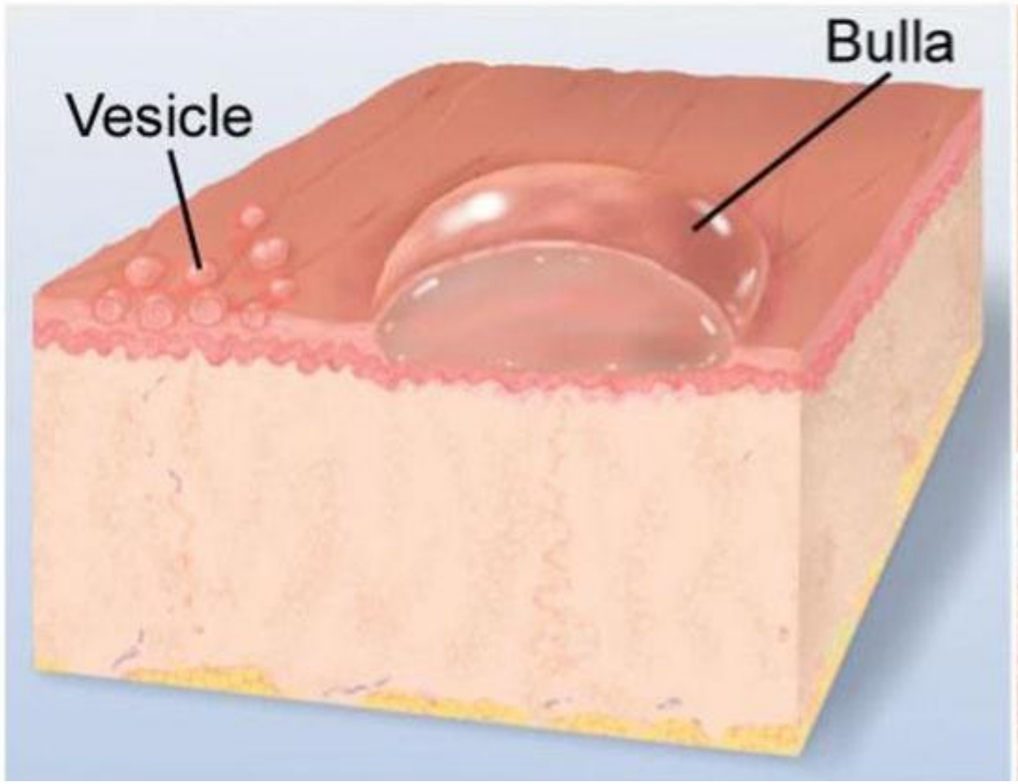
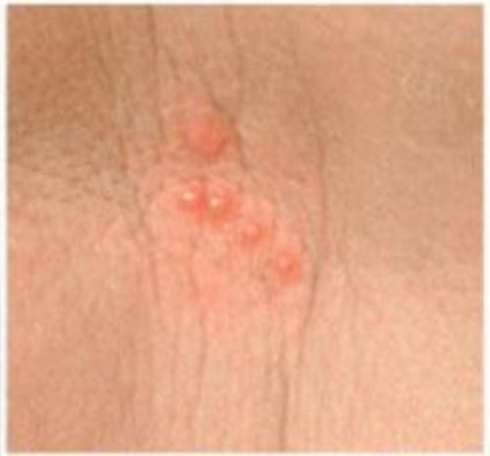
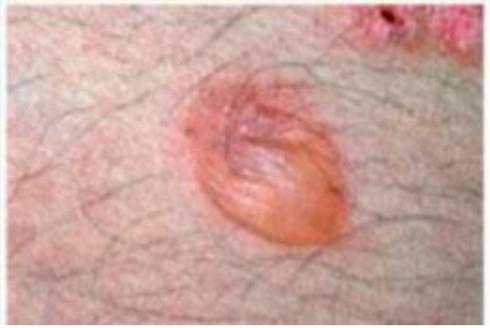
Blistering Disorder

