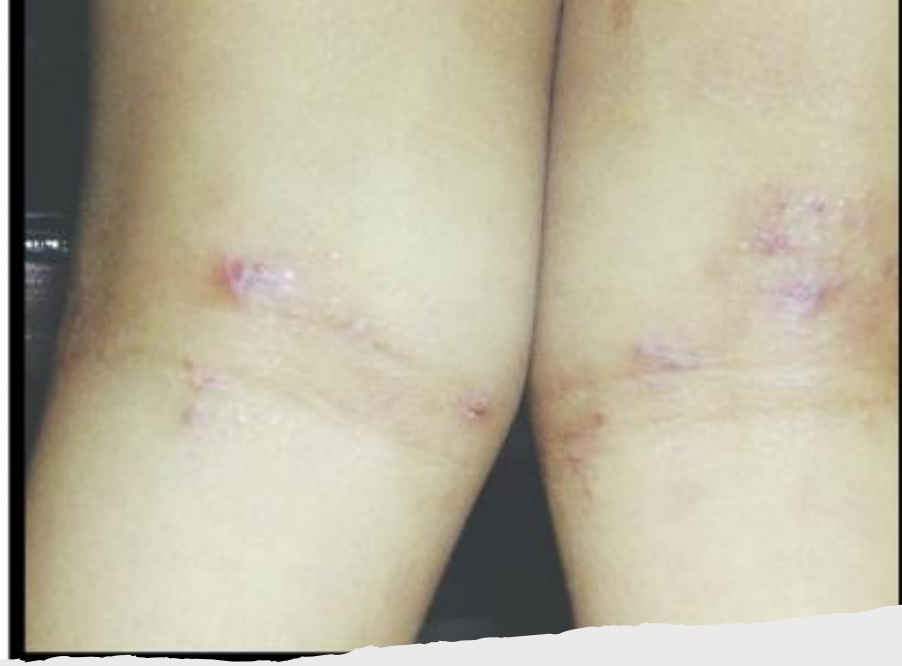
*sparse superficial perivenular infiltrate of mononuclear cells, rare neutrophils, and sometimes eosinophils.

*dermal edema causes splaying of collagen bundles.

*Degranulation of mast cells, can be highlighted using a Giemsa stain.





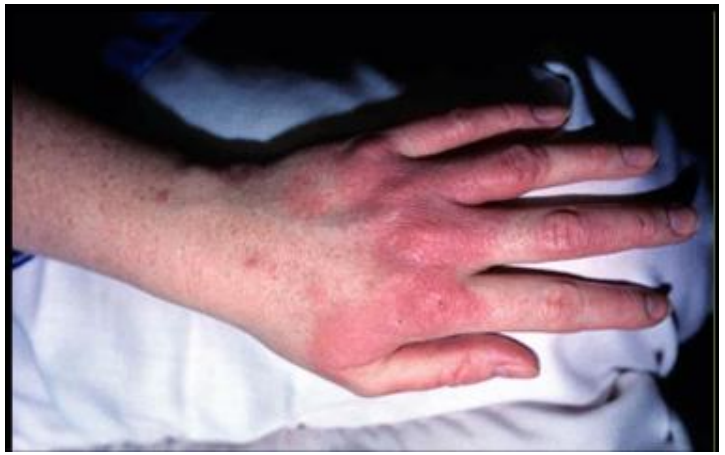


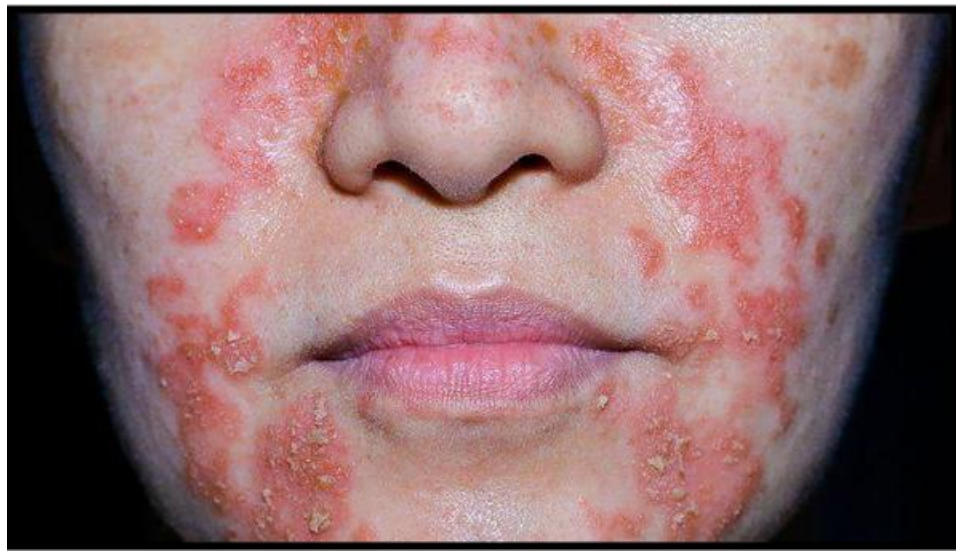
B. Acute Eczematous Dermatitis.

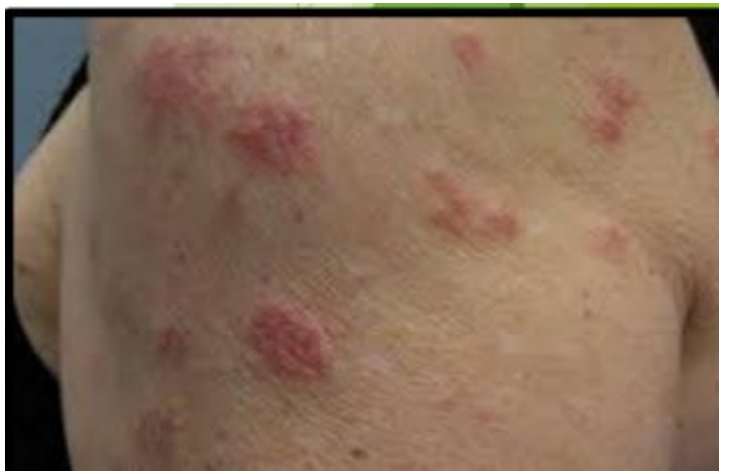
- Eczema is a clinical term that embraces a number of conditions with varied underlying etiologies.
- Clinically the patient may has:
  - erythematous papules with overlying vesicles, which ooze and become crusted.
  - Pruritus is characteristic.
  - With persistence, these lesions coalesce into raised, scaling plaques.

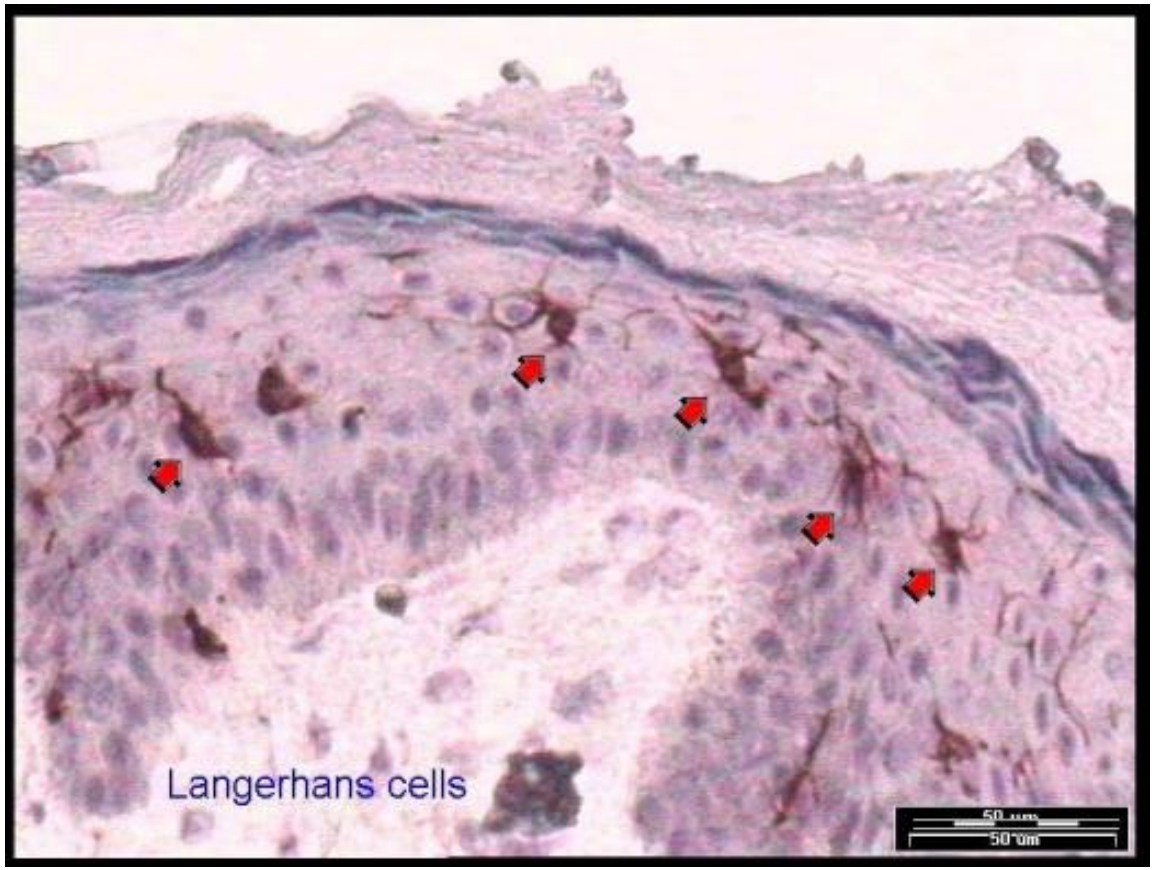
4. Photoeczematous dermatitis: appears as an abnormal reaction to UV or visible light

5. Primary irritant dermatitis: results from exposure to substances that chemically, physically, or mechanically damage the skin.







