



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

Allergies and immune mediated disease II



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Why is this important?

- Many are common problems
- Others important as may be life threatening



Transient lingual papillitis

- Aetiology and pathogenesis

- ✓ Unknown

- ? Local irritation

- ? Stress

- ? GI disease

- ? Hormonal

- ? Infection

- ? Hypersensitivity



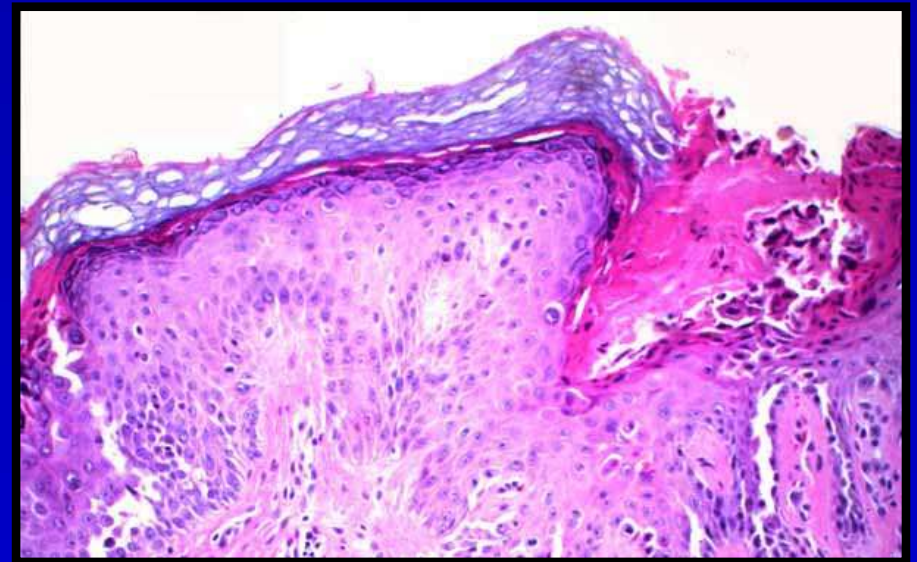
Transient lingual papillitis

- Clinical features



Transient lingual papillitis

- Histopathology
 - ✓ Hyperkeratosis or ulceration
 - ✓ Small vascular channels in underlying lamina propria
 - ✓ Inflammatory cell infiltrate



Transient lingual papillitis

- Treatment
 - ✓ resolves without therapy



Recurrent aphthous stomatitis

- Aetiology and pathogenesis
 - ✓ Idiopathic
 - ✓ Local cell mediated immune response involving CD8+ T-cells, NK cells, macrophages and mast cells.
 - ✓ Genetic predisposition



Recurrent aphthous stomatitis

- Clinical features

- ✓ Minor

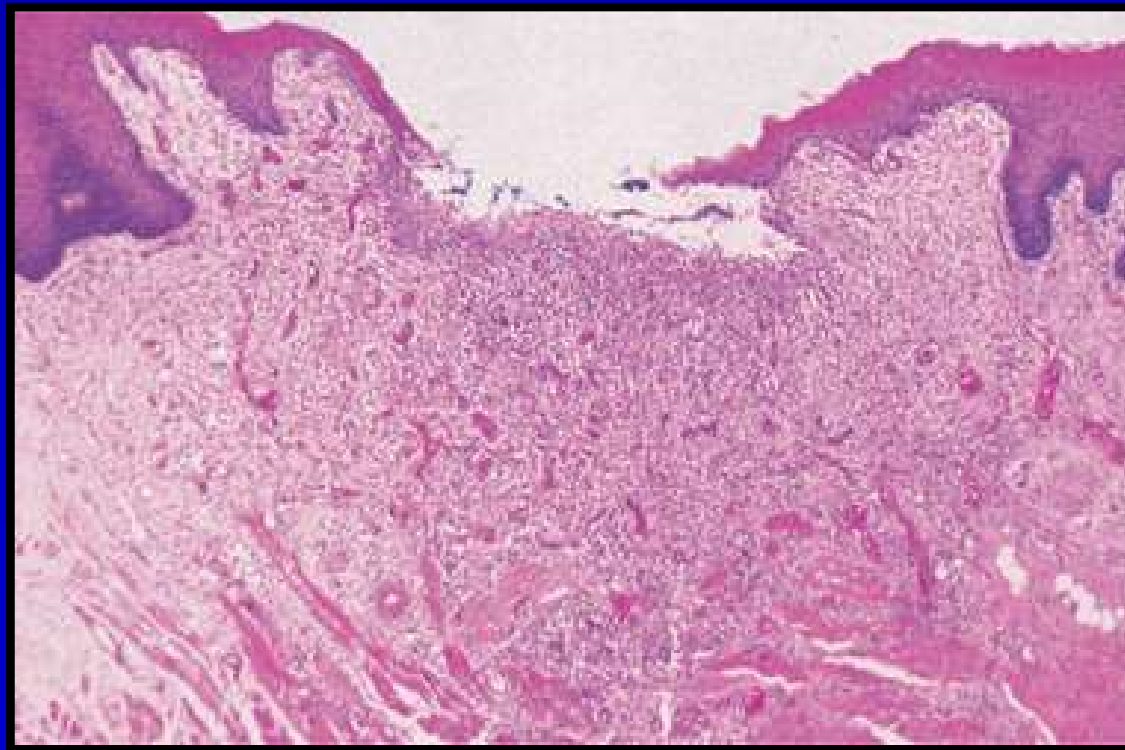
- ✓ Major

- ✓ Herpetiform



Recurrent aphthous stomatitis

- Histopathology



Recurrent aphthous stomatitis

- Differential diagnosis
 - ✓ Behcete's syndrome
 - ✓ Celiac disease
 - ✓ Cyclic neutropenia
 - ✓ Nutritional deficiencies
 - ✓ Immunodeficiency
 - ✓ Inflammatory bowel disease
 - ✓ Other