Anas Mustafa, Amr Abdullah





Vesicle **< 0.5 cm**

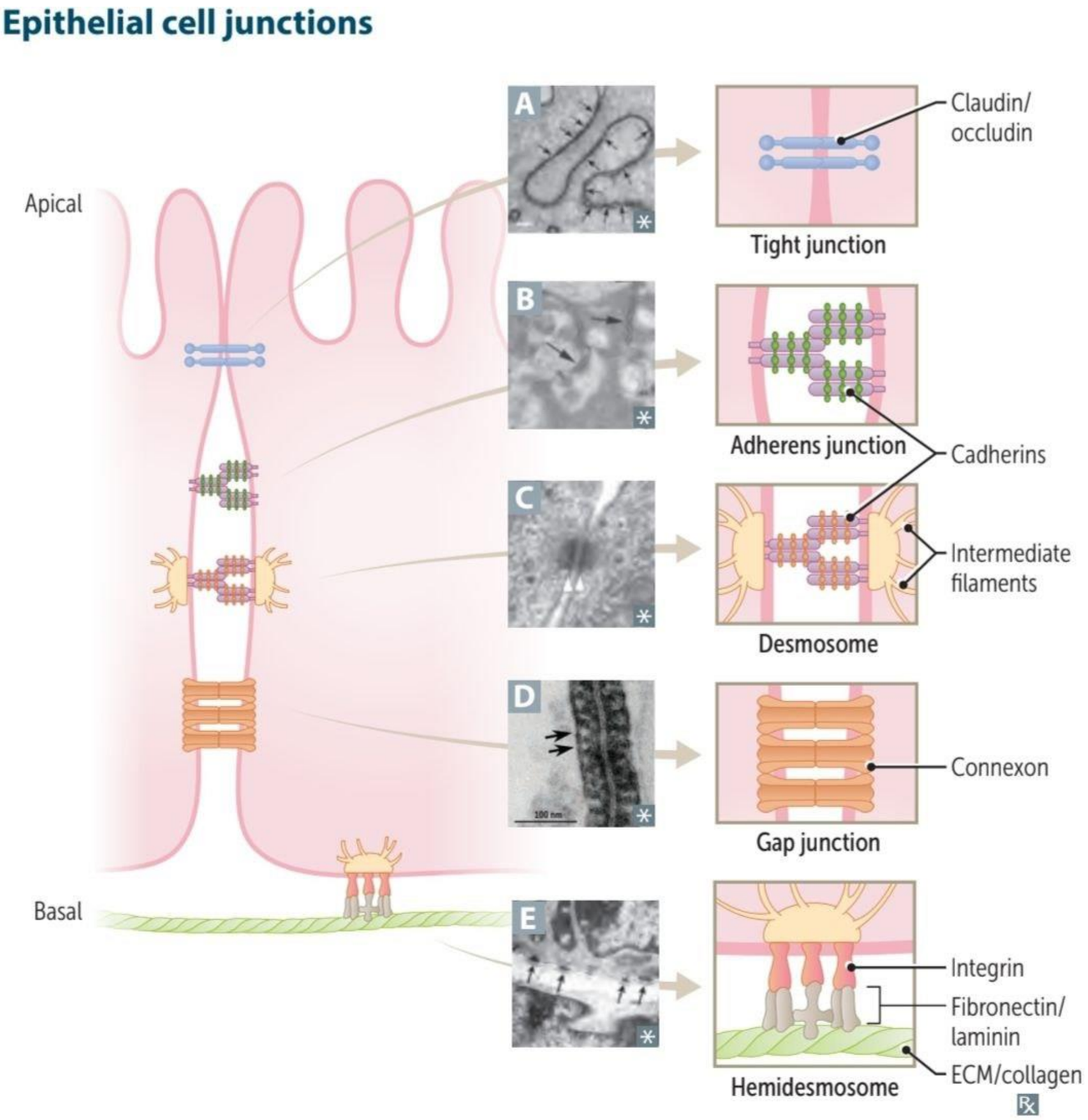


Bulla **> 0.5 cm**

A blister is a circumscribed collection of clear fluid in the skin.

Based on etiology:

- Destruction
- **Loss of adhesion (autoimmune)**
- Oedema
- Inflammation
- Metabolic
- Genetic



Pemphigus and Pemphigoid

- Pemphigus: intraepidermal (Desmosomes)
  - **Pemphigus Vulgaris**
  - **Pemphigus foliaceus**
  - **Para-neoplastic pemphigus**
  - **Pemphigus erythematosus**
  - **Drug induced Pemphigus**

