CHRONIC INFLAMMATORY DERMATOSES

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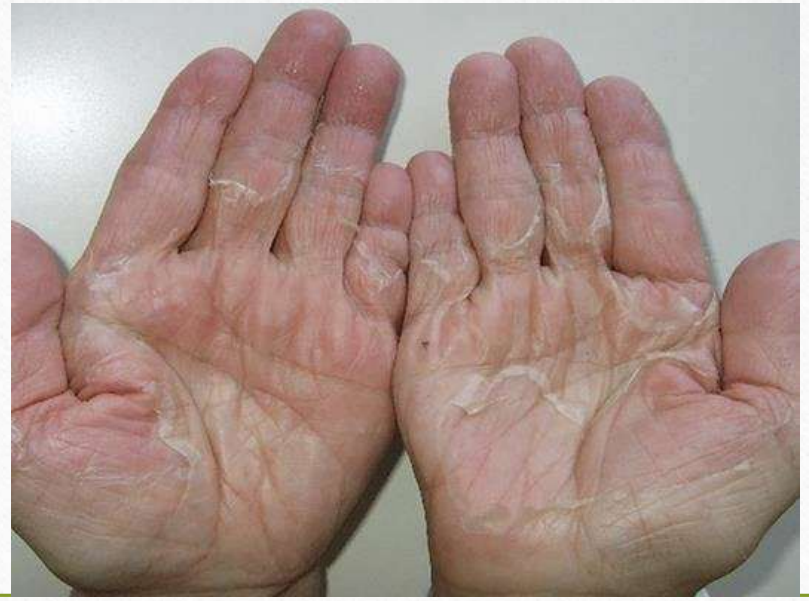
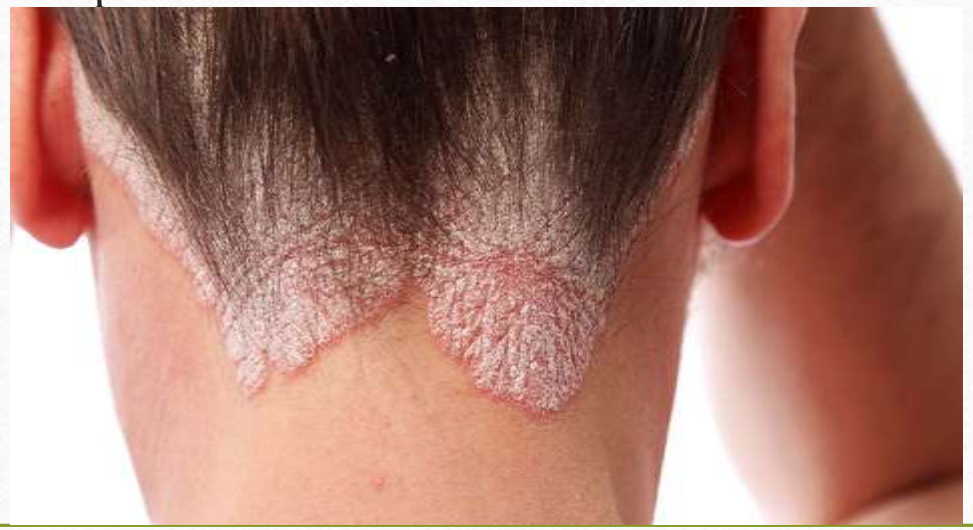
- Chronic inflammatory dermatoses are persistent skin conditions that exhibit their most characteristic features over many months to years.

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



1. Psoriasis

- Psoriasis is a common chronic inflammatory dermatosis, affecting 1% to 2% of individuals.
- psoriasis is associated with an increased risk for heart attack and stroke, a relationship that may be related to a chronic inflammatory state.
- Psoriasis also is associated in up to 10% of patients with arthritis.

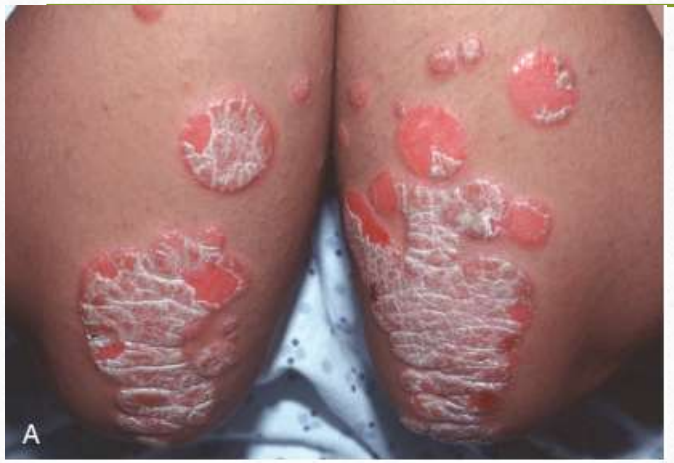


Pathogenesis

- Psoriasis is a T cell-mediated inflammatory disease, presumed to be autoimmune in origin, although the antigens are not well described.
- Both genetic and environmental factors contribute to the risk.

- Sensitized populations of T cells home to the dermis, including CD4+ TH17 and TH1 cells and CD8+ T cells, and accumulate in the epidermis.
- These cells secrete cytokines and growth factors that induce keratinocyte hyperproliferation, resulting in the characteristic lesions.