Recurrent aphthous stomatitis

- Treatment
 - ✓ Remove predisposing factors
 - ✓ Good OH
 - ✓ Medication
 - ✓ Corticosteroids
 - ✓ Tetracycline
 - ✓ Systemic immuno-modulators



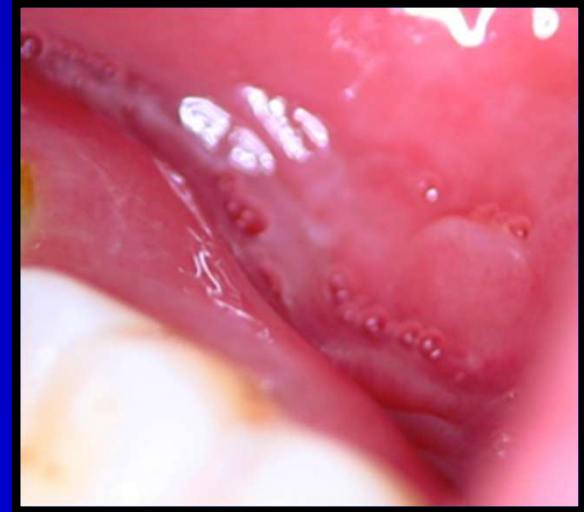
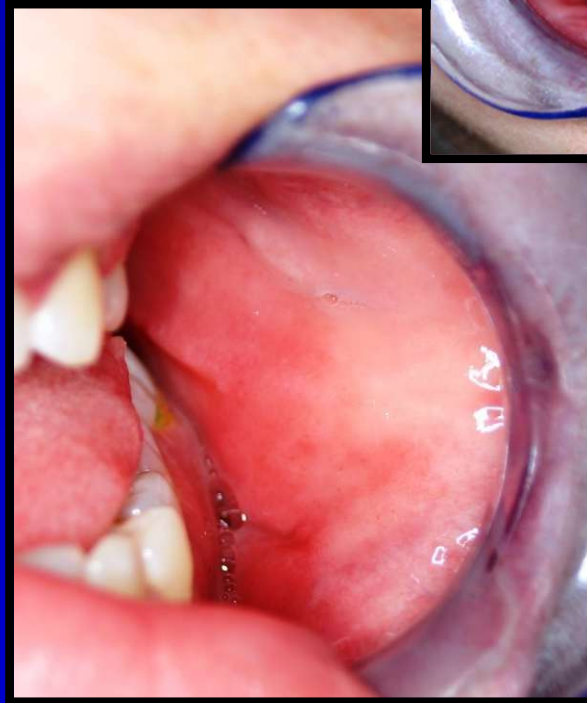
Orofacial granulomatosis

- Aetiology and pathogenesis
 - ✓ Unknown
 - ✓ A delayed type of hypersensitivity reaction