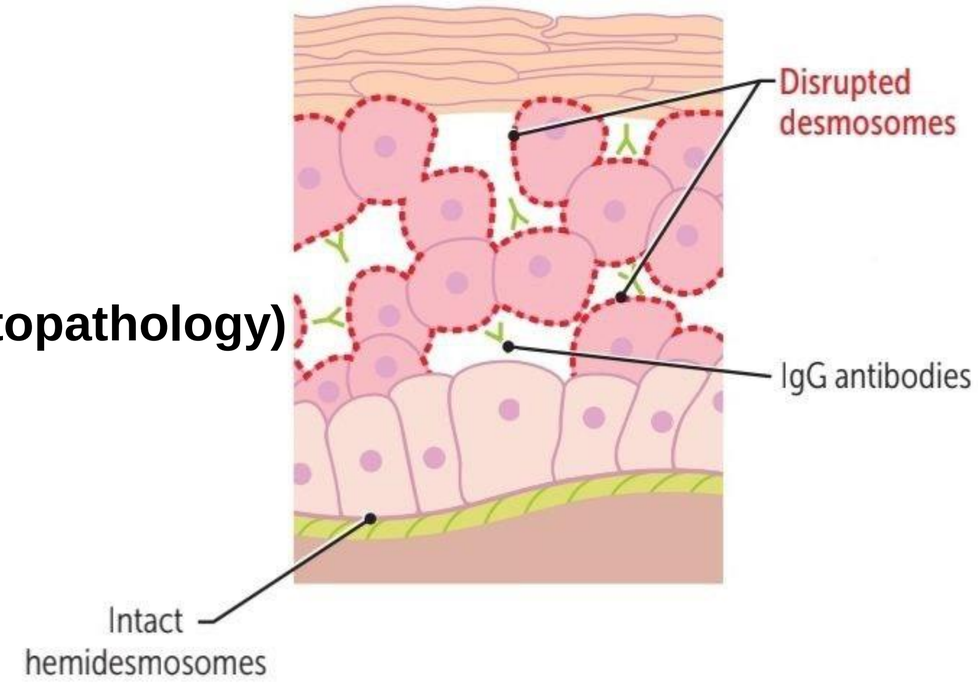
- Pemphigoid: sub epidermal (hemidesmosomes)
  - **Bullous pemphigoid**
  - **Dermatitis Herpetiformis**
  - **Pemphigoid Gestationis (Herpes gerstationis)**
  - **Linear IgA**
  - **Localized/Cicatricial/Mucous membrane pemphigoid**
  - **IgA Mediated Bullous Dermatoses**

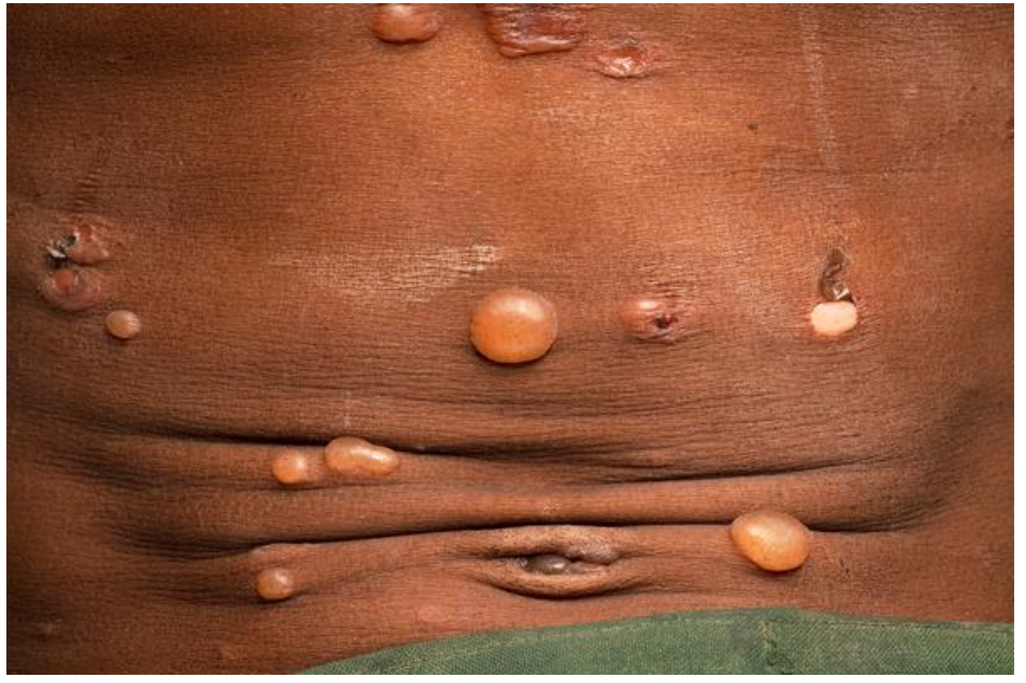
- Pemphigoid like disorder: Epidermolysis Bullosa