MORPHOLOGY

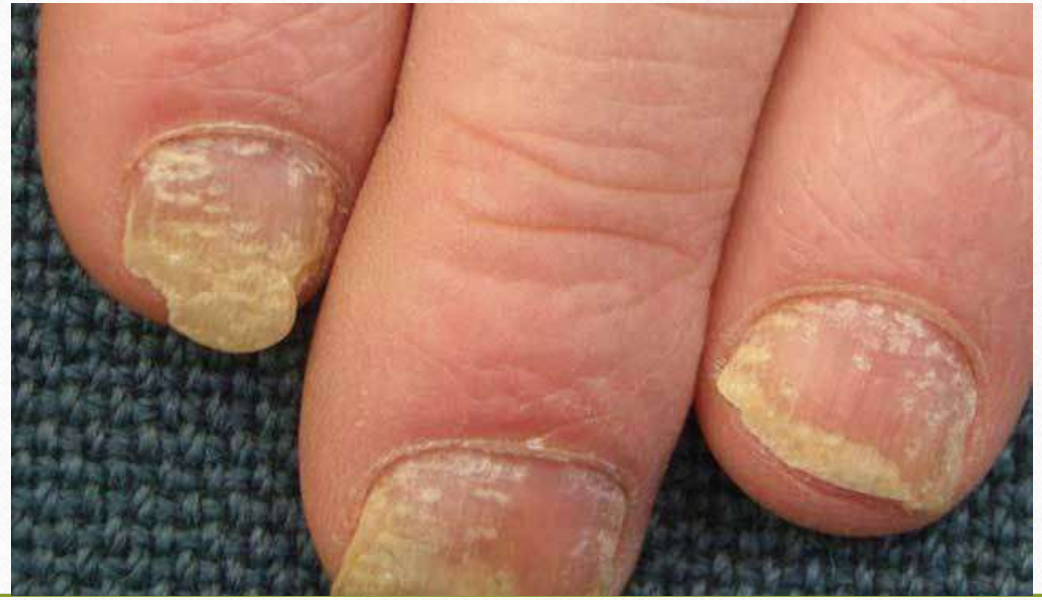


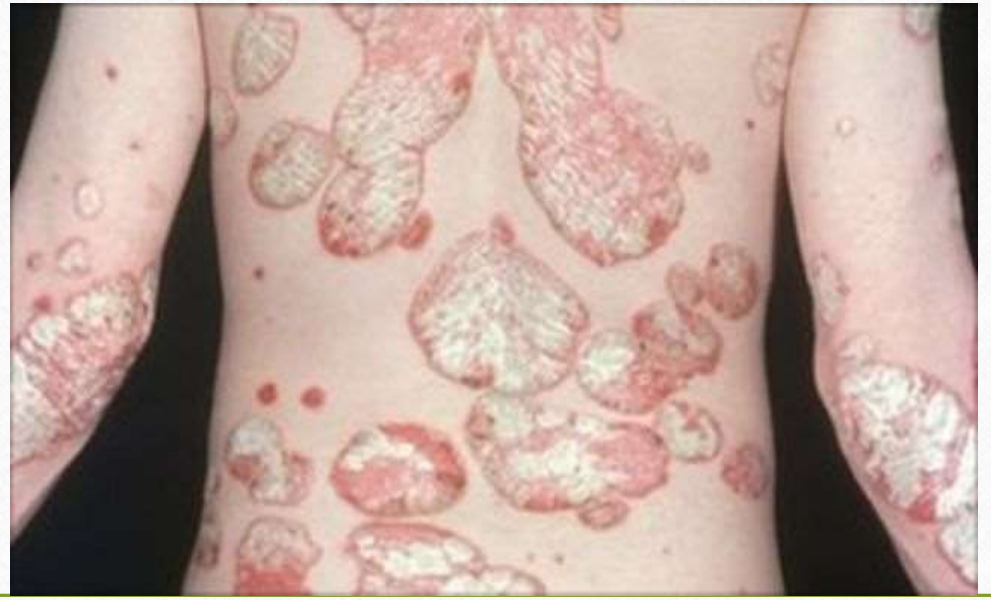
well-demarcated, pink to salmon–colored plaque covered by loosely adherent silver-white scale

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
and extensive parakeratotic scale

Clinical Features

- 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.



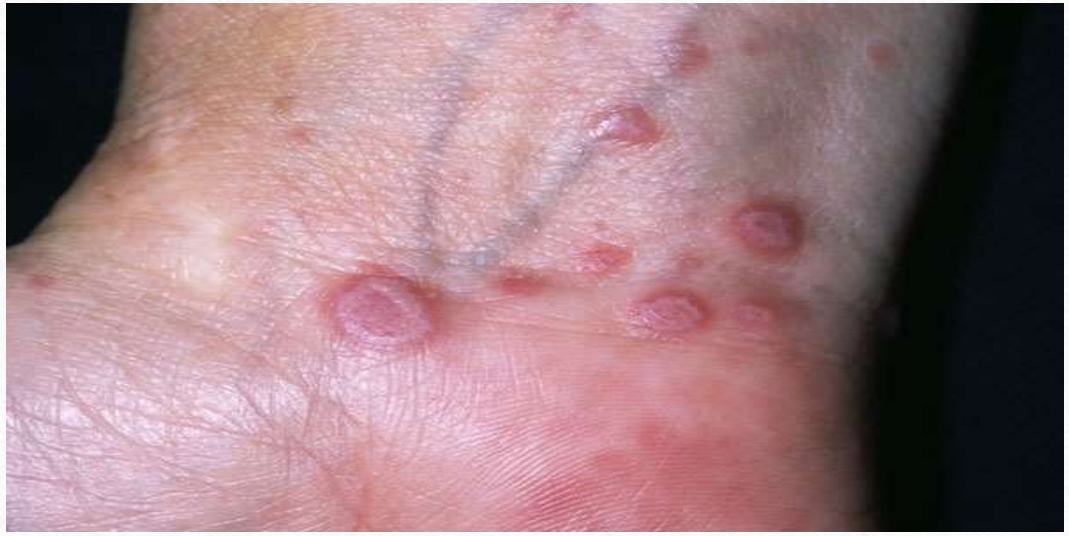


Treatment

- Treatment is aimed at preventing the release or actions of inflammatory mediators.
- Mild disease is treated topically with ointments containing corticosteroids or other immunomodulatory agents,
- more severe disease is treated with phototherapy (which has immunosuppressive effects) or systemic therapy with immunosuppressive agents such as methotrexate or TNF antagonists

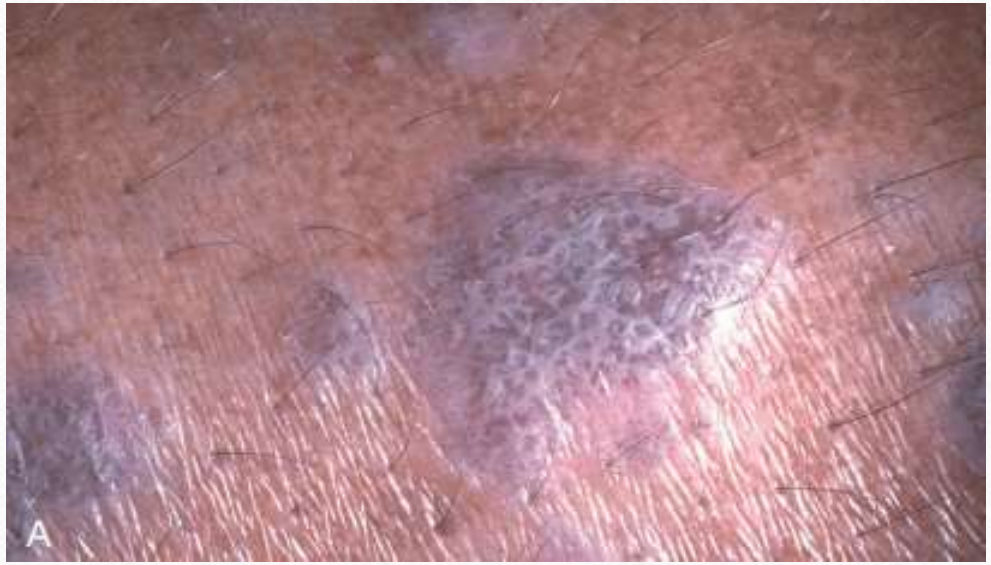
2. Lichen Planus

- "Pruritic, purple, polygonal, papules, and plaques" are the tongue-twisting Ps that describe this disorder of skin and squamous mucosa
- The lesions may result from a CD8+ T cell–mediated cytotoxic response against antigens in the basal cell layer and the dermoepidermal junction that are produced by unknown mechanisms