Orofacial granulomatosis

- Clinical features



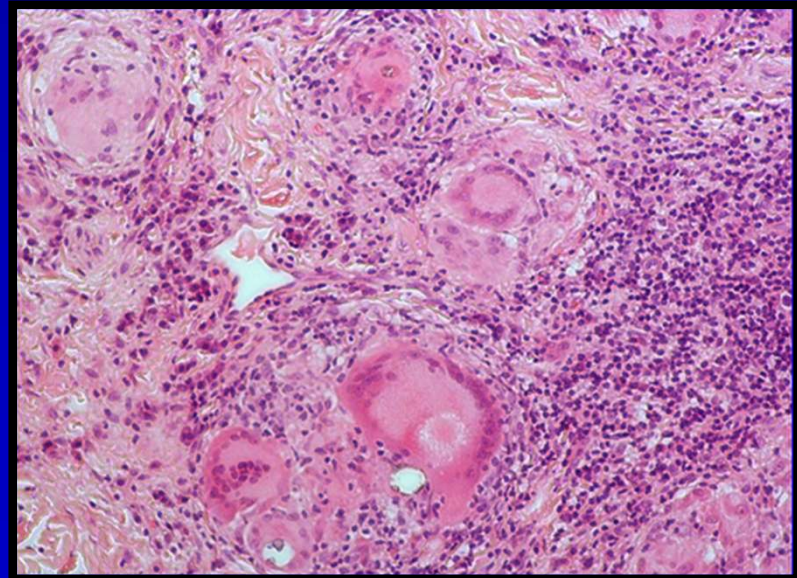
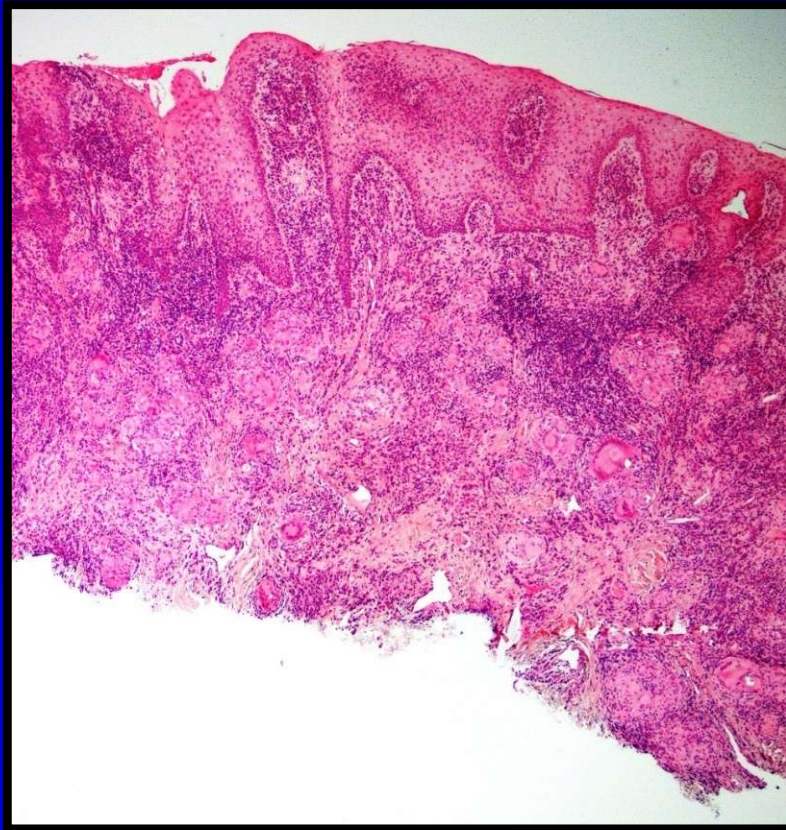
Orofacial granulomatosis

- Clinical features



Orofacial granulomatosis

- Histopathology



Orofacial granulomatosis

- Differential diagnosis
 - ✓ Idiopathic OFG
 - ✓ Crohn's Disease
 - ✓ Sarcoidosis
 - ✓ Infections
 - ✓ Food or Contact Allergies
 - ✓ Other