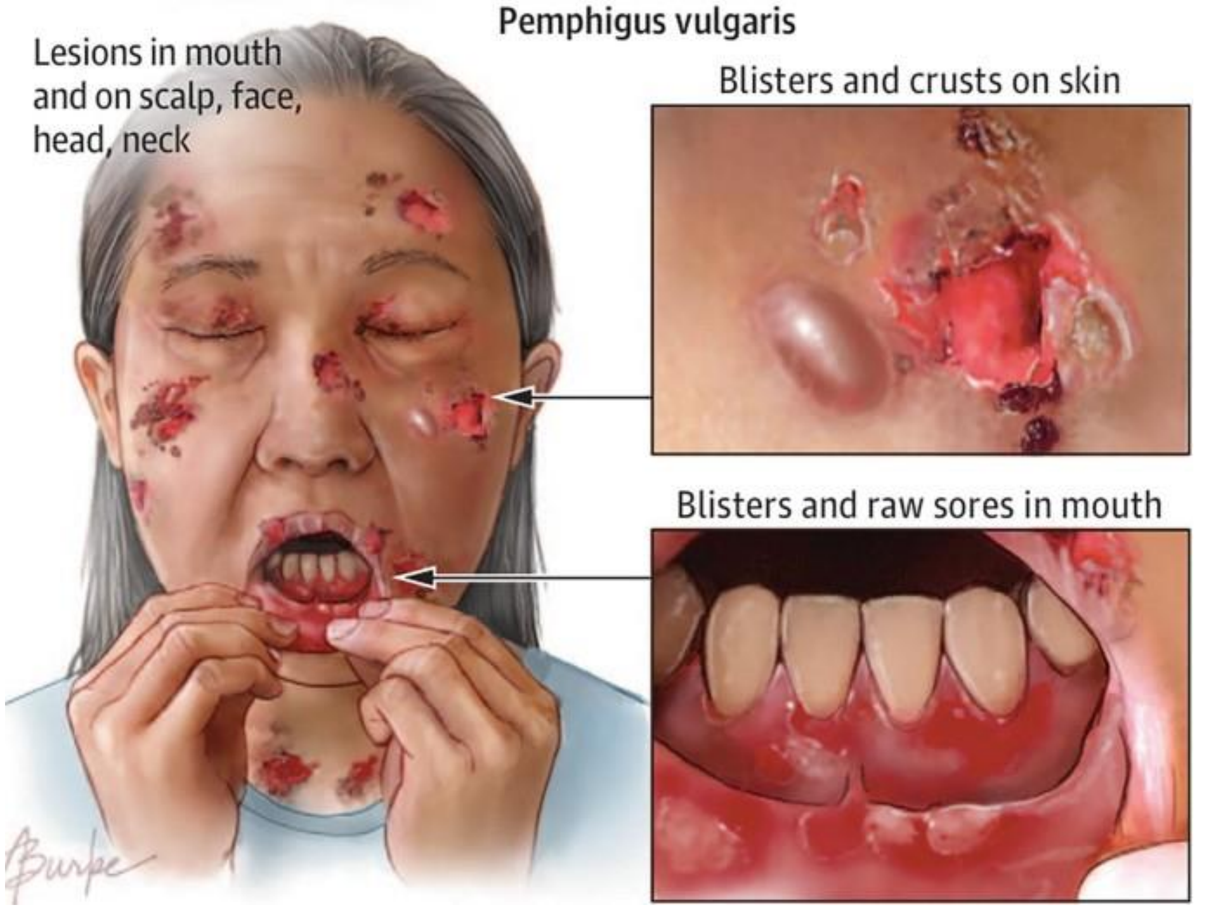
Pemphigus

Pemphigus Vulgaris

- **Autoantibodies (IgG) directed against desmoglein 3±1.**
- **Presents with painful flaccid bullae preceded by erosions in the oral mucosa in most patients.**
- **Affects middle aged or elderly**
- **Fatal and heals with scaring**
- **Positive Nikolsky and Asboe-Hansen signs**
- **Acantholysis, Tombstone cells and intraepidermal cleavage (histopathology)**
- **In IF: net-like intracellular IgG**



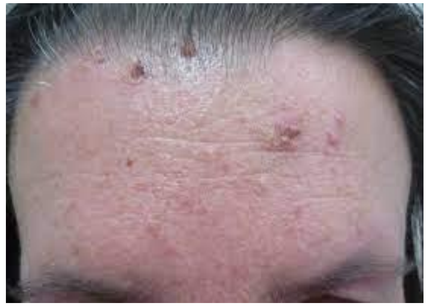



Pemphigus vulgaris
Lesions in mouth and on scalp, face, head, neck
Blisters and crusts on skin
Blisters and raw sores in mouth
Burpe