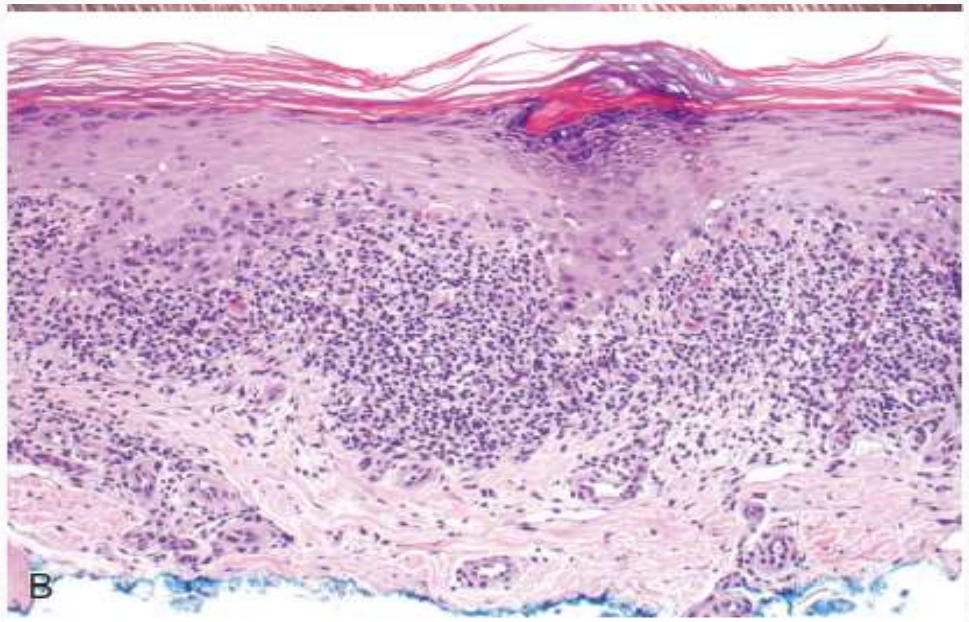
Grossly

- 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



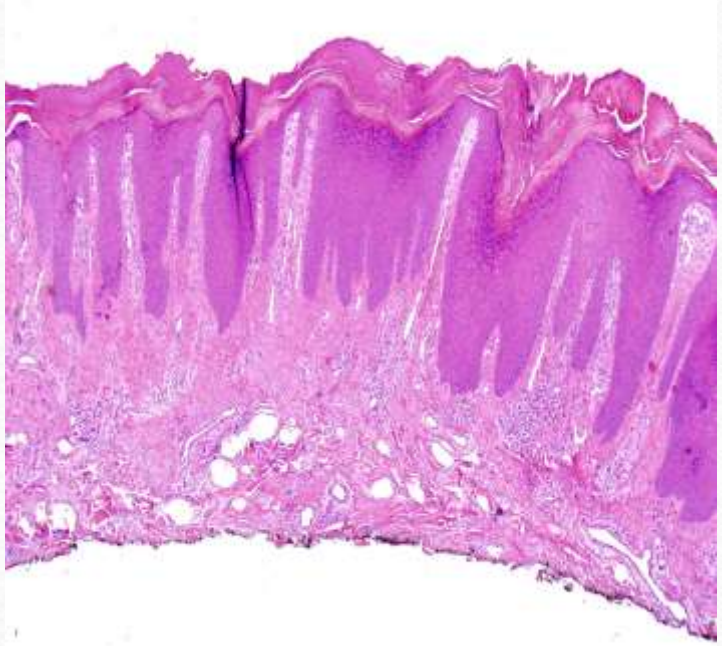
Microscopically

- 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*.



3- Lichen Simplex Chronicus

- Lichen simplex chronicus manifests as roughening of the skin. It is a response to local repetitive trauma, usually from rubbing or scratching.
- The pathogenesis of lichen simplex chronicus is not understood, but the trauma probably induces epithelial hyperplasia and eventual dermal scarring.
- Microscopically :Lichen simplex chronicus is characterized by acanthosis, hyperkeratosis, and hypergranulosis.



BLISTERING (BULLOUS) DISORDERS

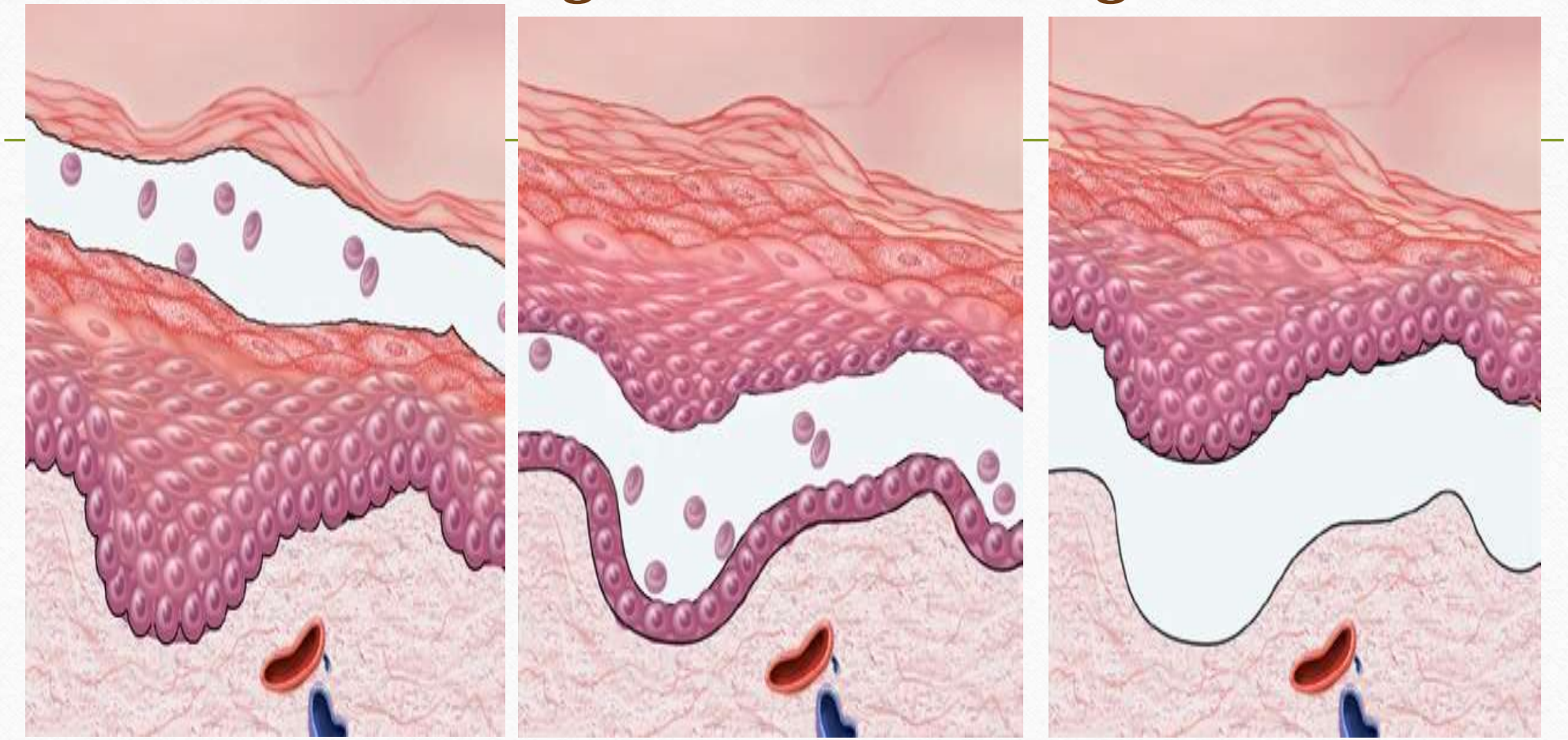
- Although vesicles and bullae (blisters) occur as secondary phenomena in several unrelated conditions (e.g., herpesvirus infection, spongiotic dermatitis), there is a group of disorders in which blisters are the primary and most distinctive feature. Which include:

1-Pemphigus (Vulgaris and Foliaceus).
2-Bullous pemphigoid.

- Blistering in these diseases tends to occur at specific **levels** within the skin, a morphologic distinction

  that is critical for diagnosis.

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



A-Subcorneal B-Suprabasal C-Subepidermal

1-Pemphigus (Vulgaris and Foliaceus)

- Pemphigus is an uncommon autoimmune blistering disorder resulting from loss of normal **intercellular attachments** within the epidermis and the squamous mucosal epithelium.

There are three major variants:

- Pemphigus vulgaris (the most common type)
- Pemphigus foliaceus
- Paraneoplastic pemphigus which is associated with internal malignancy.

Pathogenesis

- **Pemphigus vulgaris & pemphigus foliaceus:**
- **Autoimmune diseases caused by: Antibody mediated hypersensitivity reactions. (Type II)**

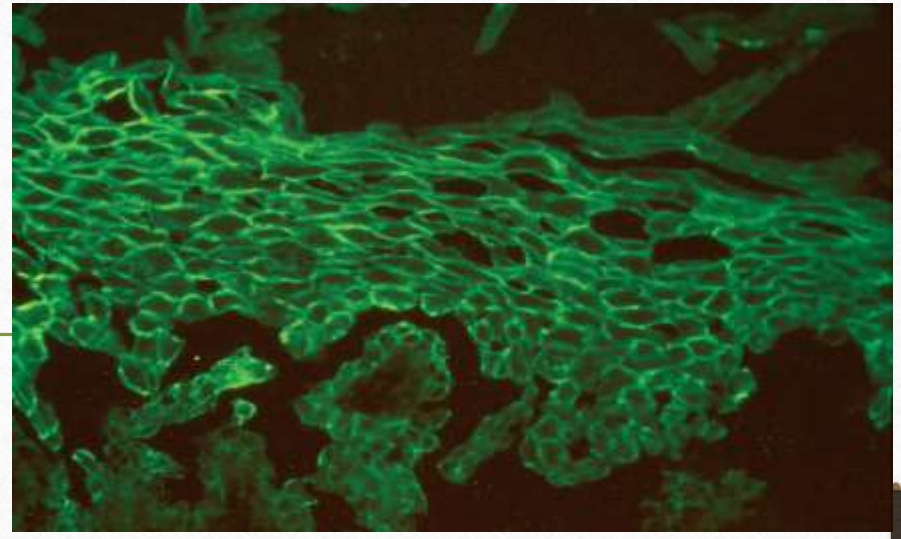
- **Pathogenic antibodies:**
- **IgG autoantibodies:**

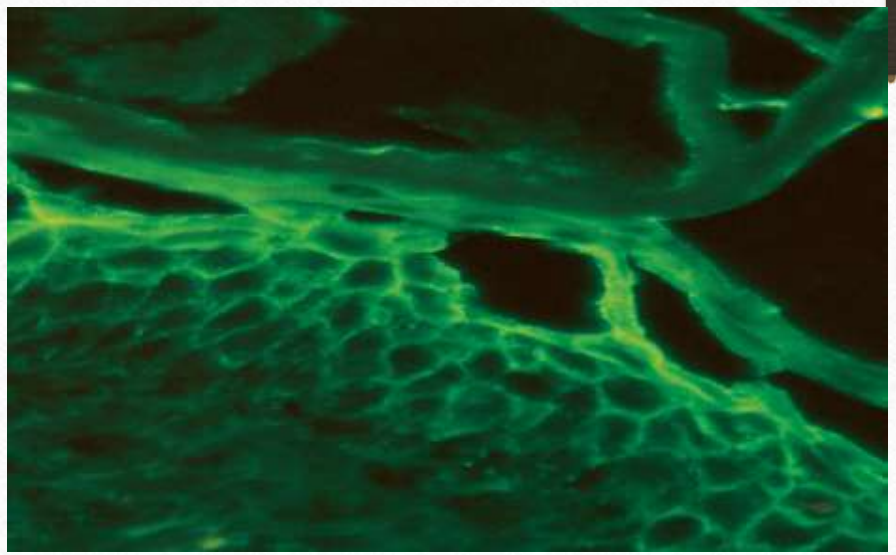
1- Bind to intercellular desmosomal proteins of skin & mucous membranes.

2- Disrupt intercellular adhesive function of desmosomes.

3- Activate intercellular proteases.

- **Diagnosis: Direct immunofluorescence study:**
  Lesional sites show a characteristic fishnet-like pattern of intercellular IgG deposits.





Pemphigus vulgaris:

Uniform deposition of Ig (green) along cell membrane of keratinocytes (fishnet pattern).

Pemphigus foliaceus:

Ig deposits confined to superficial layers of epidermis.