Orofacial granulomatosis

- Treatment
 - ✓ Address cause
 - ✓ Corticosteroids
 - ✓ Other



Wegener's granulomatosis

- Aetiology and pathogenesis
 - ✓ Unknown
 - ✓ Abnormal immune reaction



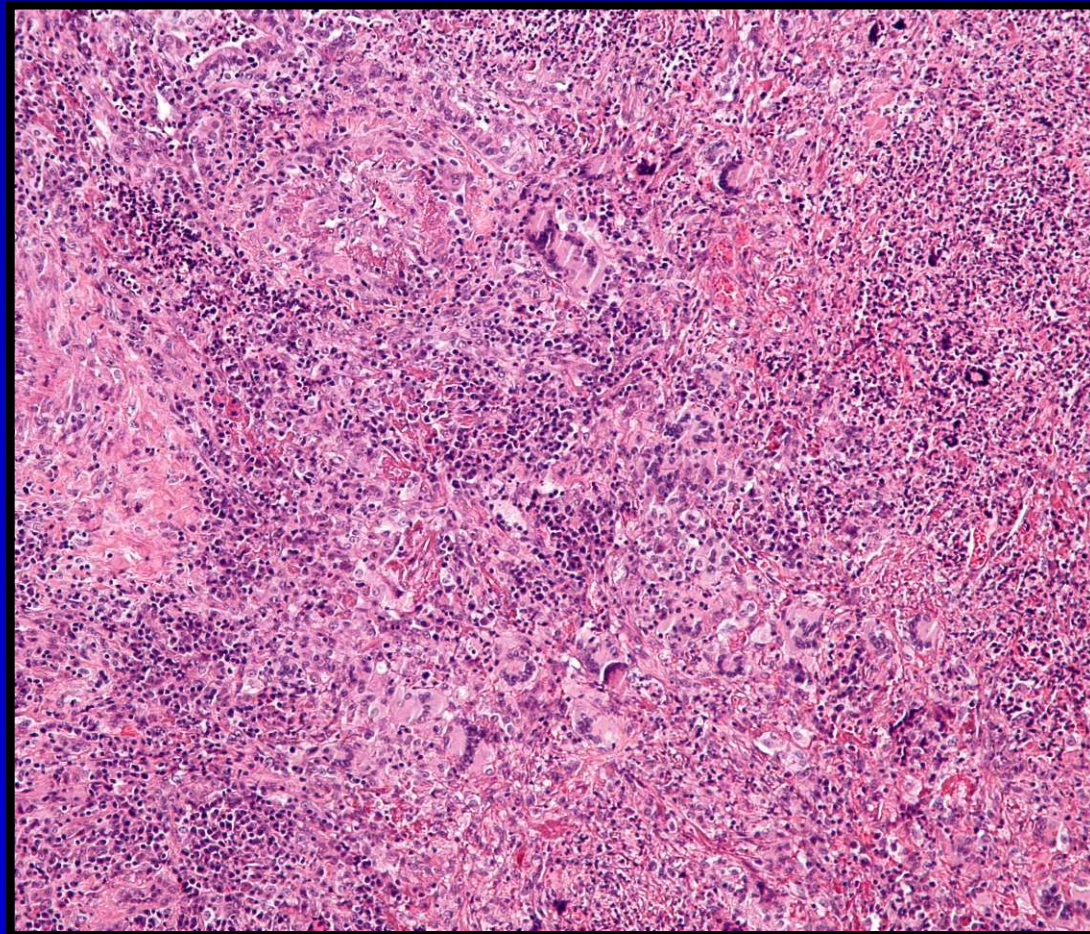
Wegener's granulomatosis

- Clinical features



Wegener's granulomatosis

- Histopathology



Wegener's granulomatosis

- Diagnosis
 - ✓ Histopathology
 - ✓ ANCA (*anti-neutrophil cytoplasm antibodies*)



Wegener's granulomatosis

- Treatment
 - ✓ Oral prednisolone
 - ✓ Cyclophosphamide



Perioral dermatitis

- Aetiology and pathogenesis

- ✓ Idiosyncratic response to a variety of exogenous substances

- Tartar control toothpaste

- Bubble gum

- Cosmetic products



- Some produce irritant / allergic contact dermatitis; others induce proliferation of skin flora*



Perioral dermatitis

- Clinical features



Perioral dermatitis

- Histopathology
 - ✓ Chronic lymphohistiocytic dermatitis
 - ✓ Peri-follicular granulomatous inflammation



Perioral dermatitis

- Treatment
 - ✓ Oral tetracycline or erythromycin
 - ✓ Topical metronidazole or erythromycin



Allergic contact stomatitis

- Aetiology and pathogenesis
 - ✓ Hypersensitivity to allergens is commonly observed in the oral cavity
 - ✓ Numerous substances may be involved



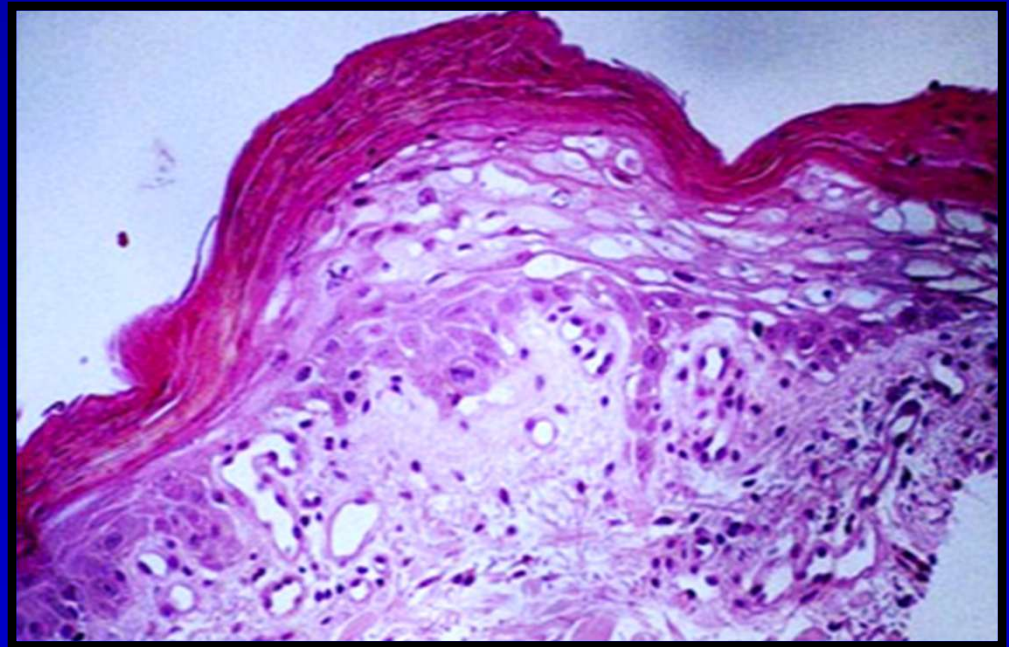
Allergic contact stomatitis

- Clinical features
 - ✓ Erythema
 - ✓ Oedema



Allergic contact stomatitis

- Histopathology
 - ✓ Spongiosis
 - ✓ Engorged and dilated blood vessels
 - ✓ Lymphocytes
 - ✓ Plasma cells