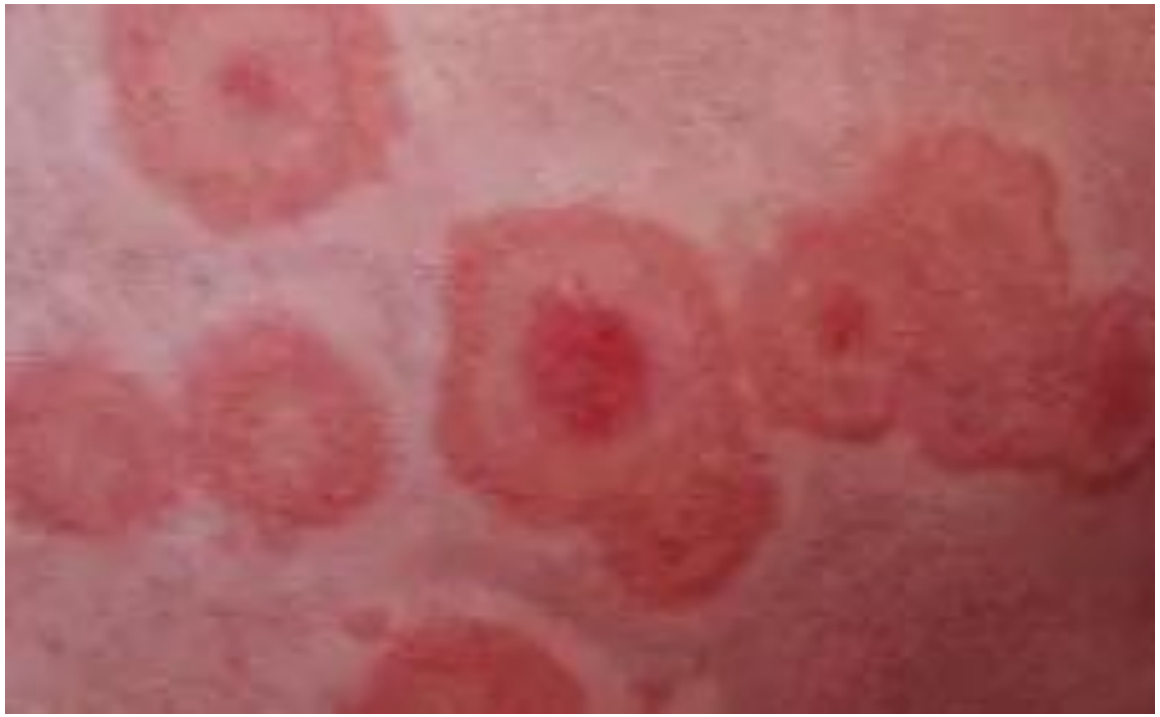


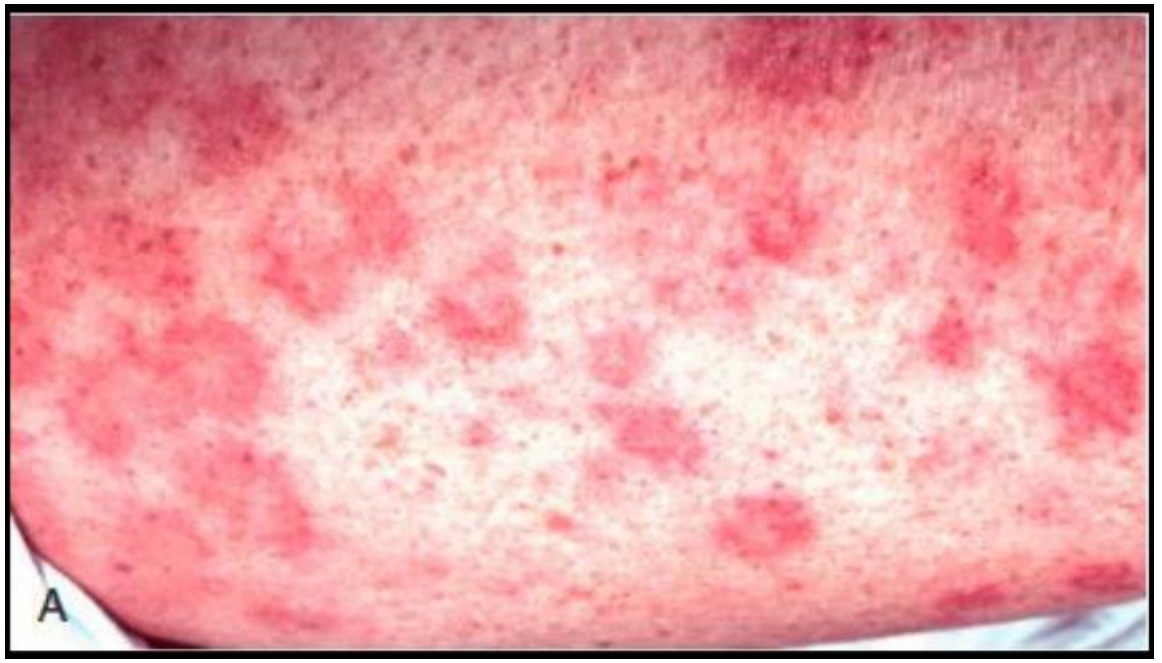
- The self-proteins modified by the agent are processed by epidermal Langerhans cells, which migrate to draining lymph nodes and present the antigen to naïve T cells.

- This sensitization event leads to acquisition of immunologic memory on reexposure to the antigen, the activated memory CD4+ T lymphocytes migrate to the affected skin sites during the course of normal circulation.

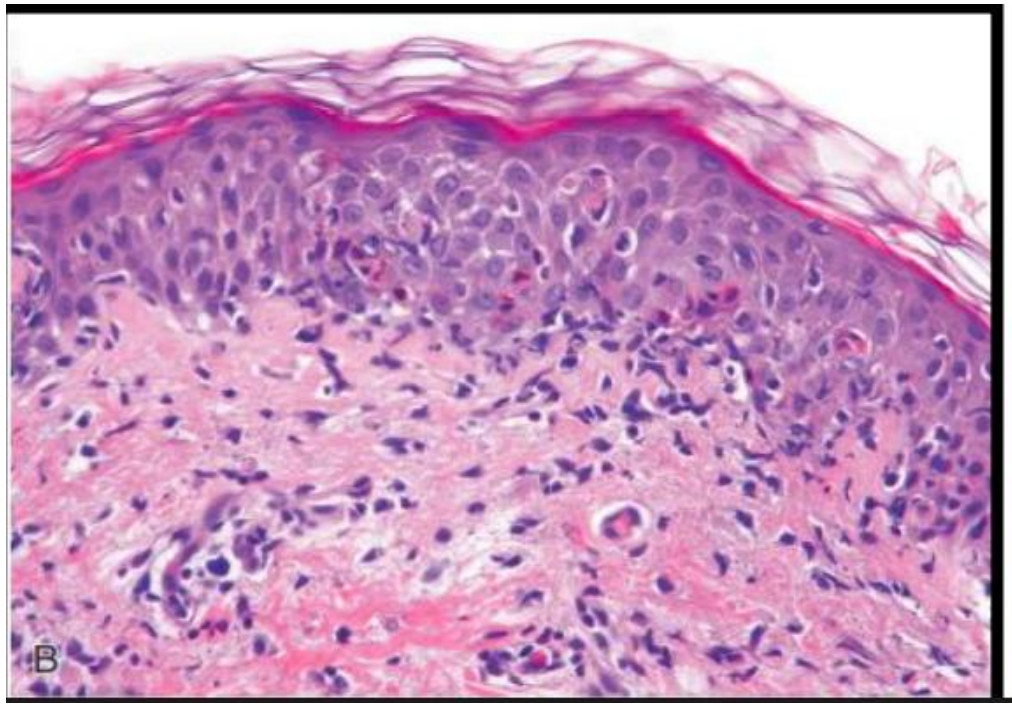
Erythema Multiforme

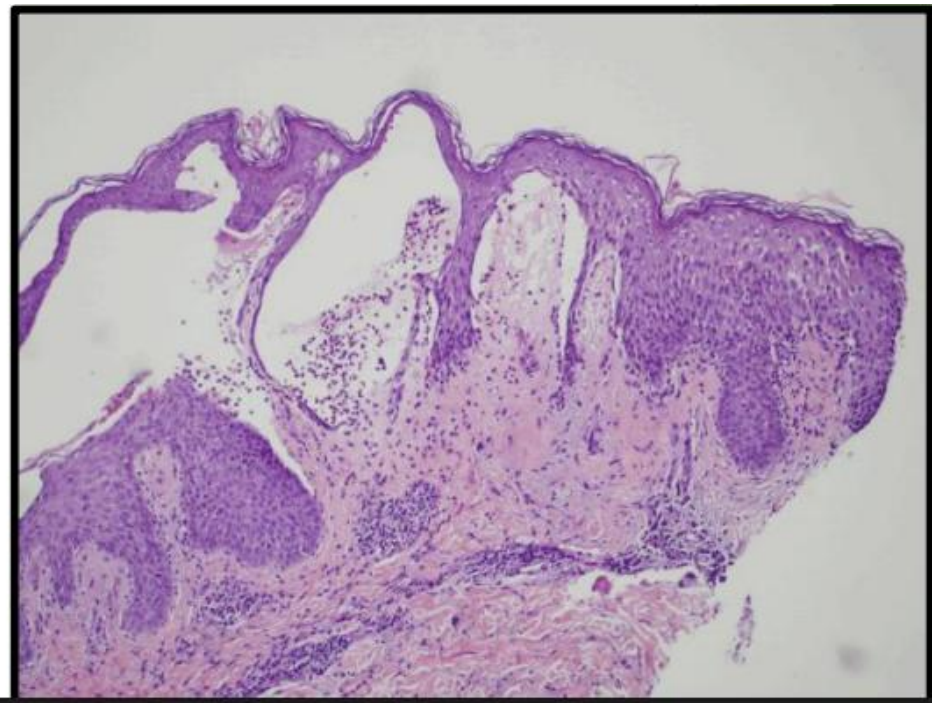
- Affected individuals present with a wide array of lesions, which may include macules, papules, vesicles, and bullae (hence the term multiforme)
- Well-developed lesions have a characteristic “targetoid” appearance