Pemphigus Foliaceus and Paraneoplastic Pemphigus

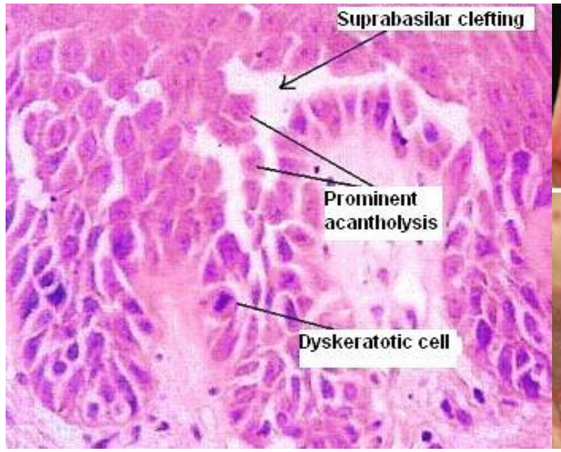
PF:

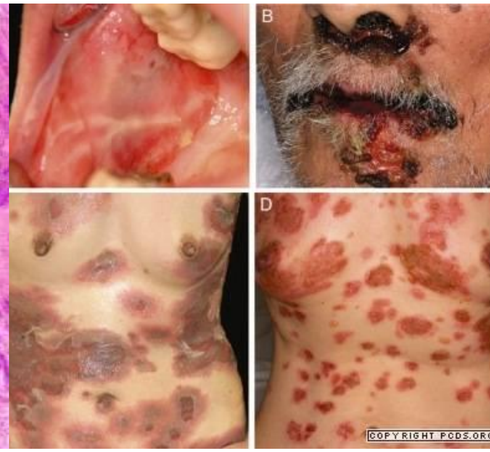
- **Middle aged**
- **Flaccid small bullae on trunk, face and scalp**
- **Rapidly erode and crust**
- **Can induced by some drugs such as NSAIDs**



PNP:

- **An autoimmune blistering disorder associated with occult or overt neoplasm**
- **Most commonly B-cell lymph-proliferative disorders, thymoma, sarcoma and others**
- **Autoantibodies against desmosomes and hemidesmosomes in epidermis and respiratory epithelium**
- **Painful mucosal ulceration and blisters on trunk and extremities.**
- **Prognosis is poor and death usually occurs from respiratory failure.**
- **Histo: Acantholysis, dyskeratosis and suprabasilar clefting.**
- **IDIF using mouse intestinal epithelium is positive.**