Contact stomatitis from cinnamon



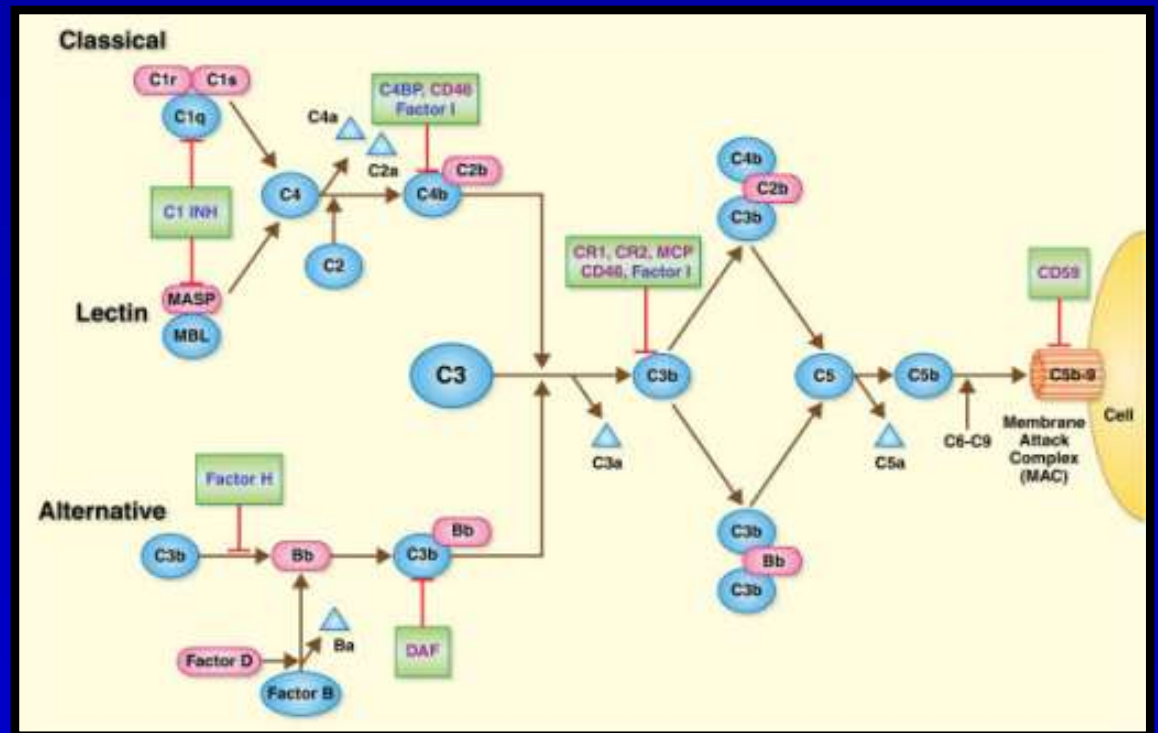
Allergic contact stomatitis

- Treatment
 - ✓ Eliminate allergen
 - ✓ Antihistamine
 - ✓ Topical corticosteroid



Angioedema

- Aetiology and pathogenesis
 - ✓ Allergic
 - ✓ Drug-induced (non-allergic)
 - ✓ Hereditary (C1 esterase inhibitor deficiency)



Angioedema

- Clinical features



Angioedema

- Diagnosis
 - ✓ History
 - ✓ Serum C3, C4 levels and C1 esterase inhibitor activity



Angioedema

- Treatment
 - ✓ Severe cases: medical emergency – adrenaline
 - ✓ Corticosteroids
 - ✓ Antihistamines
- Prevention important



Erythema migrans

- Also referred to as: *geographic tongue* and *benign migratory glossitis*
- Aetiology and pathogenesis
 - ✓ Common genetic condition of unknown cause
 - ✓ May be associated with other conditions



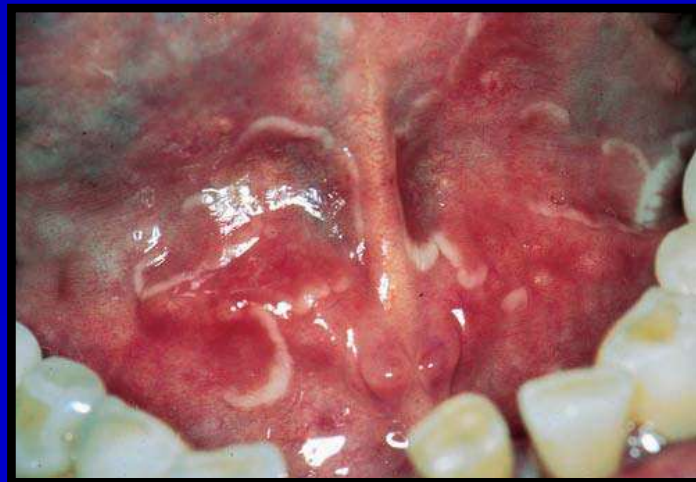
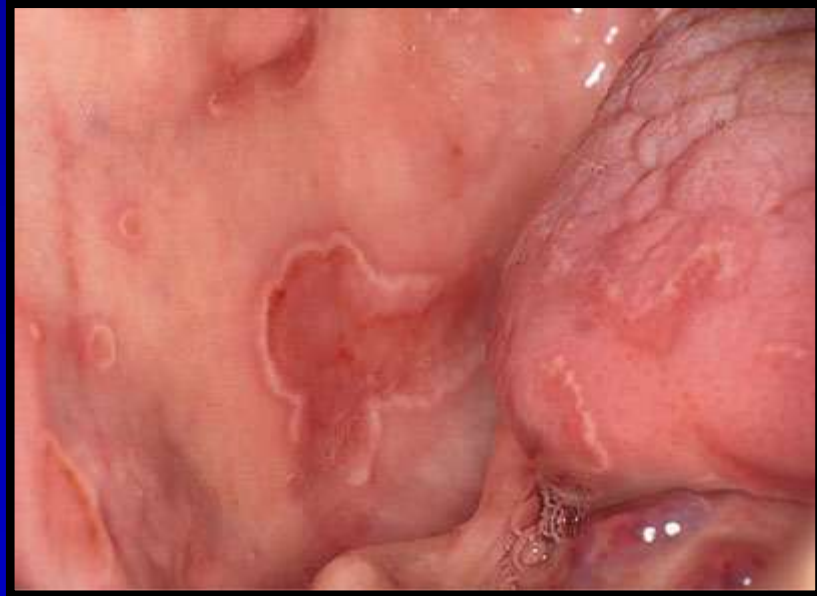
Erythema migrans