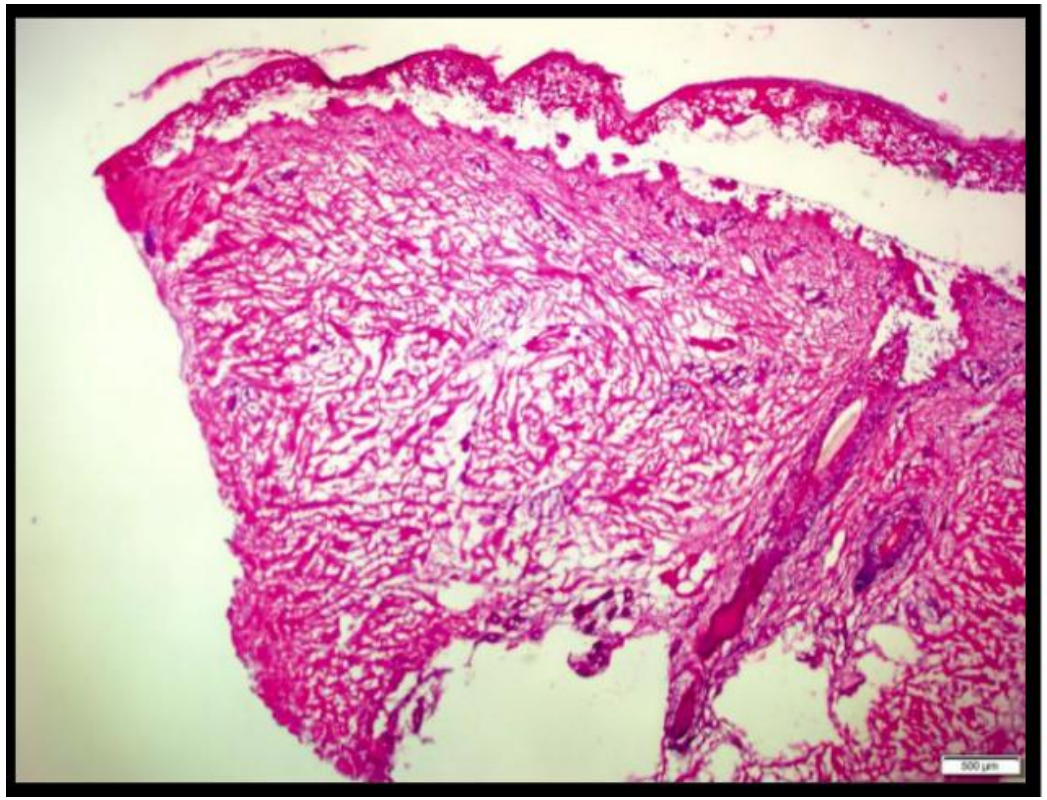


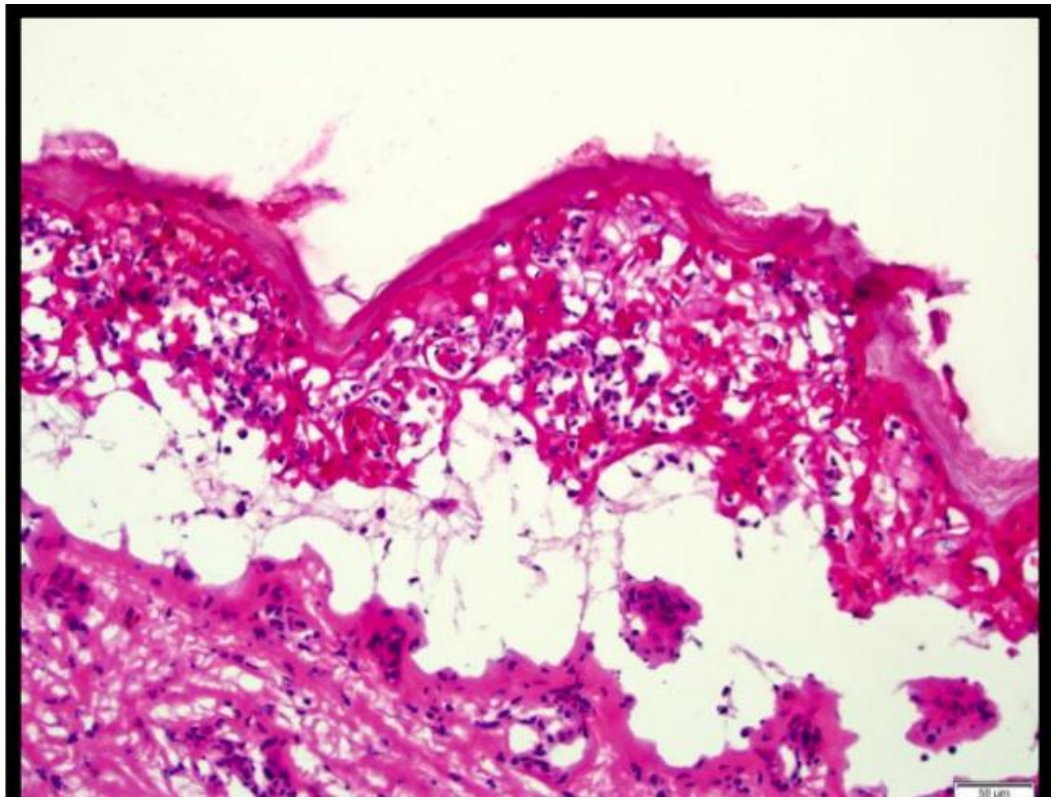


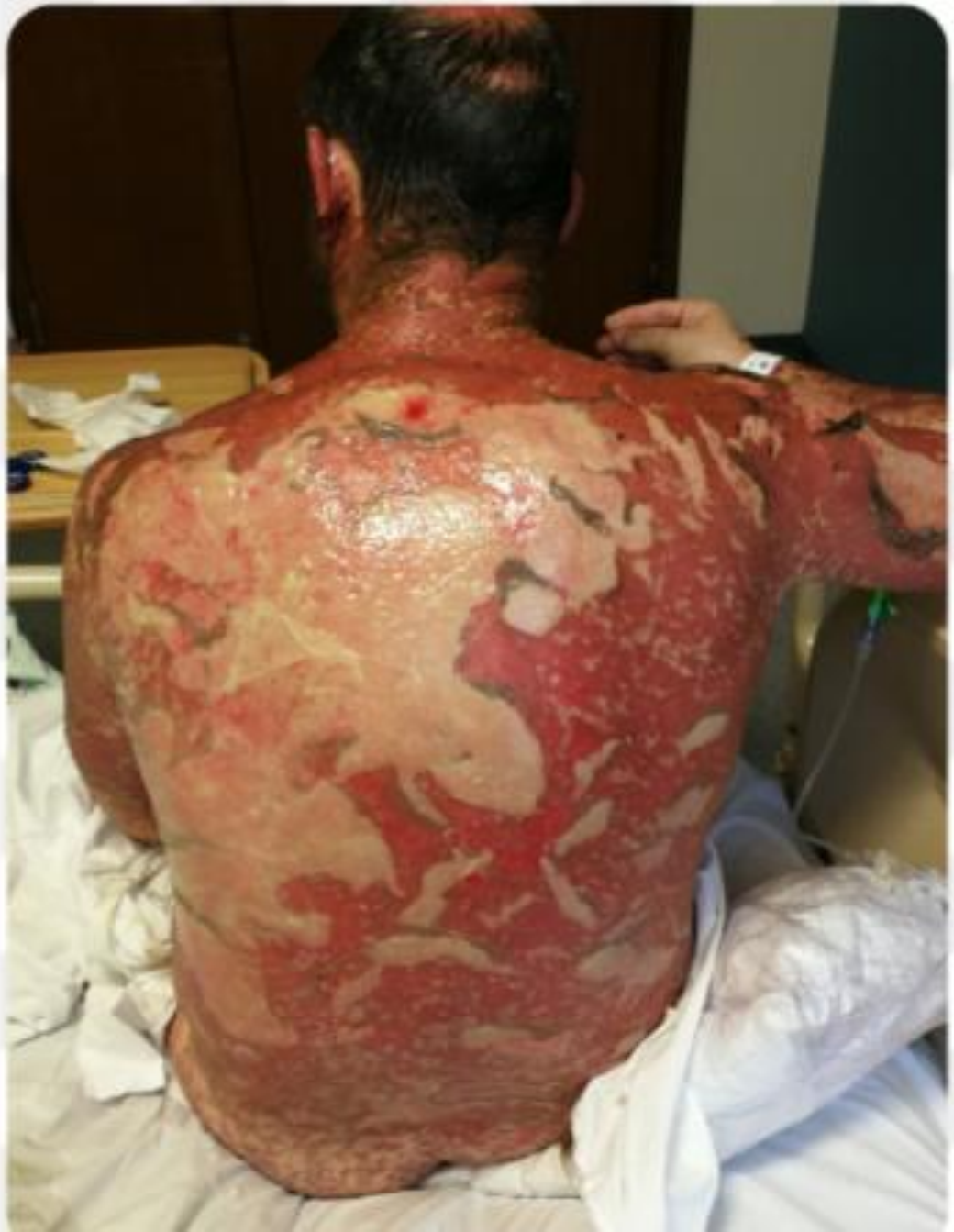
- Early lesions show
  - superficial perivascular lymphocytic infiltrate.
  - dermal edema.
  - margination of lymphocytes along the dermoepidermal junction with apoptotic keratinocytes.
- With time: discrete, confluent zones of basal epidermal necrosis appear, with concomitant blister formation.