Histological picture in all forms of pemphigus is:

- Acantholysis:

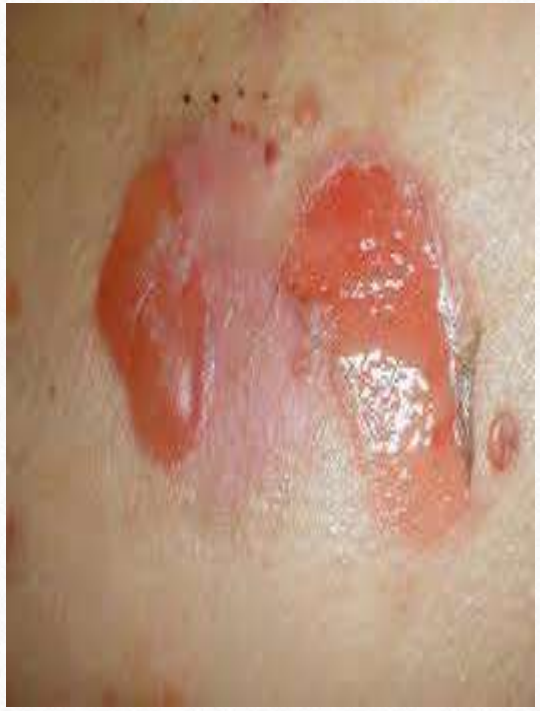
- Lysis of intercellular adhesive junctions between neighboring squamous epithelial cells results in detached cells.
- Pemphigus vulgaris: Acantholysis of layer of cells above basal cell layer Suprabasal blister.
- Pemphigus foliaceus: Acantholysis of superficial epidermis is at level of stratum granulosum.
- Variable superficial dermal infiltrates comprised of lymphocytes, macrophages, & eosinophils accompany all forms of pemphigus.

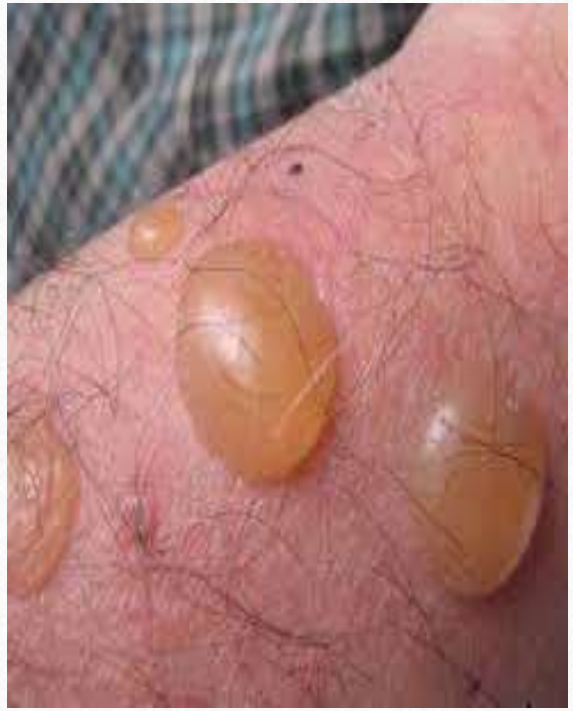
1-Pemphigus vulgaris:

- **Most common type.**
- **Involves both mucosa & skin of scalp, face, axillae, groin, trunk, & points of pressure.**

Lesions:

Superficial vesicles & bullae, rupture easily, leaving deep & extensive erosions covered with serum crust.

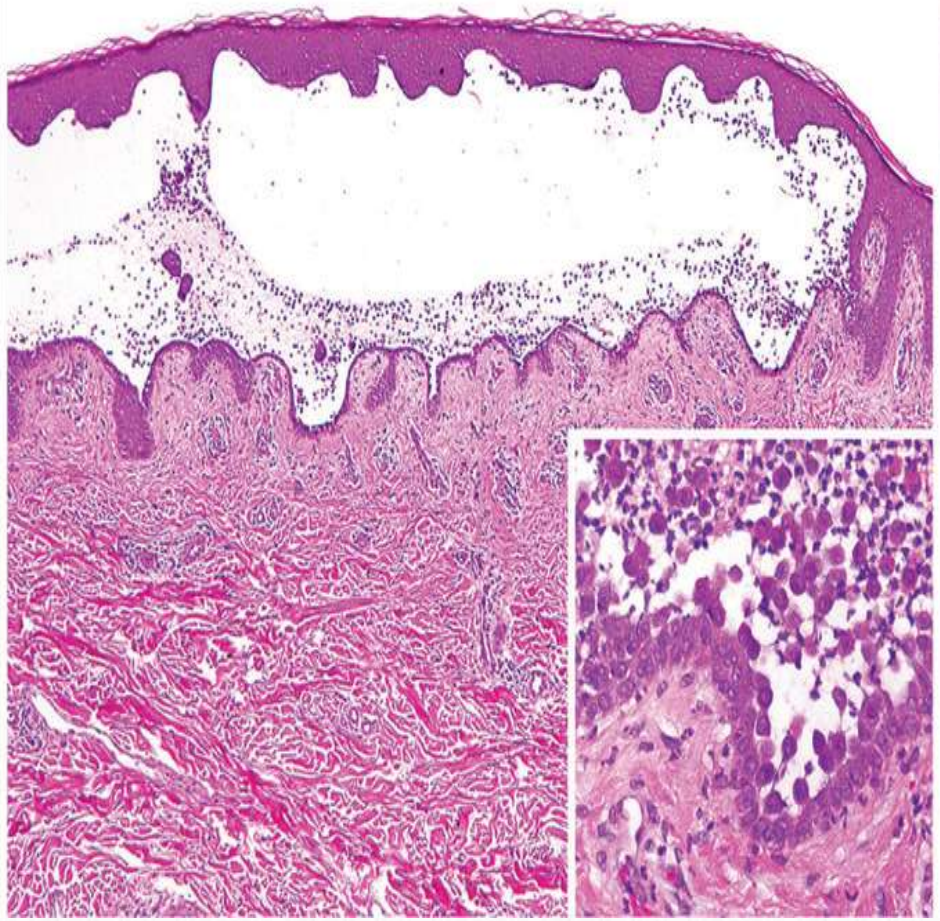


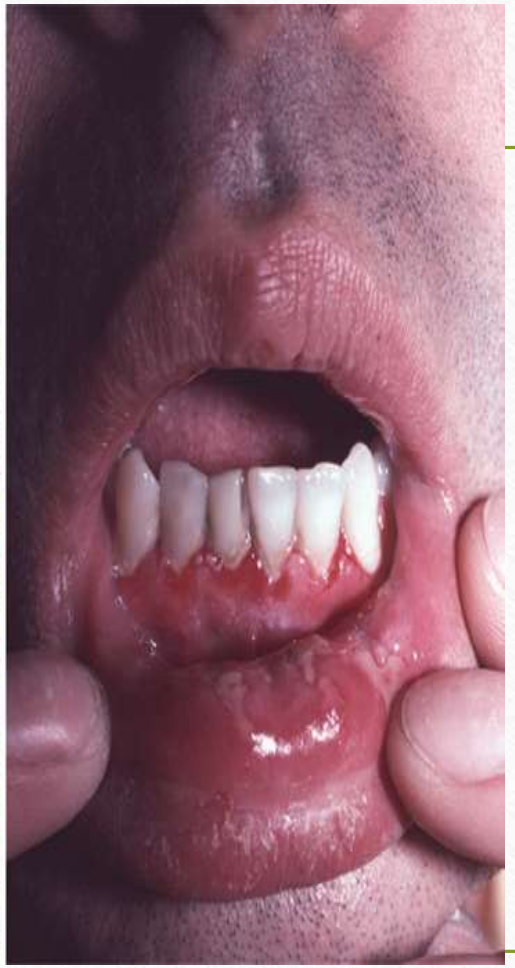


Pemphigus vulgaris:

Erosion on leg:Group of confluent, unroofed blisters.