- Clinical features

- ✓ Common (2% of US population)
- ✓ F>M
- ✓ More common in young, non-smokers and atopic individuals
- ✓ Usually affects dorsal surface of the tongue
- ✓ Usually asymptomatic
- ✓ May be associated with fissured tongue

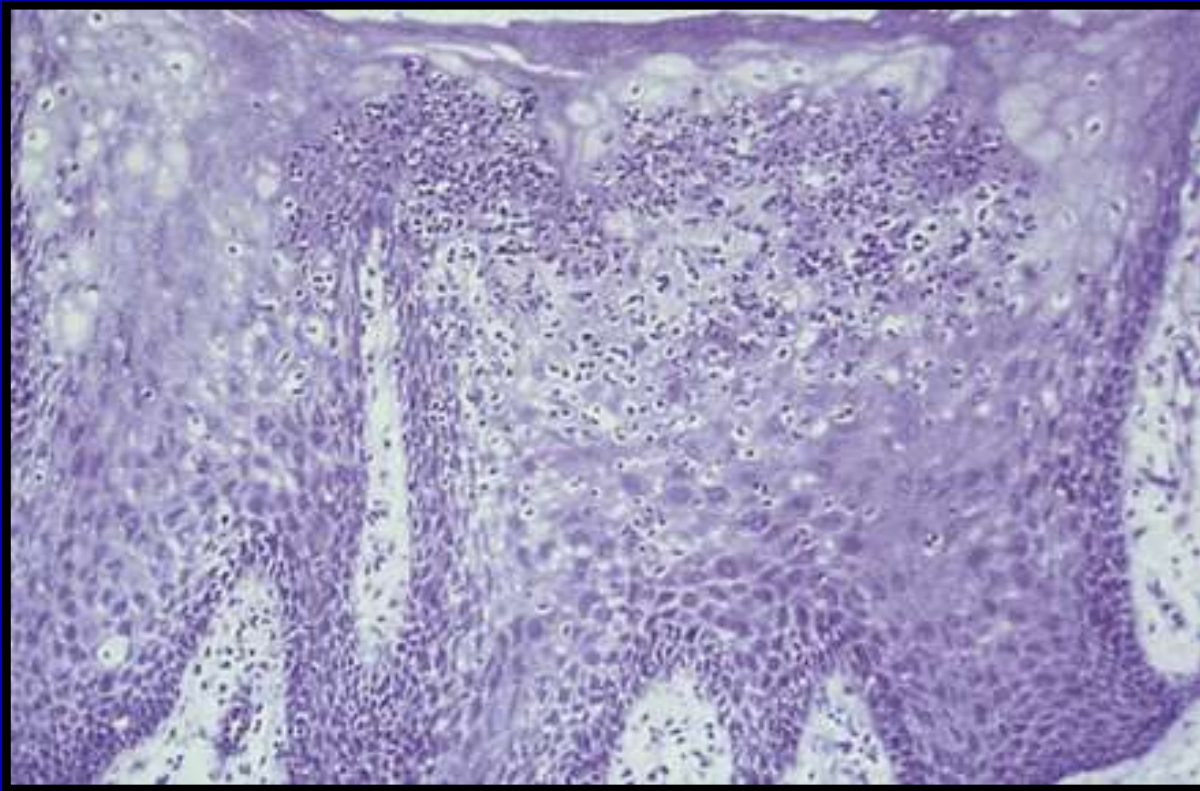


Erythema migrans



Erythema migrans

- Histopathology



Erythema migrans

- Differential diagnosis
 - ✓ Candidiasis
 - ✓ Leukoplakia
 - ✓ Oral lichen planus
 - ✓ Lupus erythematosus



Erythema migrans

- Treatment
 - ✓ Usually none required
 - ✓ Topical corticosteroids for symptomatic cases