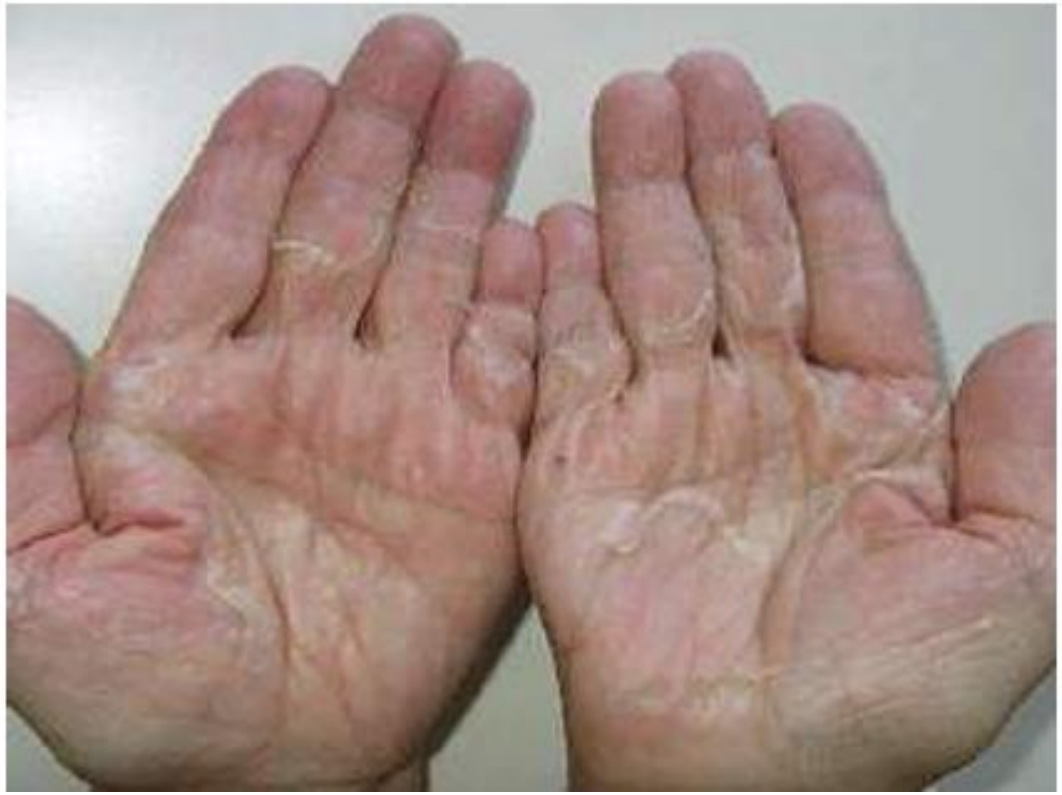








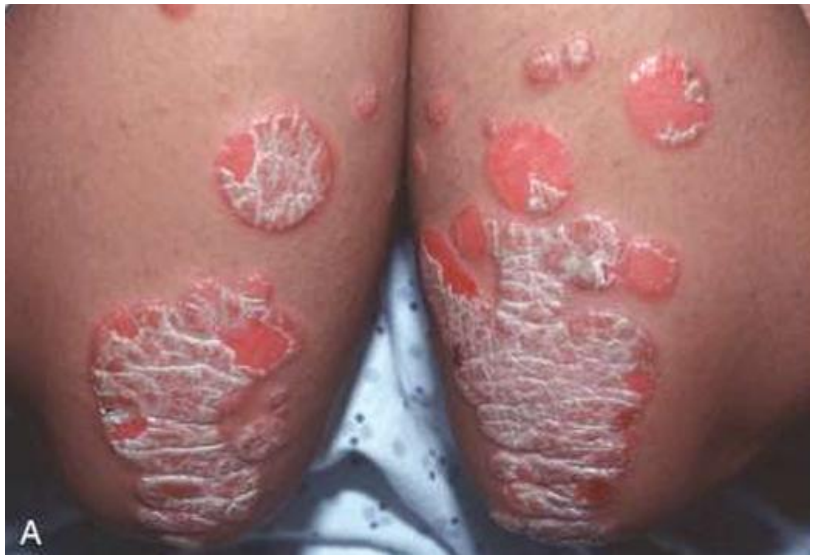
- Toxic Epidermal Necrolysis

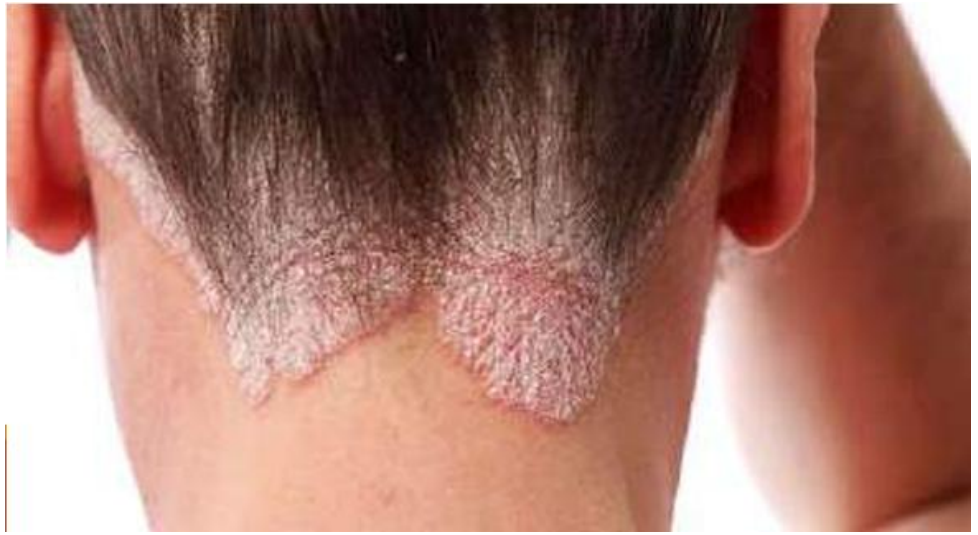


Chronic inflammatory dermatoses

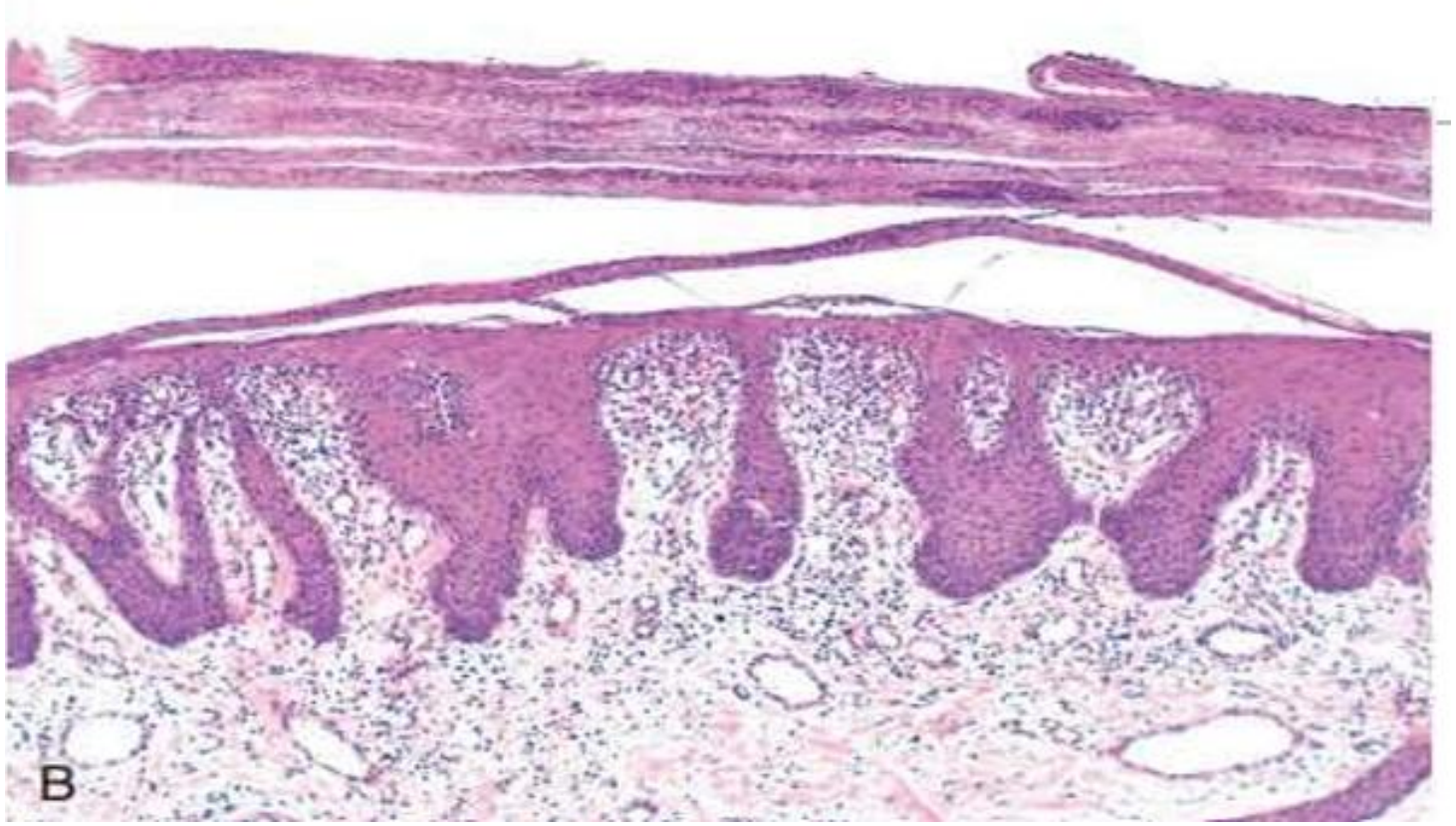
The skin surface in some chronic inflammatory dermatoses is roughened as a result of excessive or abnormal scale formation and shedding (desquamation).

Psoriasis



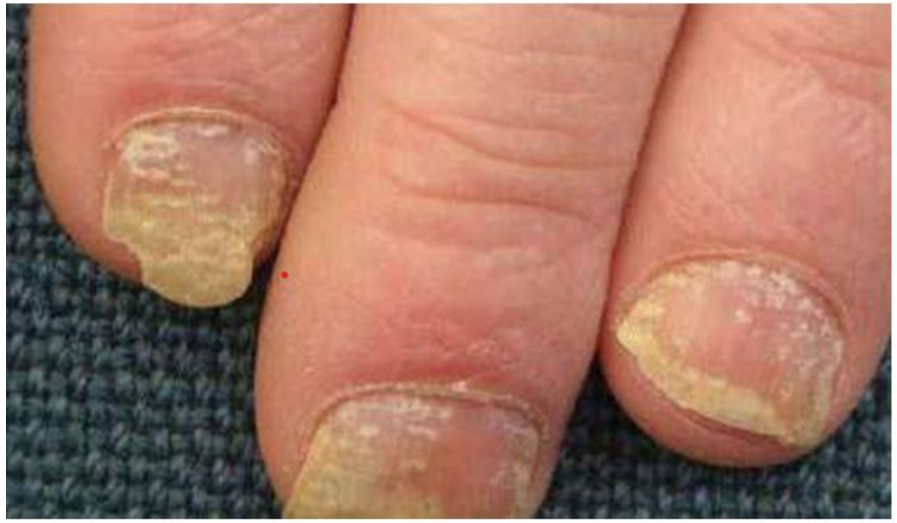


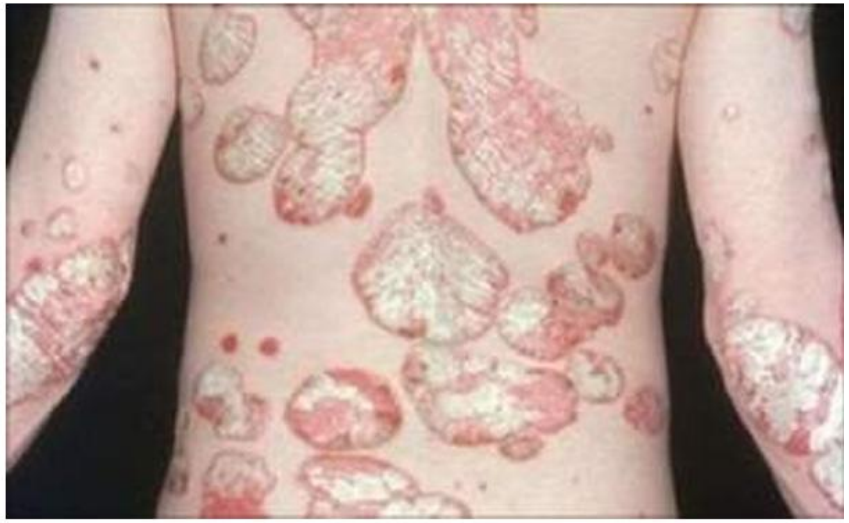
well-demarcated, pink to salmon–colored plaque covered by loosely adherent silver white scale



Histopathology

- Epidermal thickening (acanthosis).
- Regular downward elongation of the rete ridges
- Increased epidermal cell turnover and lack of maturation
- Results in loss of the stratum granulosum
- Extensive parakeratotic scale

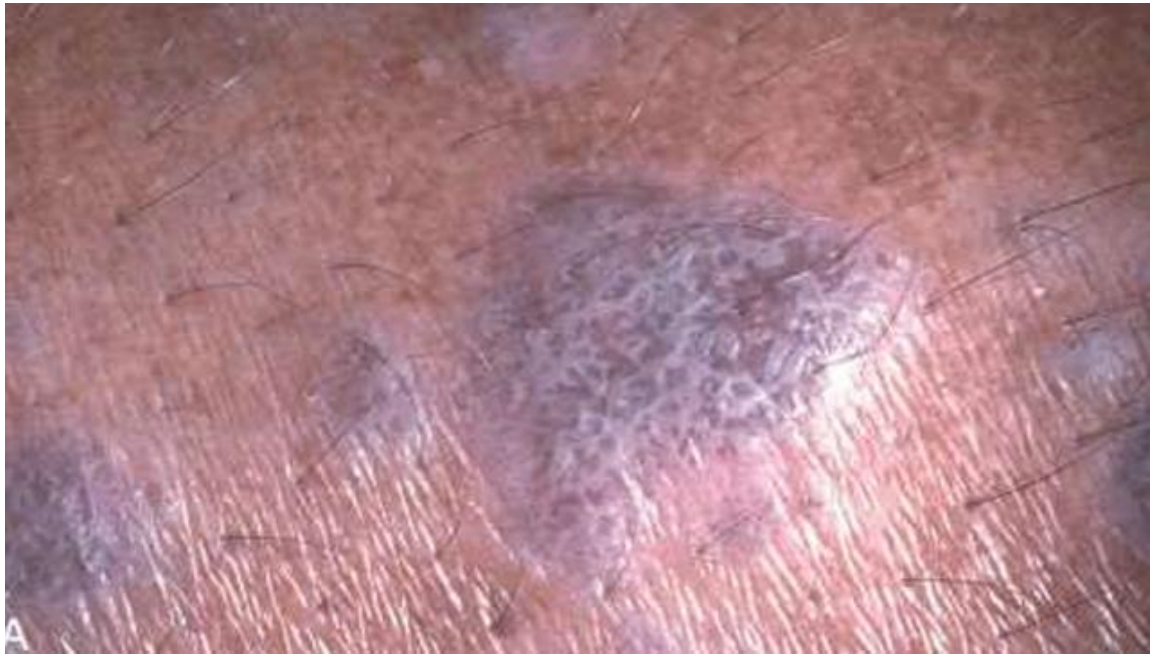




- Psoriasis most frequently affects the skin of the elbows, knees, scalp, lumbosacral areas, intergluteal cleft, glans penis, and vulva.
- Nail changes on the fingers and toes occur in 30% of cases.