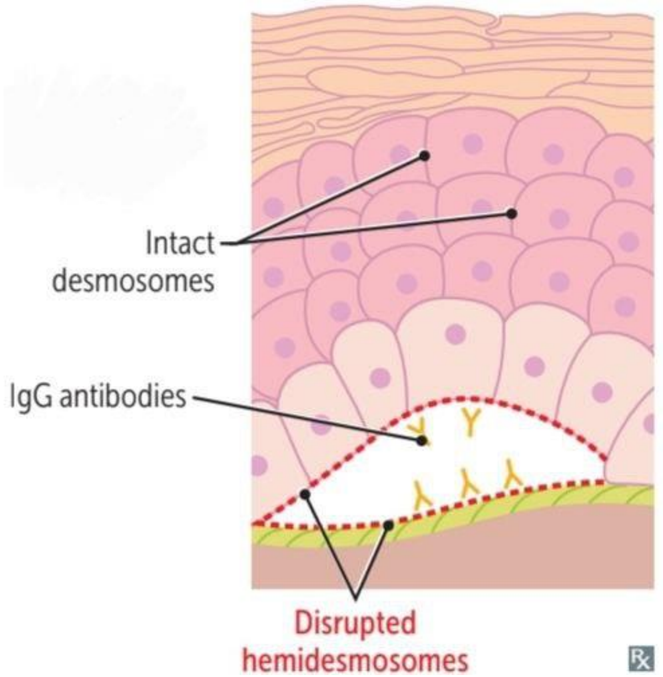


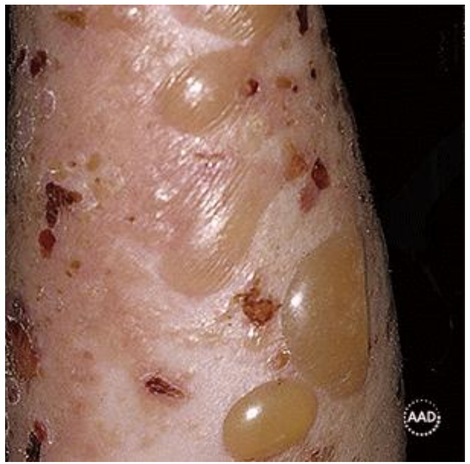
Pemphigoids

Bullous Pemphigoid

- Most common autoimmune blistering skin disease
- Most common in elderly, post-vaccination(children).
- Autoantibodies (IgG) against hemidesmosomes
- Associated with CVD and other neurologic diseases such as: dementia, PD and MS.
- Tense blisters on lower part of abdomen, groin and flexor surfaces (Nikolsky’s sign is negative)
- It starts on a background of erythema or urticaria
- No Oral mucosal involvement
- Itchy and heals without scarring

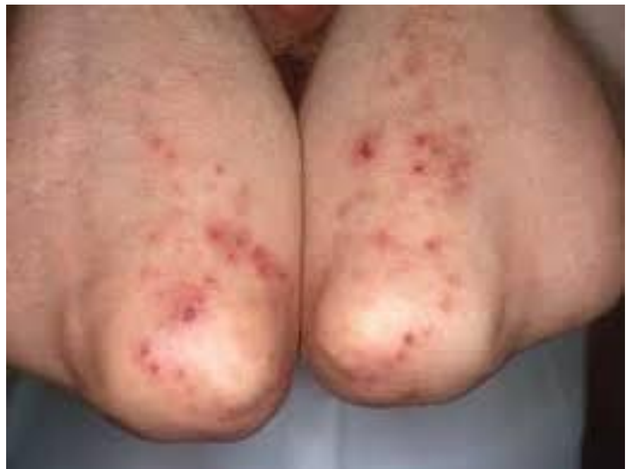
Diagnosis:
Histo: Eosinophils within blisters and at DEJ
IF: linear pattern of IgG and C3



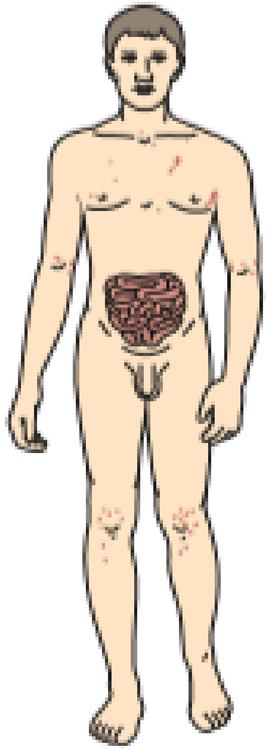


Dermatitis Herpetiformis

- Autoimmune deposition of IgA at the tips of dermal papillae
- Cross-reaction of IgA against epidermal transglutaminase
- Strongly associated with celiac disease (gluten free diet is helpful)
- Blisters with erythema bilaterally and symmetrically on extensor surfaces, upper back and buttocks.
- Histo: Microabscesses at dermal papillae tips

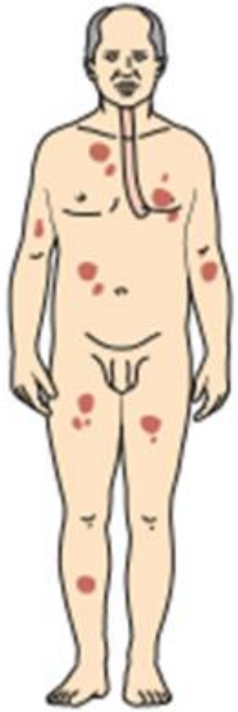


Dermatitis herpetiformis



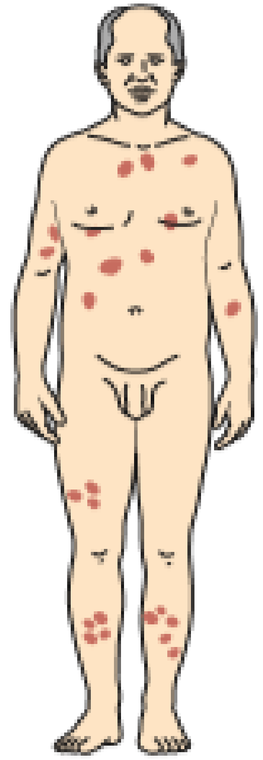
- Middle age
- Severe itching
- Burning
- Vesicles
- Gluten-sensitive enteropathy
- Small bowel lymphoma (rare)