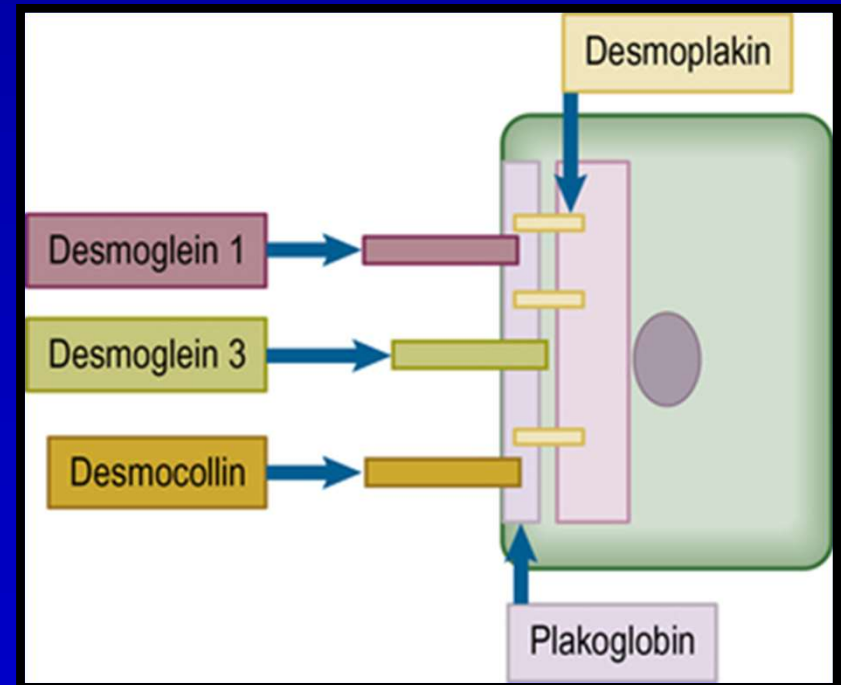
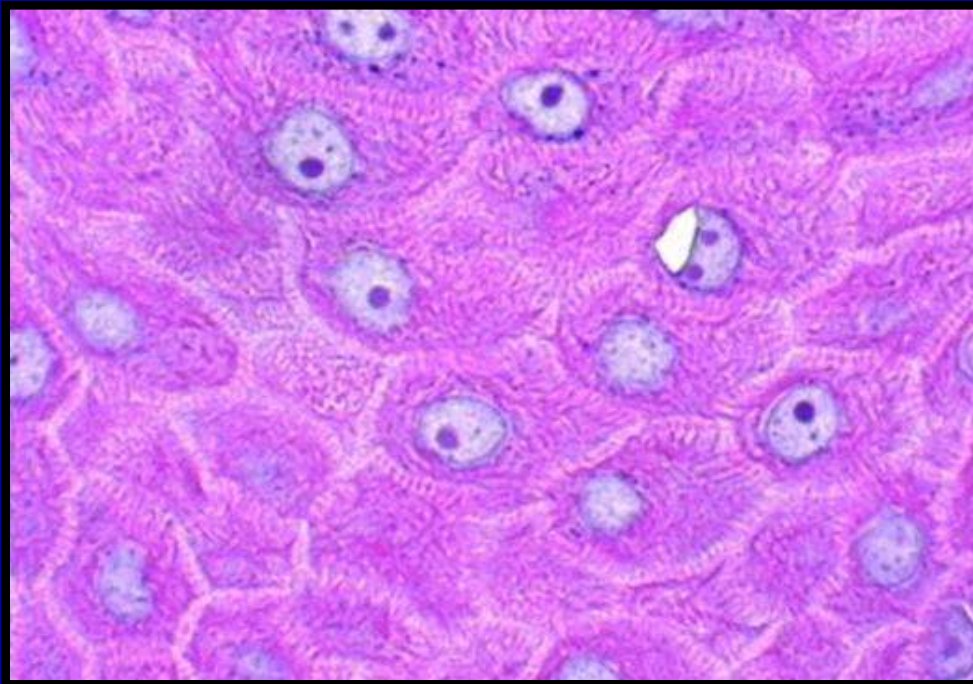