Clinical Features

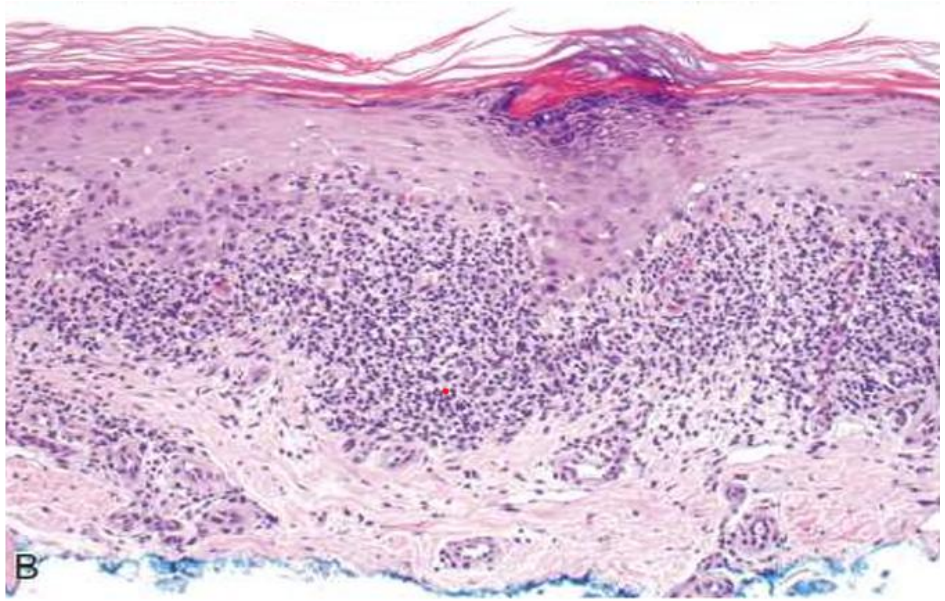
Lichen Planus



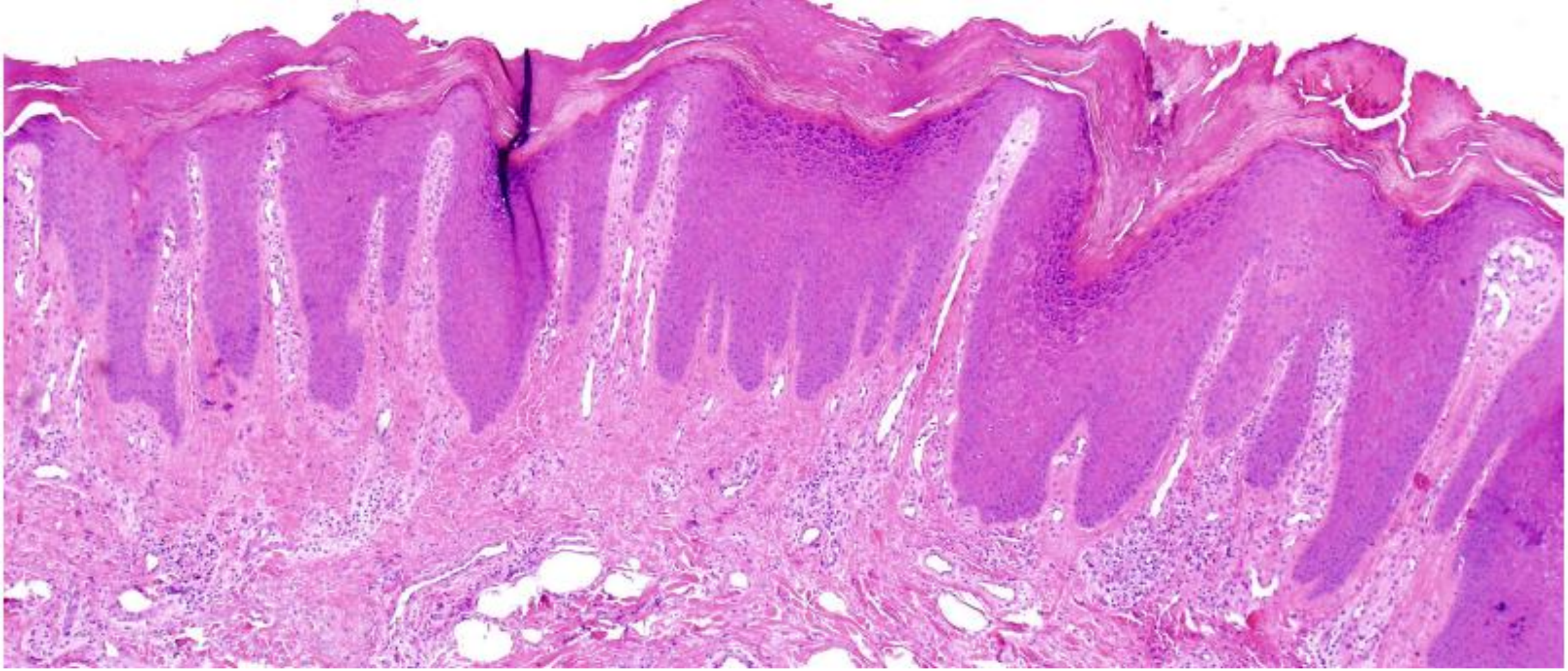
Grossly

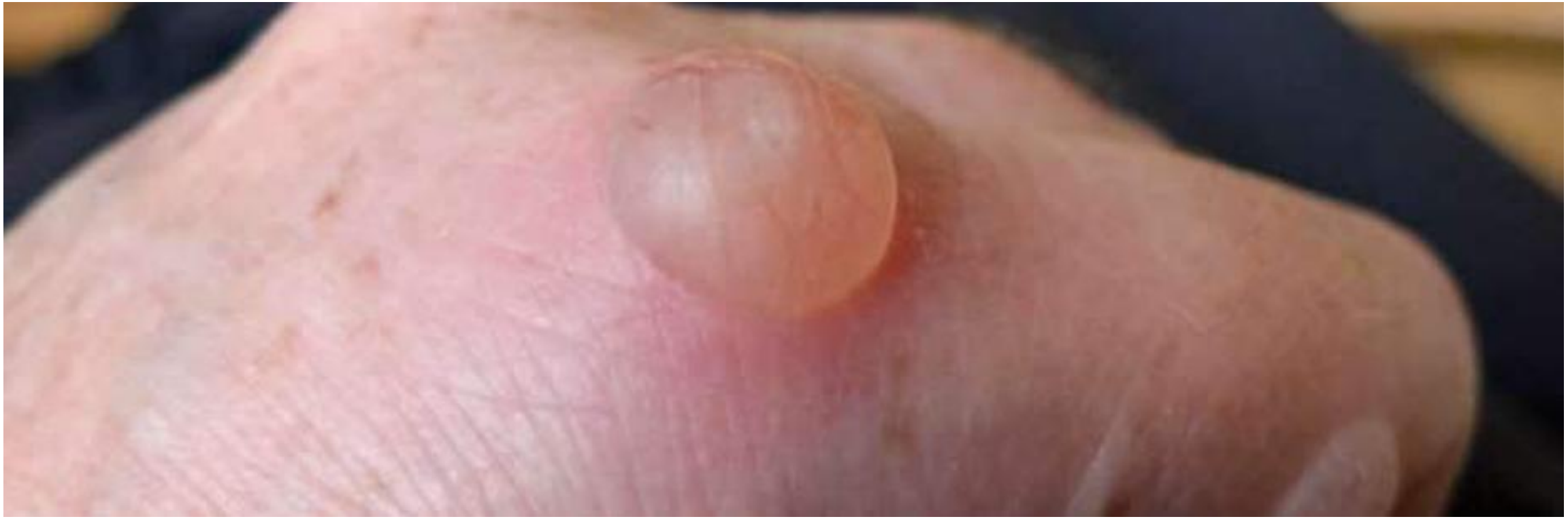
- -Cutaneous lesions of lichen planus consist of pruritic, violaceous, flat-topped papules that may coalesce focally to form plaques .
- -These papules are highlighted by white dots or lines termed Wickham striae.
- -Hyperpigmentation may result from melanin loss into the dermis from damaged keratinocyte.

Microscopically

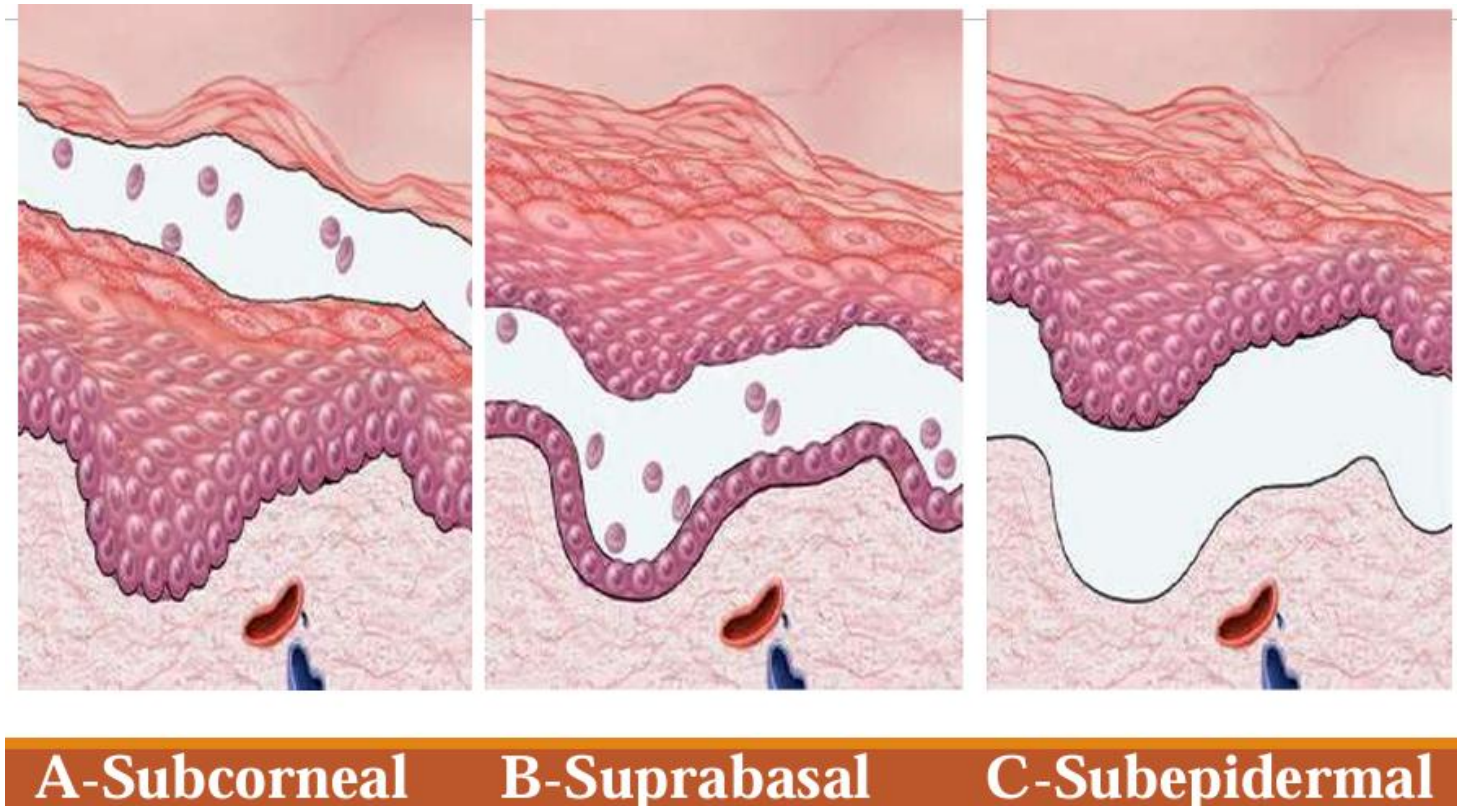


- -lichen planus is a prototypical interface dermatitis, so called because the inflammation and damage are concentrated at the interface of the squamous epithelium and papillary dermis.
- -There is a dense, continuous infiltrate of lymphocytes along the dermoepidermal junction.
- * Civatte bodies*.

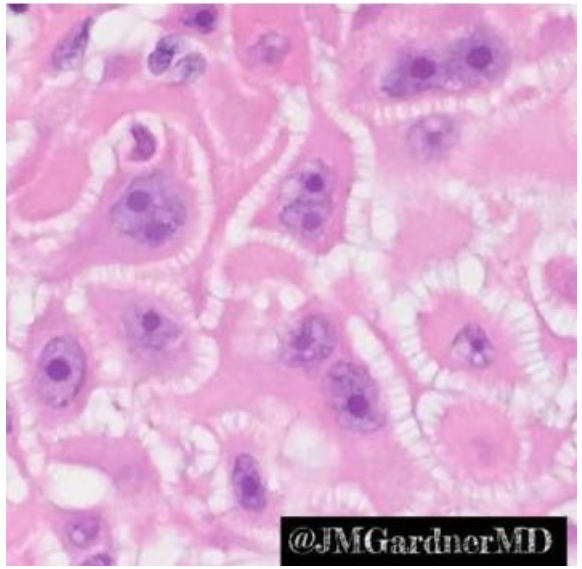


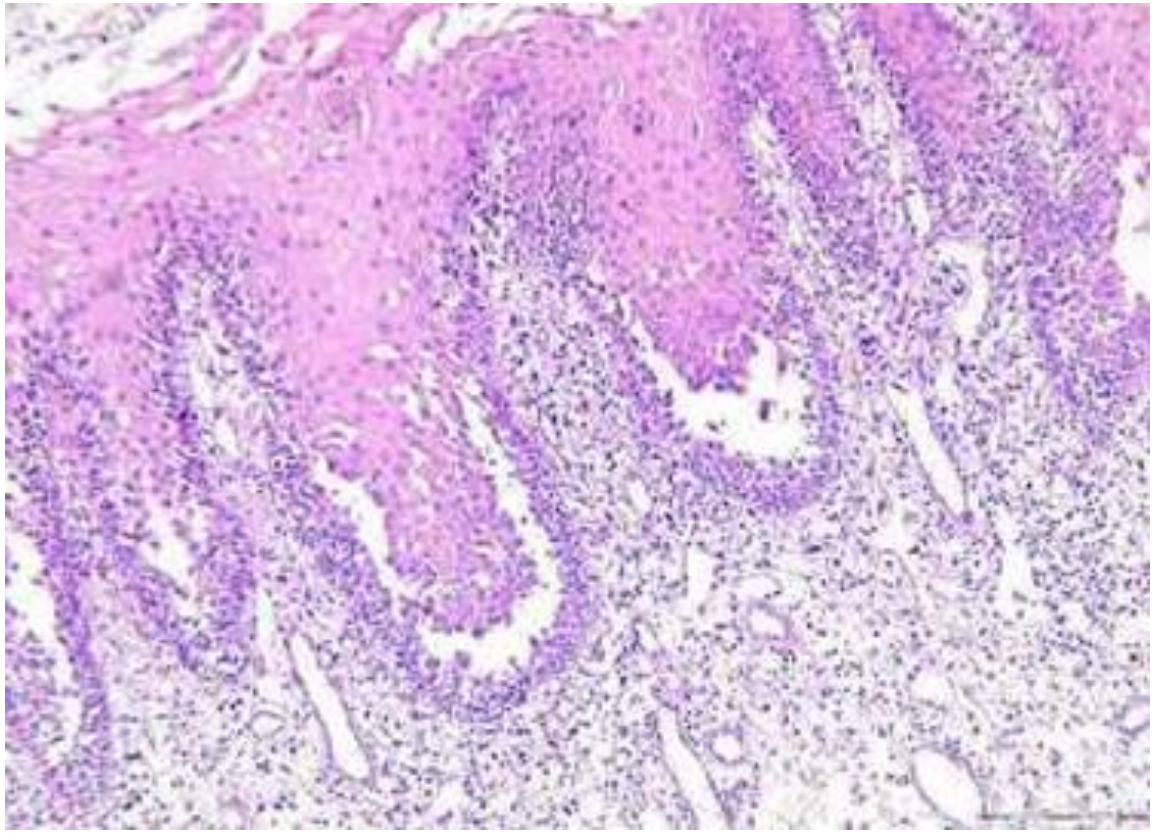


BLISTERING (BULLOUS) DISORDERS



Level of epidermal separation forms the basis of differential diagnosis for blistering disorders.