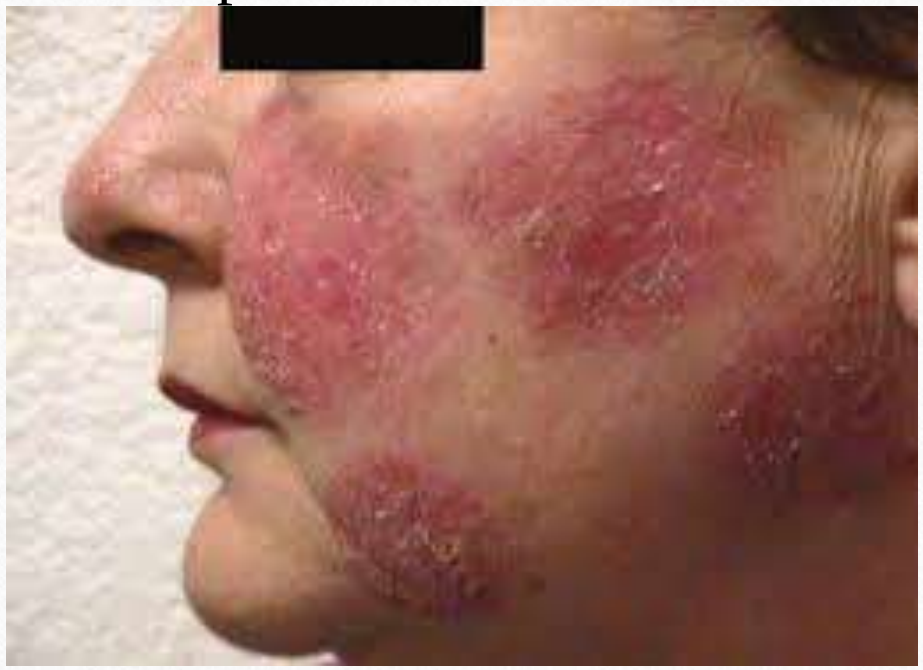
Suprabasal acantholysis results in intraepidermal blister.

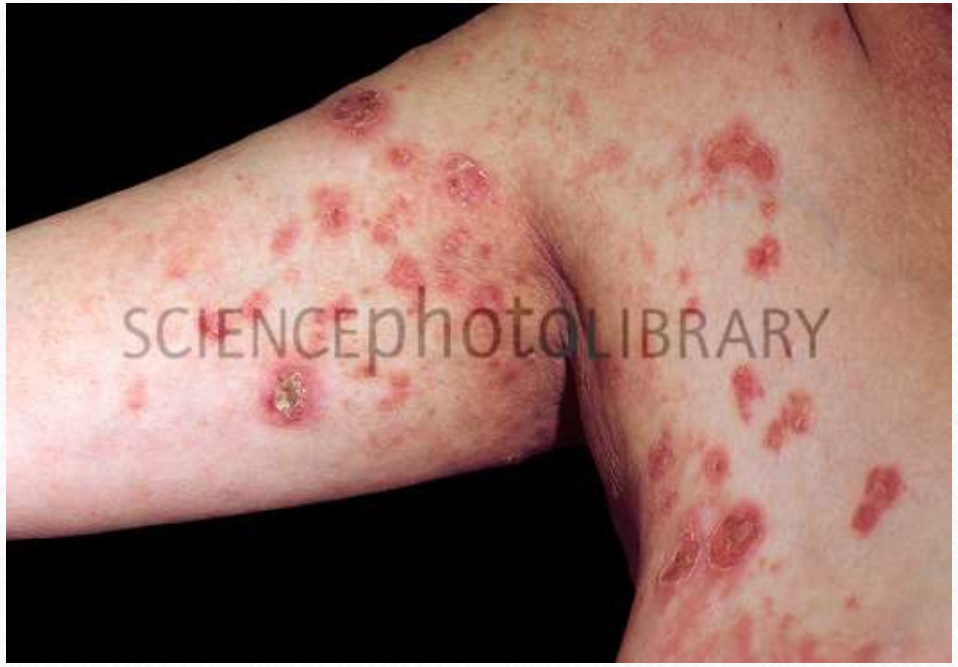




2-Pemphigus foliaceus:

- Rare, more benign form of pemphigus.
- Bullae confined to skin.
- Infrequent involvement of mucous membranes.
- Blisters are superficial with more limited zones of erythema & crusting of ruptured blisters.