Pemphigus



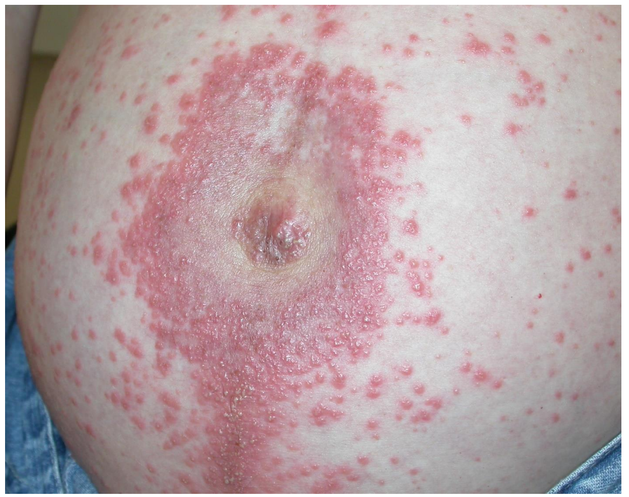
- Elderly **+ Middle aged**
- Oral lesions
- Esophageal erosions
- Flaccid blisters
- No itch
- Nikolsky's sign (+)
- Neoplasia associated (rare) paraneoplastic pemphigus

Pemphigoid



- Elderly
- Itch
- Urticarial plaques
- Blisters
  - Tense
  - Palms and soles
- Nikolsky's sign (-)

Pemphigoid (herpes) Gestationis



- Happens in pregnancy (2nd and 3rd trimester)
- Reoccurs with subsequent pregnancies with more severity
- Acute onset, intensely itchy
- Papules and blisters spreads from periumblical area outwards
- Disappears 1-2 months after delivery and heals with no scars but may cause hyperpigmentation
- 10% of Newborns have cutaneous manifestation with increased prematurity
- Characteristic finding: Peripheral eosinophilia

Epidermolysis bullosa

Epidermolysis Bullosa

- They are genetic disorders being AD or AR

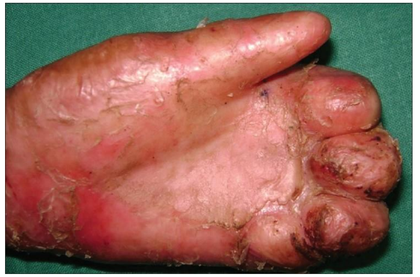
- Characterised by blister formation in response to mechanical trauma

- Three disorders:

A. Epidermolysis bullosa simplex: AD, Split through epidermal basal cells and heals without scarring

B. Junctional Epidermolysis bullosa: AR, Split through basement membrane, heals with atrophy

C. Dystrophic Epidermolysis: AD/AR, split through upper dermis, leaves scars and atrophies (might cause mitten deformity)



Management

- Sterile needle should be used to deflate the blister without de-roofing.
- Using non adherent dressing and liquid paraffin for erosions.
- Immunosuppressive treatment is required.
- Bollus pemphigoid: topical potent steroids, systemic corticosteroids or immunomodulatory agents such as AZA and MTX can be used.
- Severe forms of pemphigoid gestationis: systemic corticosteroids.
- As for oral disease, we can use topical steroids + tetracycline mouth wash.
- Ophthalmic disease: mycophenolatemofetil, drops of steroids and mitomycin.
- Pemphigus vulgaris with Rituximab.
- DH with gluten-free diet, dapsone and sulphapyridine.