@JMGardnerMD

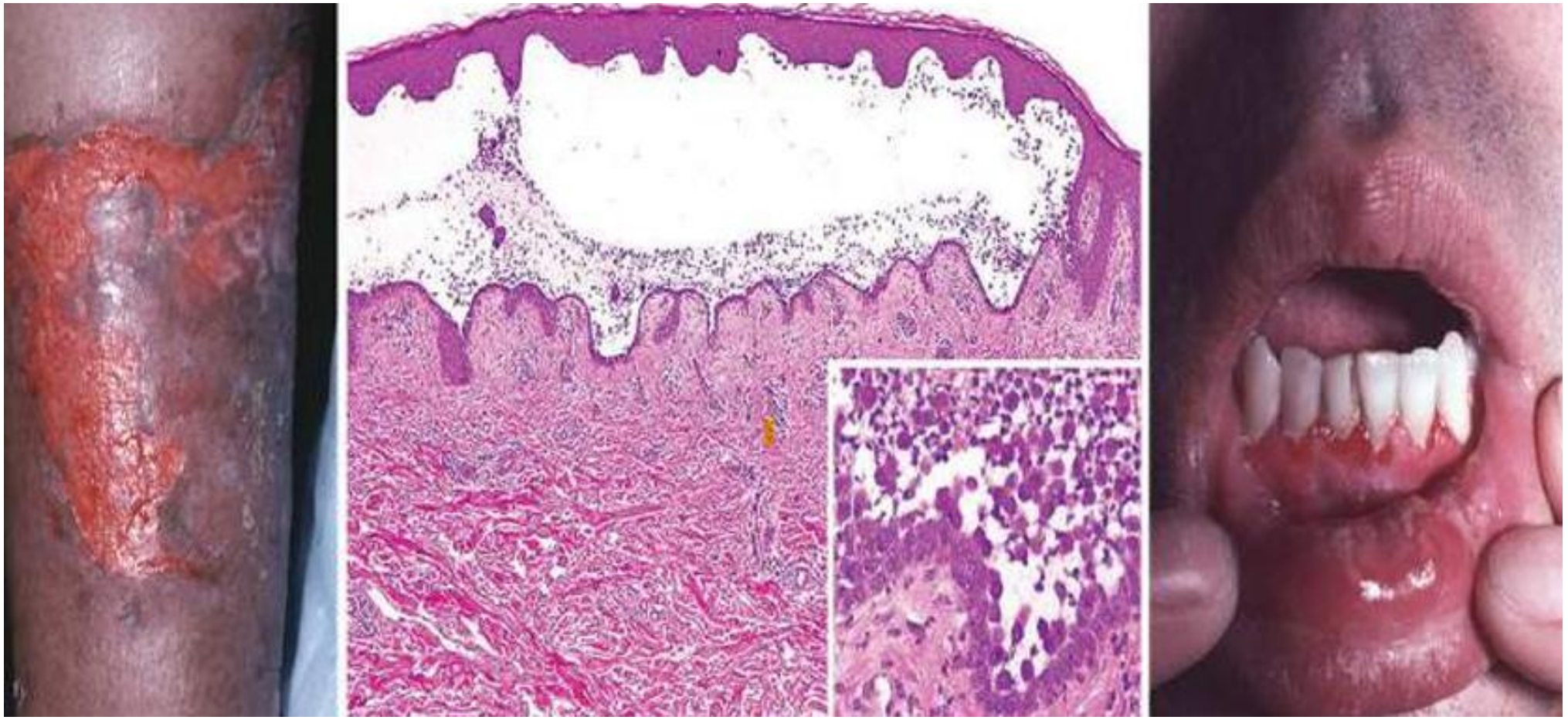


So the histological picture in all forms of pemphigus is:

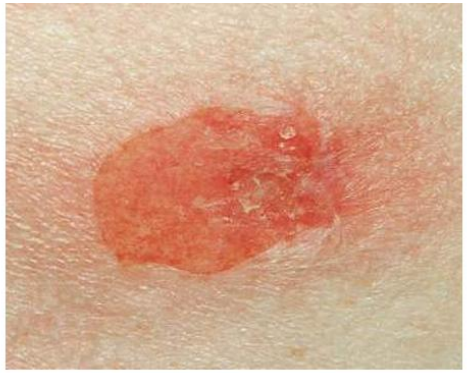
Acantholysis

Lysis of intercellular adhesive junctions between neighboring squamous epithelial cells results in detached cells.

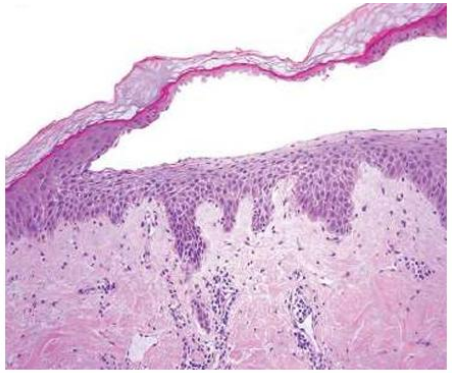
Pemphigus vulgaris:



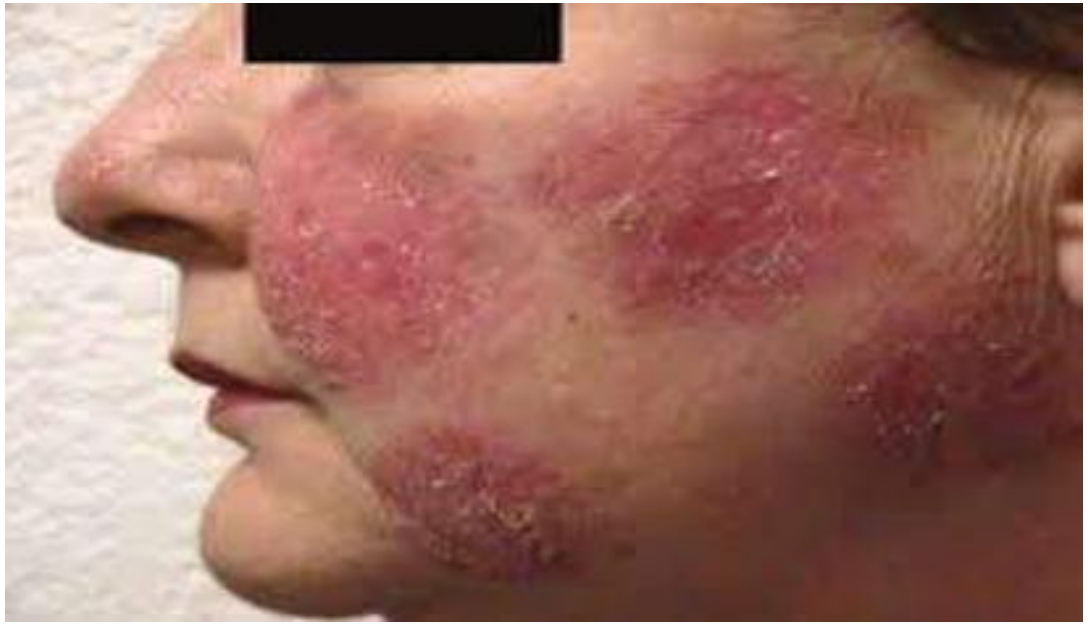
Pemphigus foliaceus:

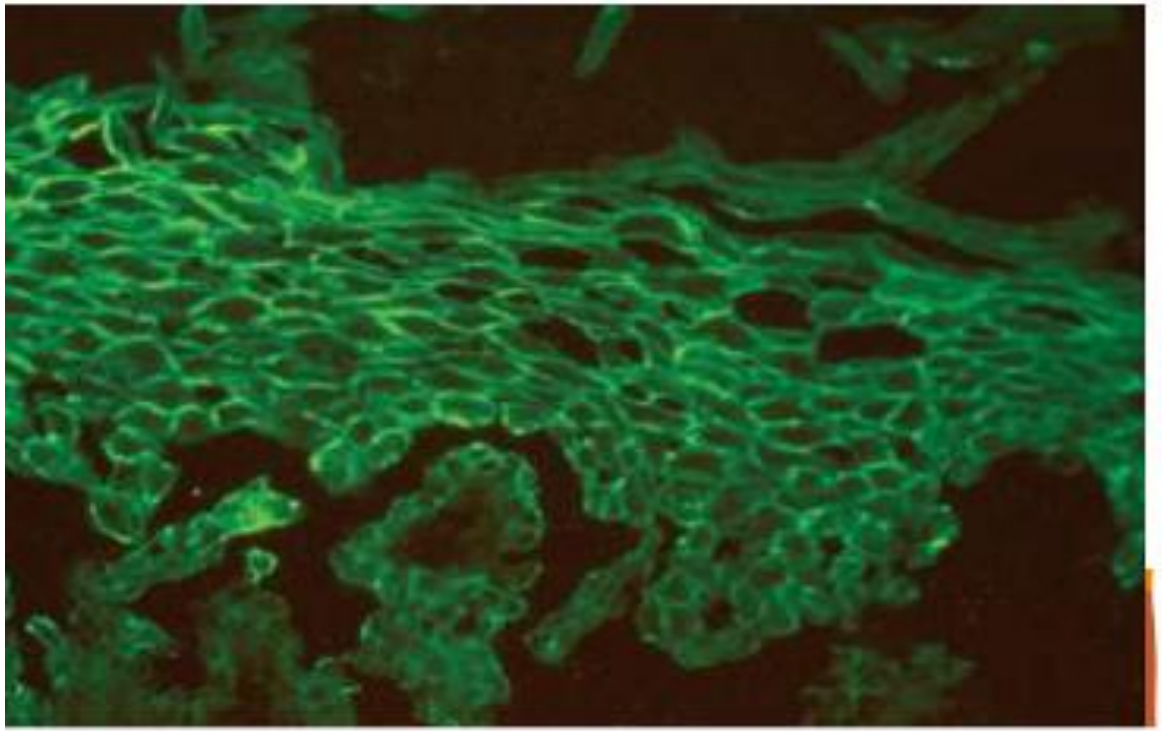


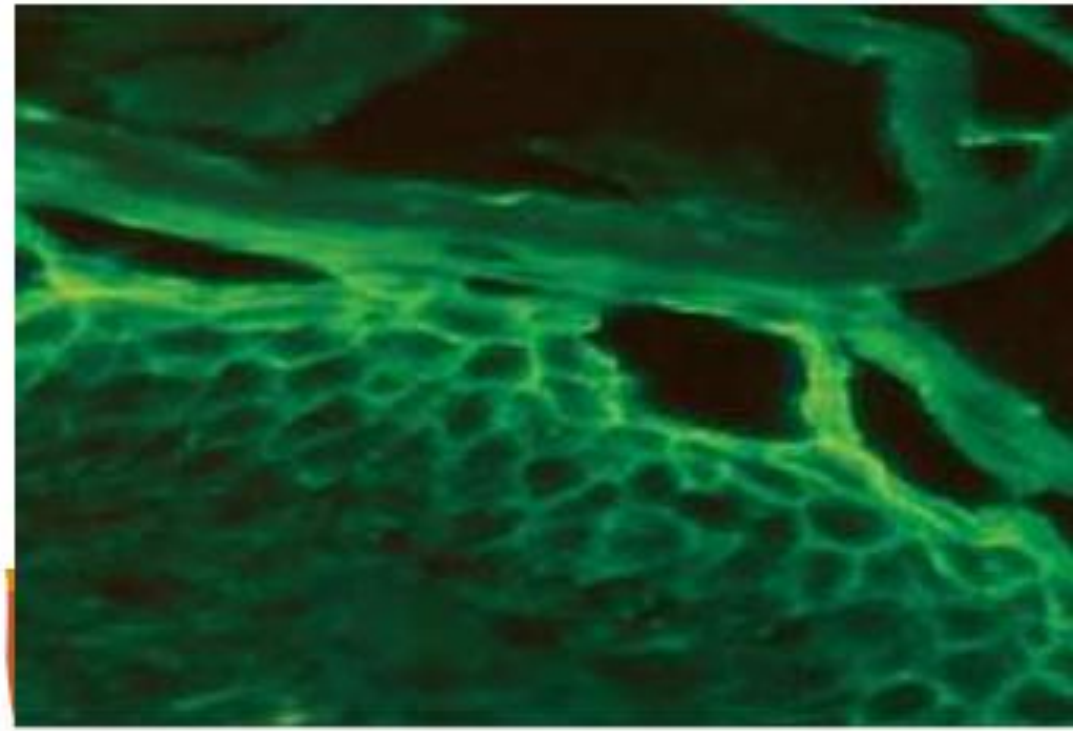
less severely eroded than those seen in pemphigus vulgaris.



subcorneal blister.