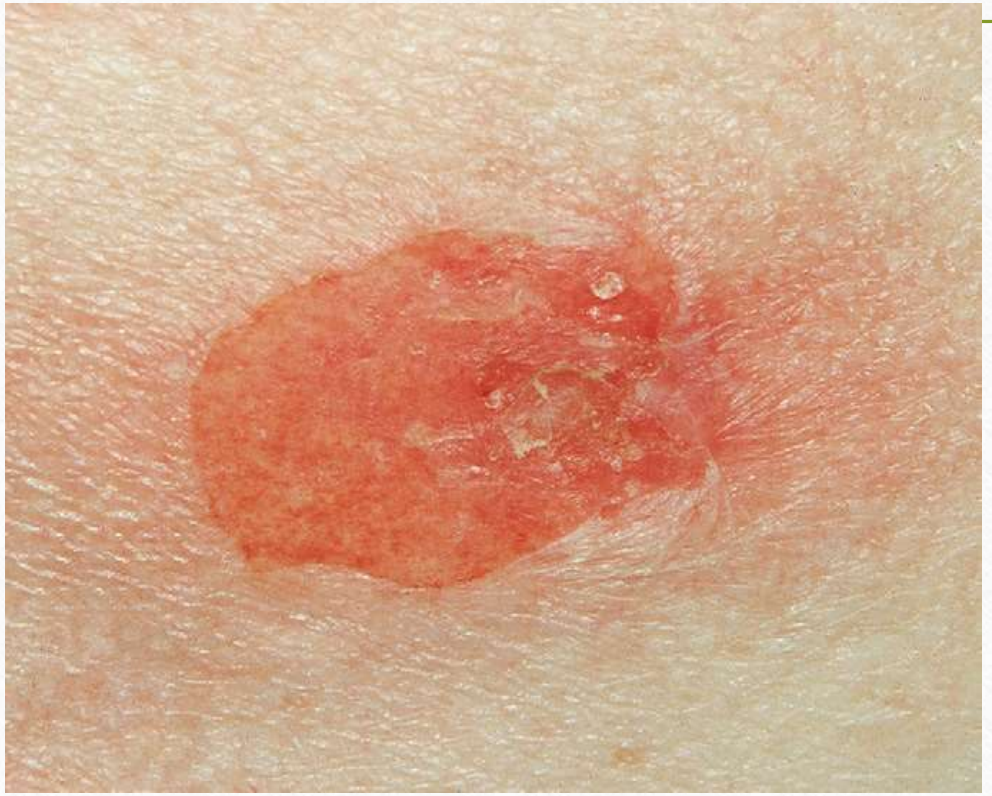


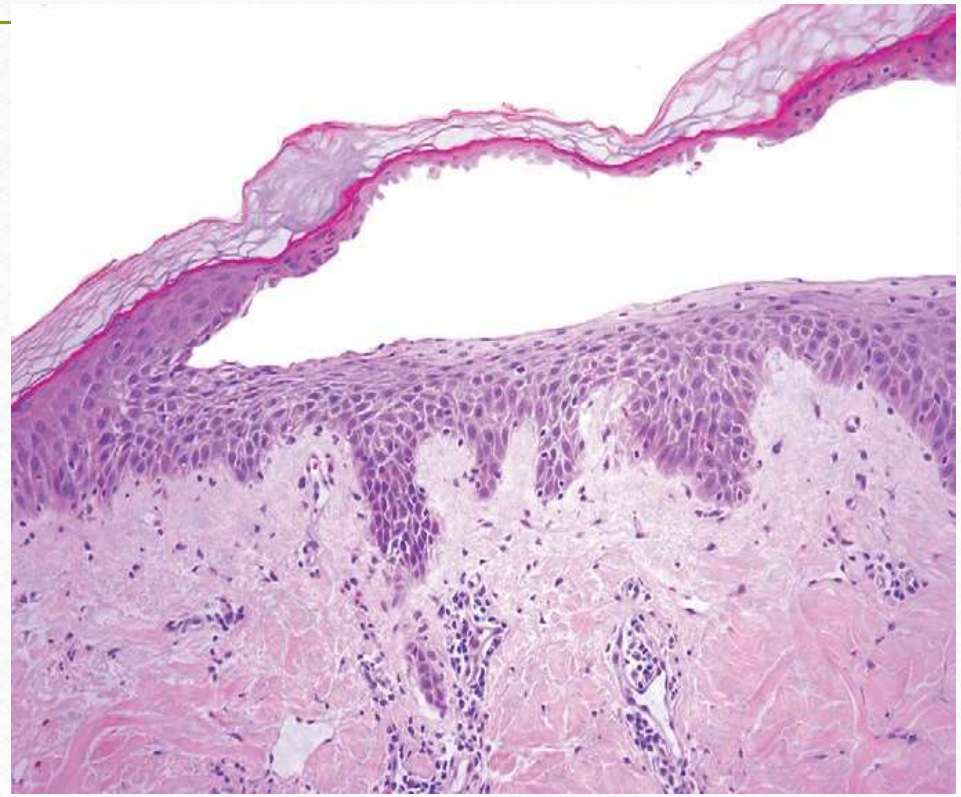


Pemphigus foliaceus:

Gross appearance of typical blister, less severely eroded than those seen in pemphigus vulgaris.

Microscopic: Characteristic subcorneal blister.





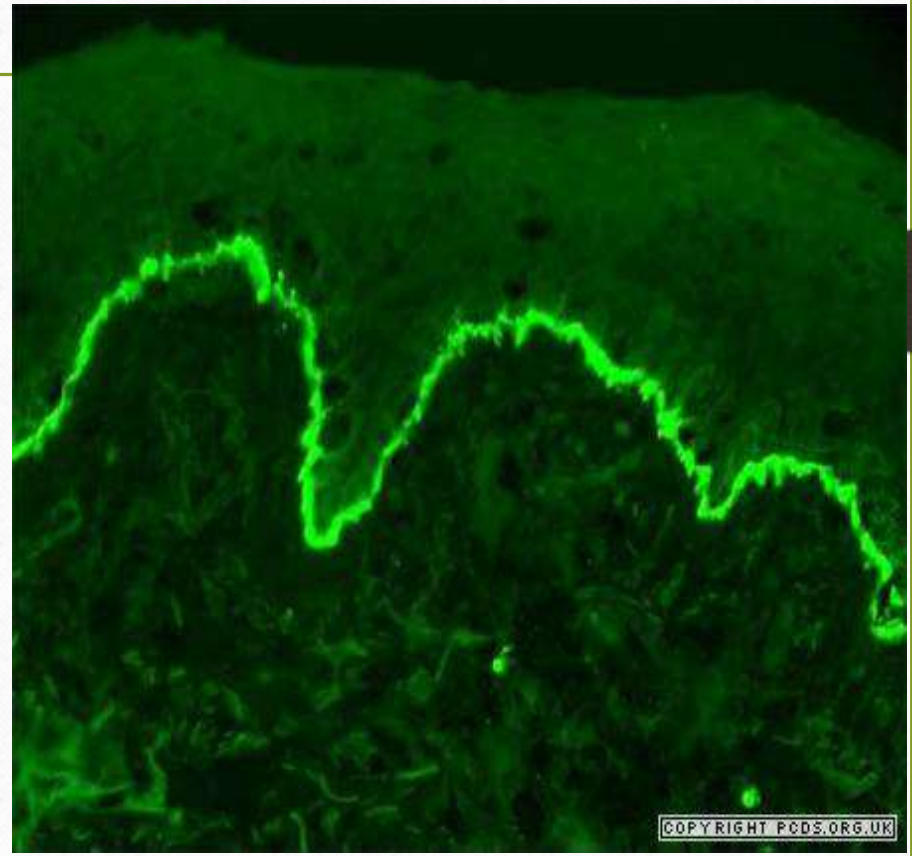
2-Bullous pemphigoid:

Acquired blistering disorder with autoimmune basis.

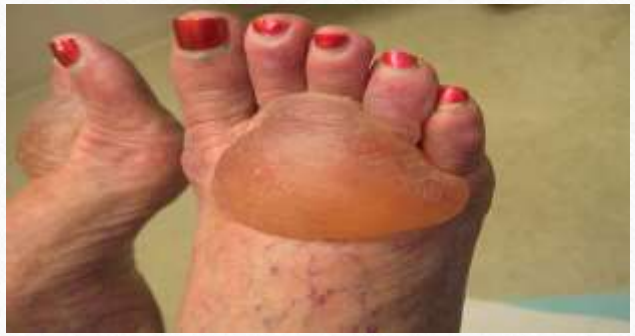
- Pathogenesis

Blistering is triggered by linear deposition of IgG antibodies in epidermal basement membrane.