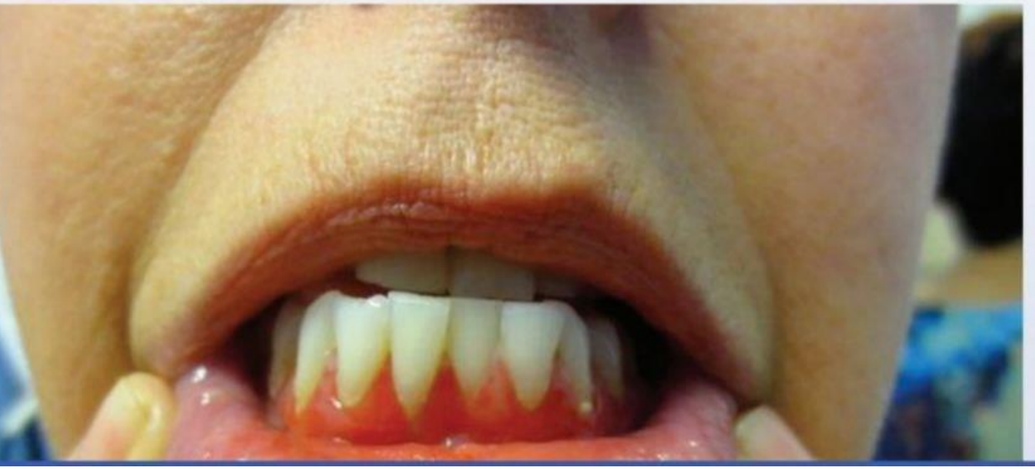
A 36-year-old man comes to the office due to a 2-month history of a pruritic rash over the elbows and knees. The patient has been using skin emollients, but the lesions have not improved. He also has a prolonged history of episodic abdominal discomfort, flatulence, and voluminous greasy stools. Cardiopulmonary examination is normal. The abdomen is soft and nontender. Skin examination shows a papulovesicular skin rash in groups with erosion and excoriations. Which of the following is most likely to be seen in this patient?

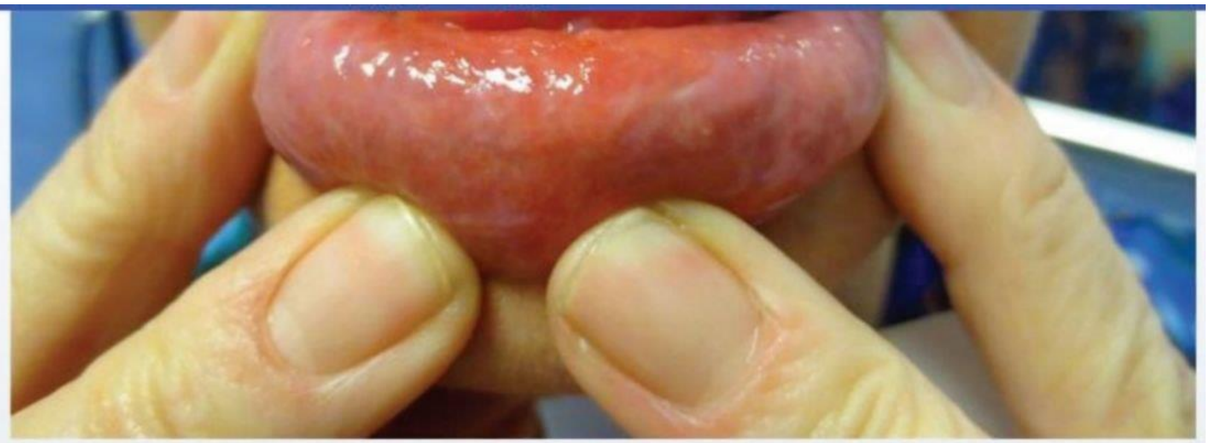
- A. Crypt abscesses in colonic mucosa
- B. IgG-mediated skin disruption
- C. Increased intestinal intraepithelial lymphocytes
- D. Increased urinary porphyrins
- E. Insulin resistance

A 14-month-old girl is brought to the clinic by her parents due to sores on her feet. Since she took her first steps 3 months ago, she has had blisters involving the soles of the feet, which subsequently break down and heal slowly. The patient had failure to thrive as an infant due to frequent oral ulcerations but otherwise has been healthy and has achieved normal developmental milestones. Examination shows small bullae at the soles with faint erythema and no scarring. Biopsy taken at the margin of a blister shows an intraepidermal cleavage plane. Which of the following most likely contributes to the pathogenesis of this patient's condition?

- A. Autoantibodies against tissue transglutaminase
- B. Impaired keratin filament assembly
- C. Loss of function mutation in filaggrin
- D. T-cell–mediated hypersensitivity reaction

an comes to the office with a 2-month history of oral lesions that cause pain with
owing food. The patient did not seek treatment as she thought they would "go away on
lesions have persisted. On examination, there are erosions of the buccal and gingival
in the image below. There are several flaccid bullae with erosions scattered over her
spread laterally with pressure, and traction on seemingly uninvolved skin produces
ibodies directed against which of the following structures are most likely responsible for





- A. Basement membrane
- B. Connexin proteins
- C. Desmosomes
- D. Hemidesmosomes
- E. Tissue transglutaminase

References:

- ABC of Dermatology, sixth edition.
- First aid for the USMLE step 1.
- All pictures were taken from Google with no copyright permission required.