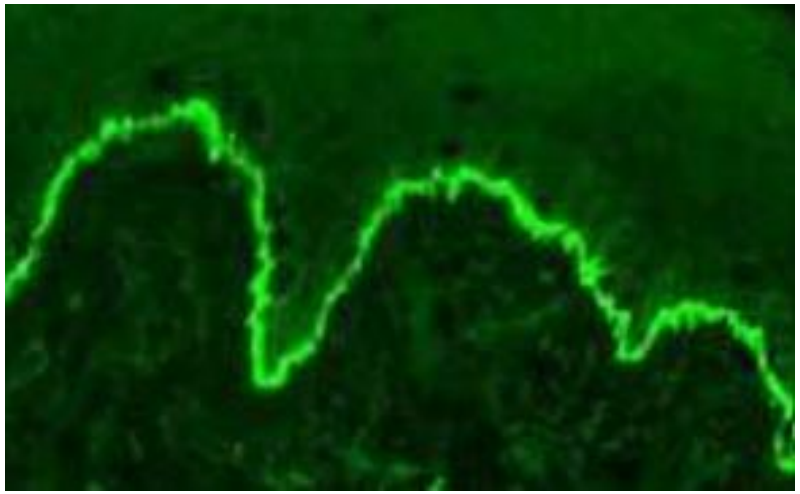


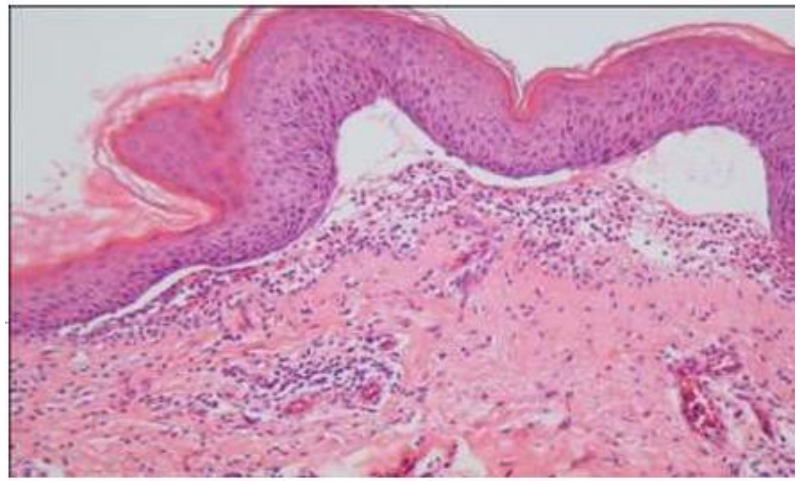


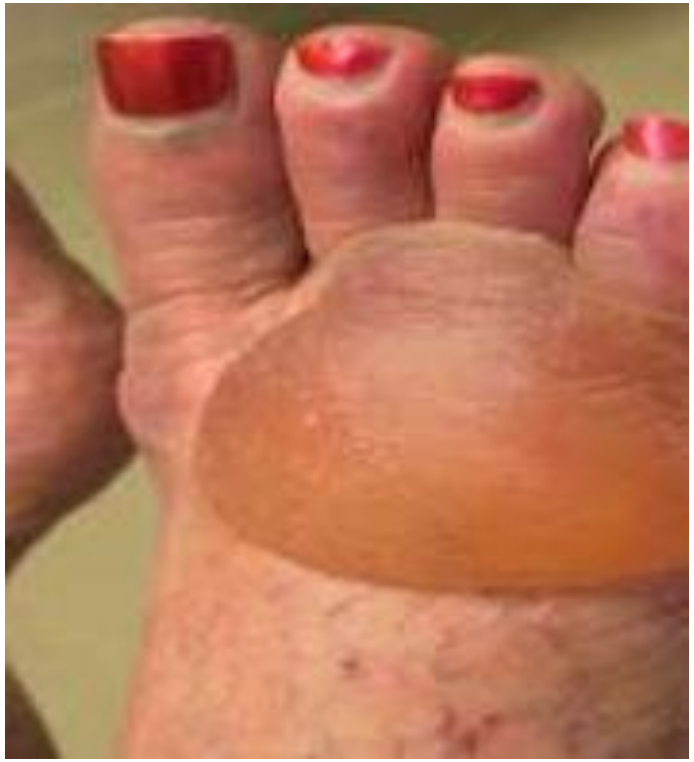


The most commonly used techniques for the diagnosis of these diseases is immunofluorescence which is used to determine the level of blister formation, and the localization of autoantibodies relative to the split

Bullous pemphigoid. -



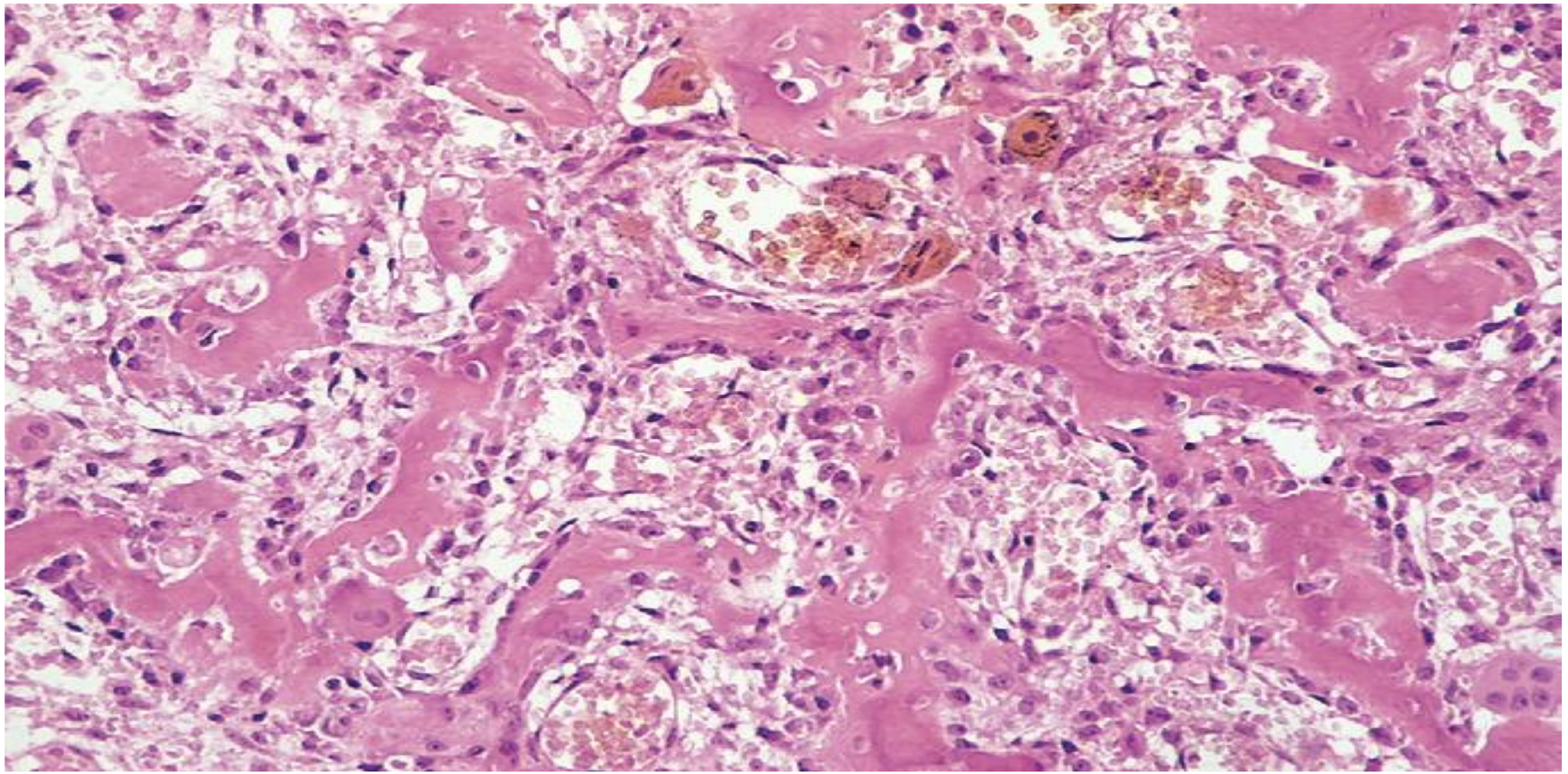




Bone Tumor

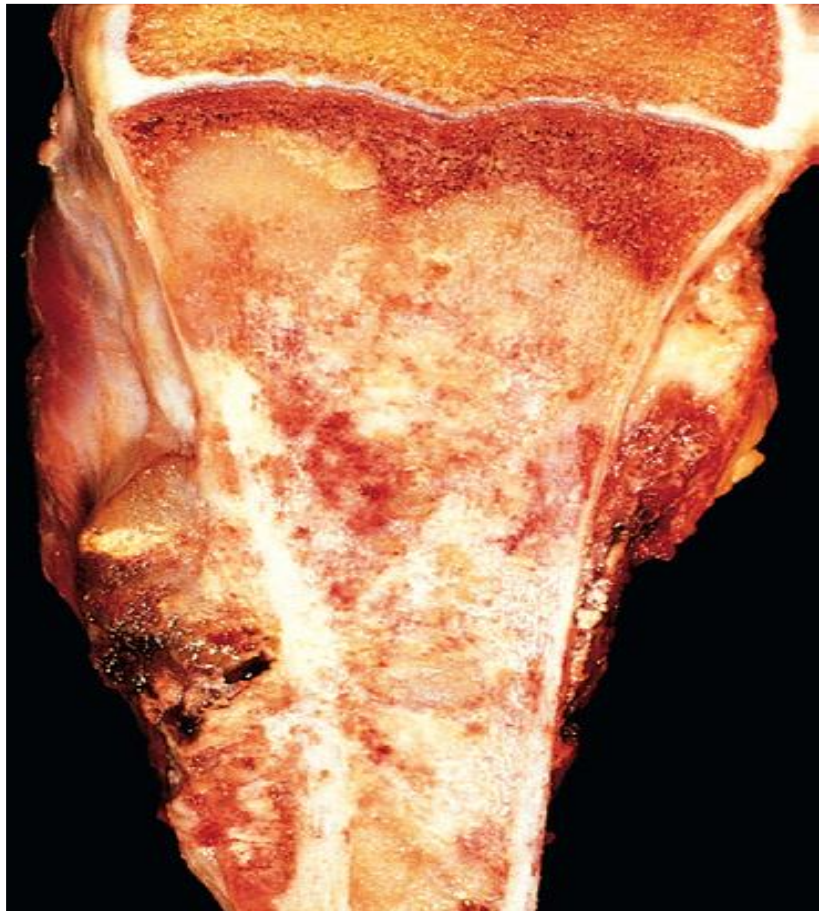
Tumor Type	Common Locations	Age (yr)
Bone-Forming		
Benign		
Osteoma	Facial bones, skull	40–50
Osteoid osteoma	Metaphysis of femur and tibia	10–20
Osteoblastoma	Vertebral column	10–20
Malignant		
Primary osteosarcoma	Metaphysis of distal femur, proximal tibia, and humerus	10–20
Secondary osteosarcoma	Femur, humerus, pelvis	>40
Cartilaginous		
Benign		
Osteochondroma	Metaphysis of long tubular bones	10–30
Enchondroma	Small bones of hands and feet	30–50
Malignant		
Chondrosarcoma	Bones of shoulder, pelvis, proximal femur, and ribs	40–60
Miscellaneous		
Giant cell tumor (usually benign)	Epiphysis of long bone	20–40
Ewing sarcoma	Diaphysis and metaphysis	10–20

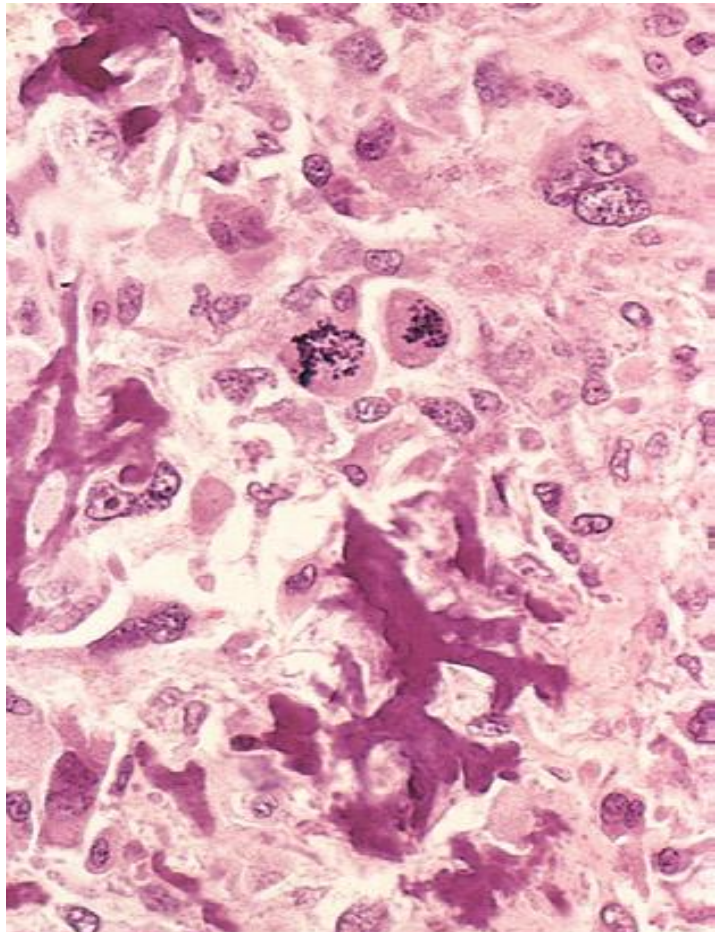
Osteoid osteoma showing randomly oriented trabeculae of woven bone rimmed by prominent osteoblasts. The intertrabecular spaces are filled by vascular loose connective tissue.