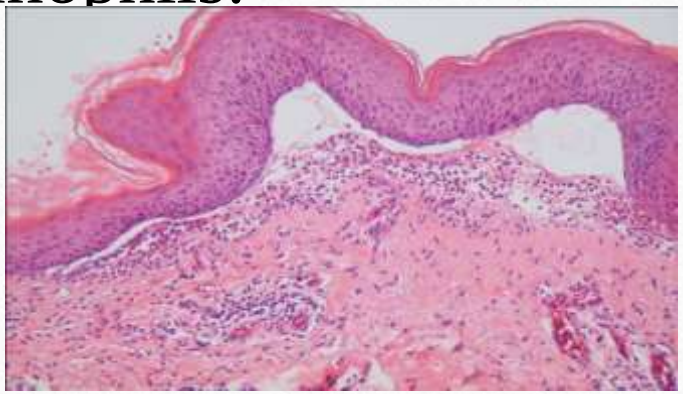
Deposition of IgG antibody detected by direct immunofluorescence as linear band outlining the subepidermal basement membrane zone.



- Morphology: Grossly:



- Tense bullae filled with clear fluid.
- Subepidermal nonacantholytic blisters.
- Perivascular infiltrate of lymphocytes & eosinophils.
- Superficial dermal edema.
- Basal cell vacuolization gives rise to fluid-filled blister.

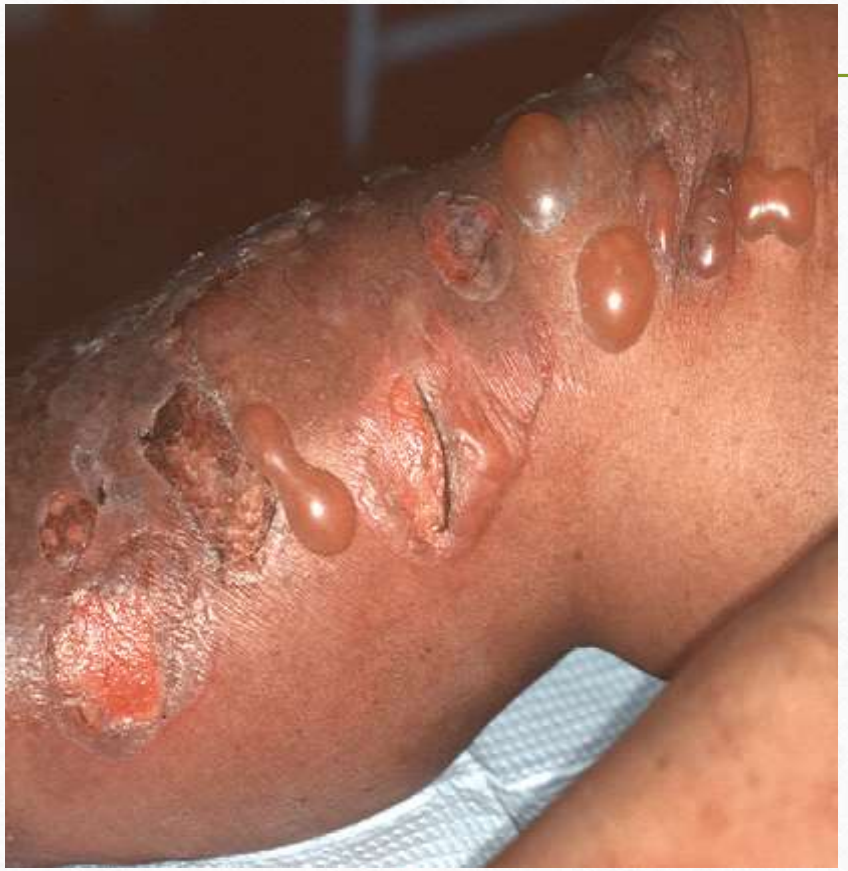


- Blister roof consists of full thickness with intact intercellular junctions so epidermis not rupture easily.

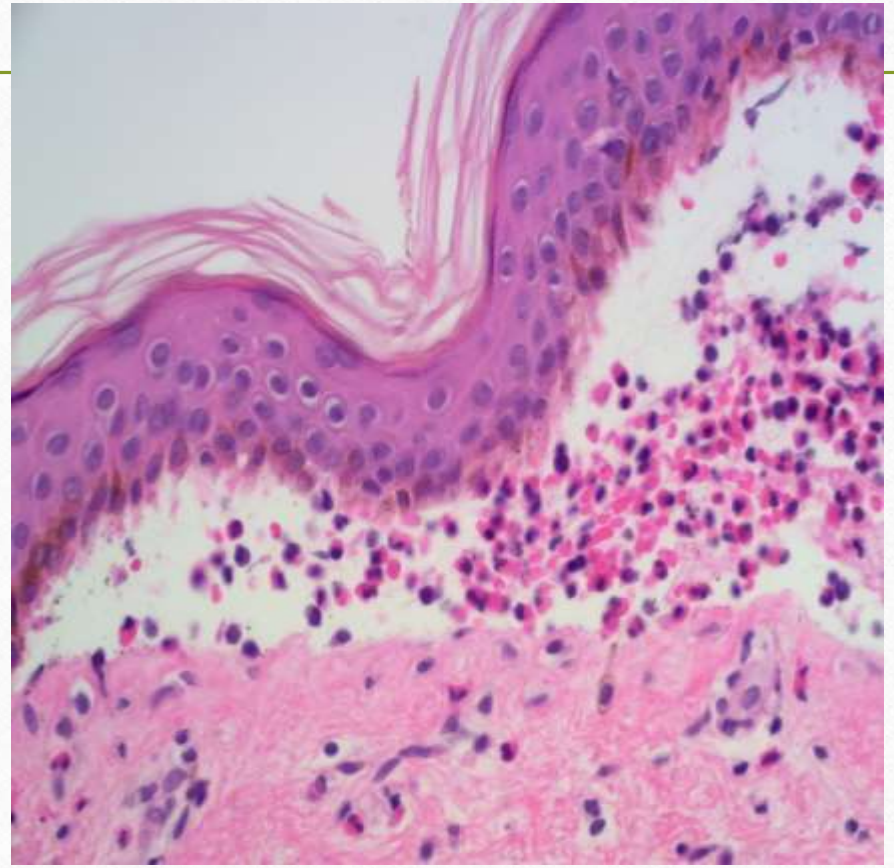
(Key distinction from blisters in pemphigus)

Bullous pemphigoid.

Gross appearance of tense, fluid filled blisters.



Subepidermal vesicle with inflammatory infiltrate rich in eosinophils.



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