Macroscopically. Mass involving the upper end of the tibia. The tan-white tumor fills most of the medullary cavity of the metaphysis and proximal diaphysis. It has infiltrated through the cortex, lifted the periosteum, and formed soft tissue masses on both sides of the bone.

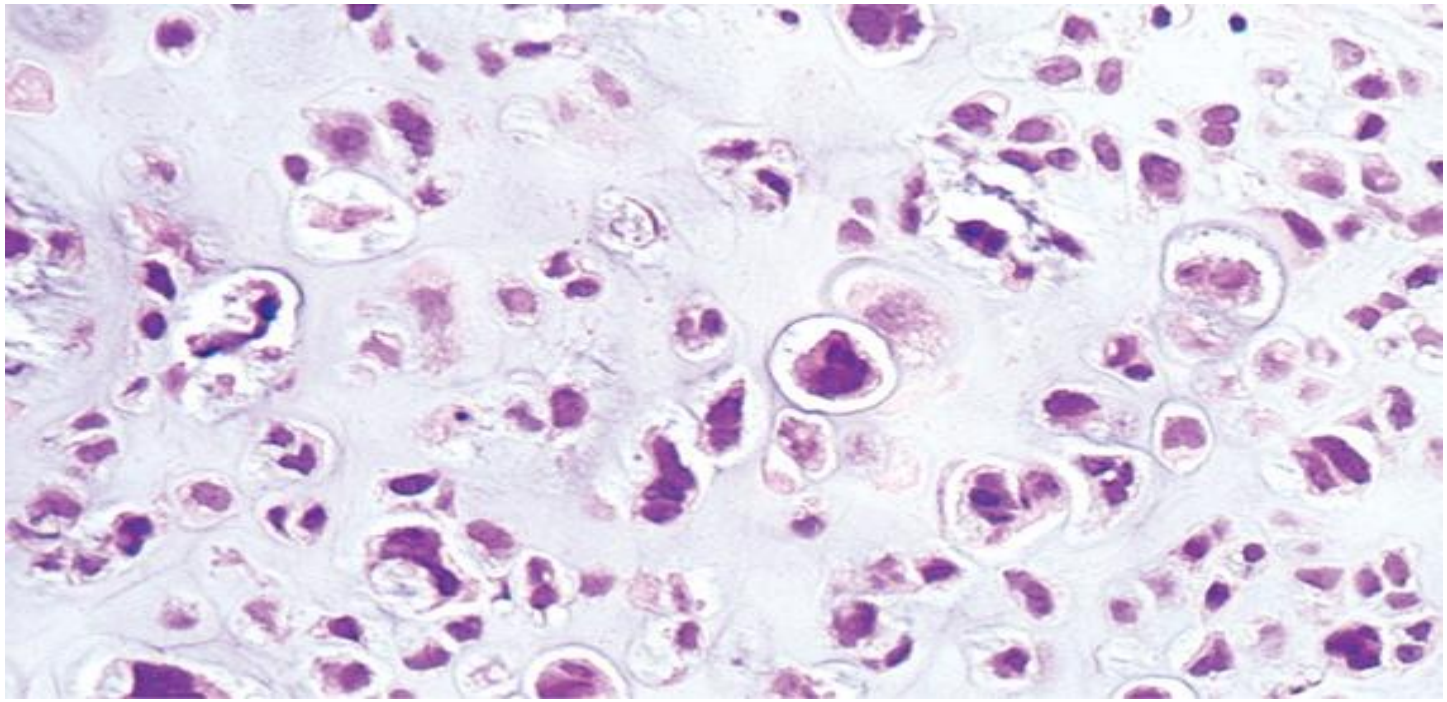
Microscopically, with coarse, lacelike pattern of neoplastic bone (arrow) produced by anaplastic tumor cells. Note the wildly aberrant mitotic figures (arrowheads).





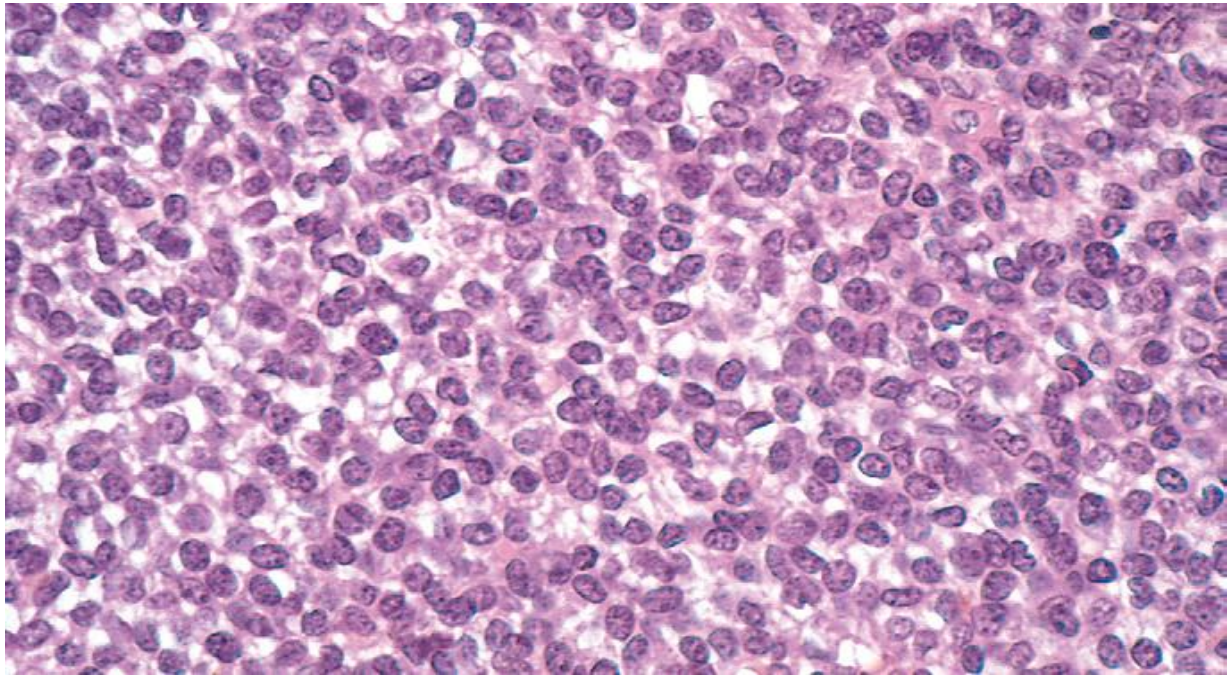
Chondrosarcoma. A, Islands of hyaline and myxoid cartilage
expand the medullary cavity and grow through the cortex to form
a sessile paracortical mass.

B, Anaplastic chondrocytes within a chondroid matrix.

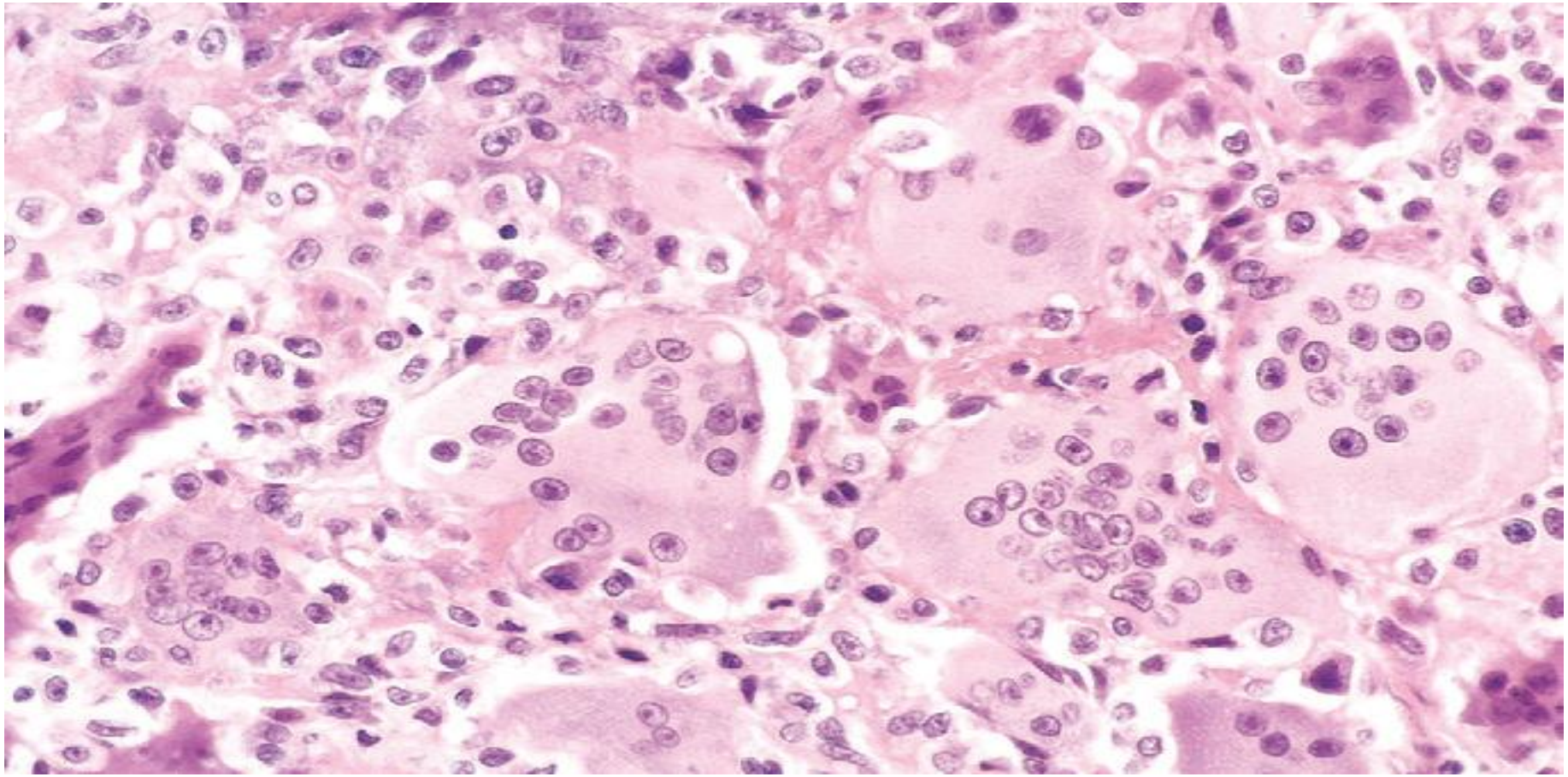


Macroscopically: Ewing sarcoma/PNET arises in the medullary cavity and invades the cortex and periosteum to produce a soft tan white tumor mass, frequently with hemorrhage and necrosis.

Microscopically: t is composed of sheets of uniform small, round cells that are slightly larger than lymphocytes; The presence of Homer-Wright rosettes (tumor cells circled about a central fibrillary space) indicates neural differentiation.



Benign giant cell tumor showing abundant multinucleate giant cells and a background of mononuclear cells.



GOOD LUCK IN YOUR EXAM