Pemphigus

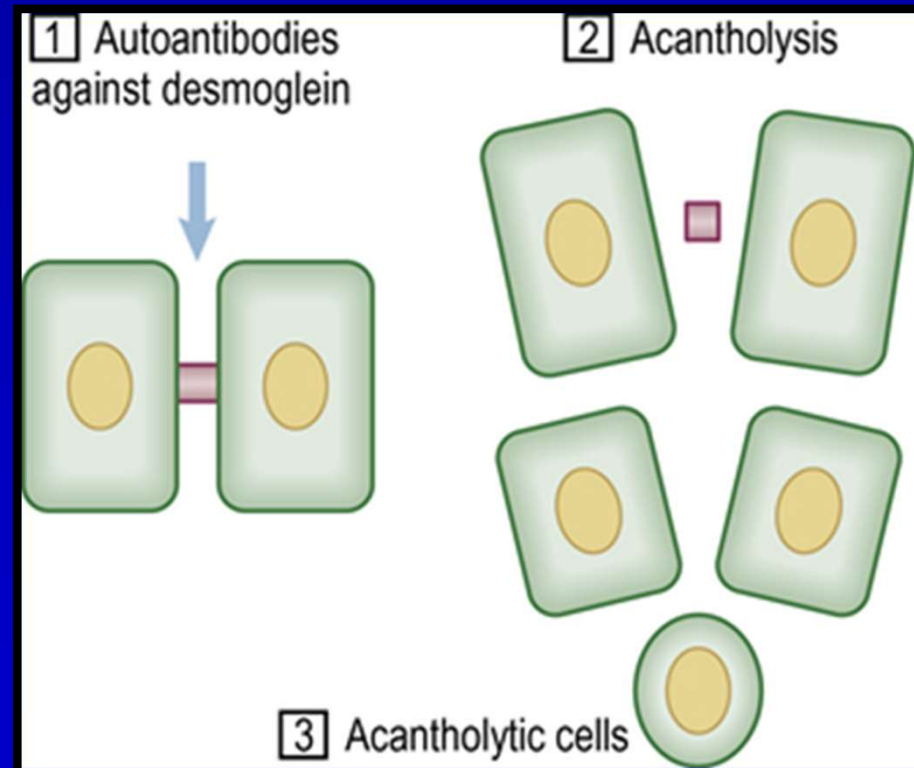
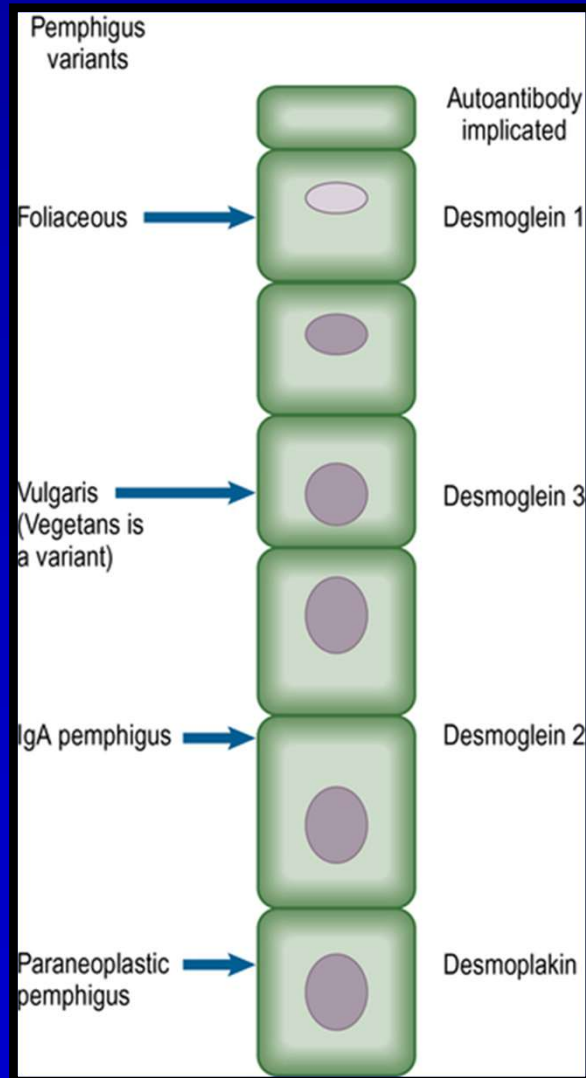
- Aetiology and pathogenesis
 - ✓ Group of chronic autoimmune diseases characterised by epithelial blistering affecting mucocutaneous surfaces
 - ✓ Autoantibodies directed against desmosomes



Pemphigus



Pemphigus



Pemphigus vulgaris

- Clinical features
 - ✓ Most severe form
 - ✓ Middle aged and older individuals
 - ✓ F>M
 - ✓ Individuals of Ashkenazi, Asian or Mediterranean descent
 - ✓ Genetic and other predisposing factors
 - ✓ Oral and skin lesions



Pemphigus vulgaris

- Clinical features

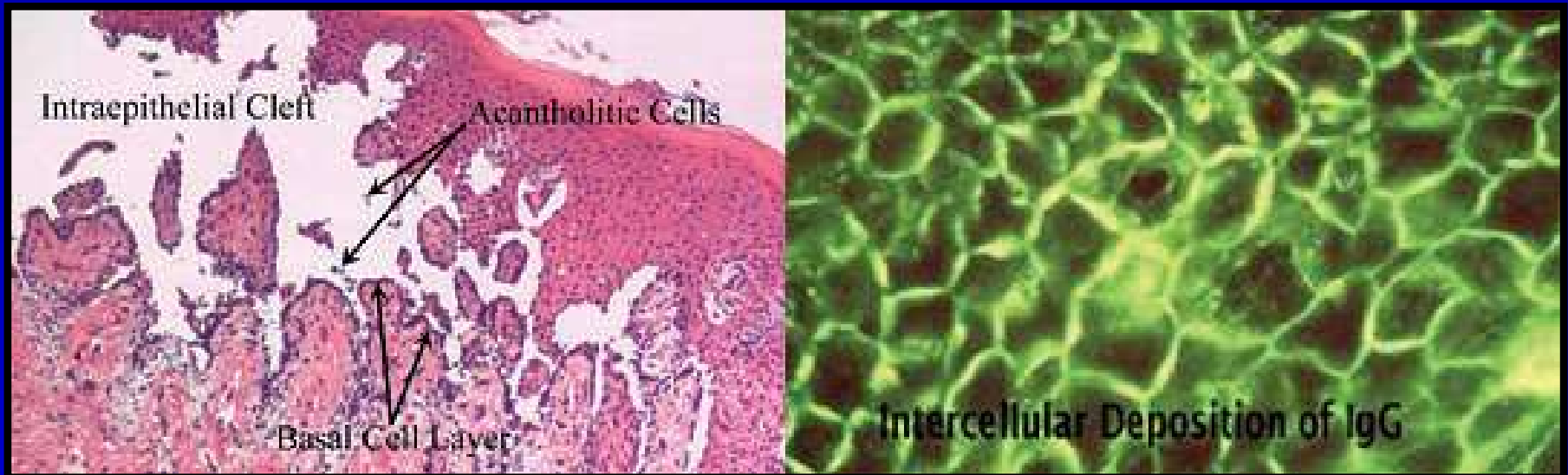


Pemphigus vulgaris



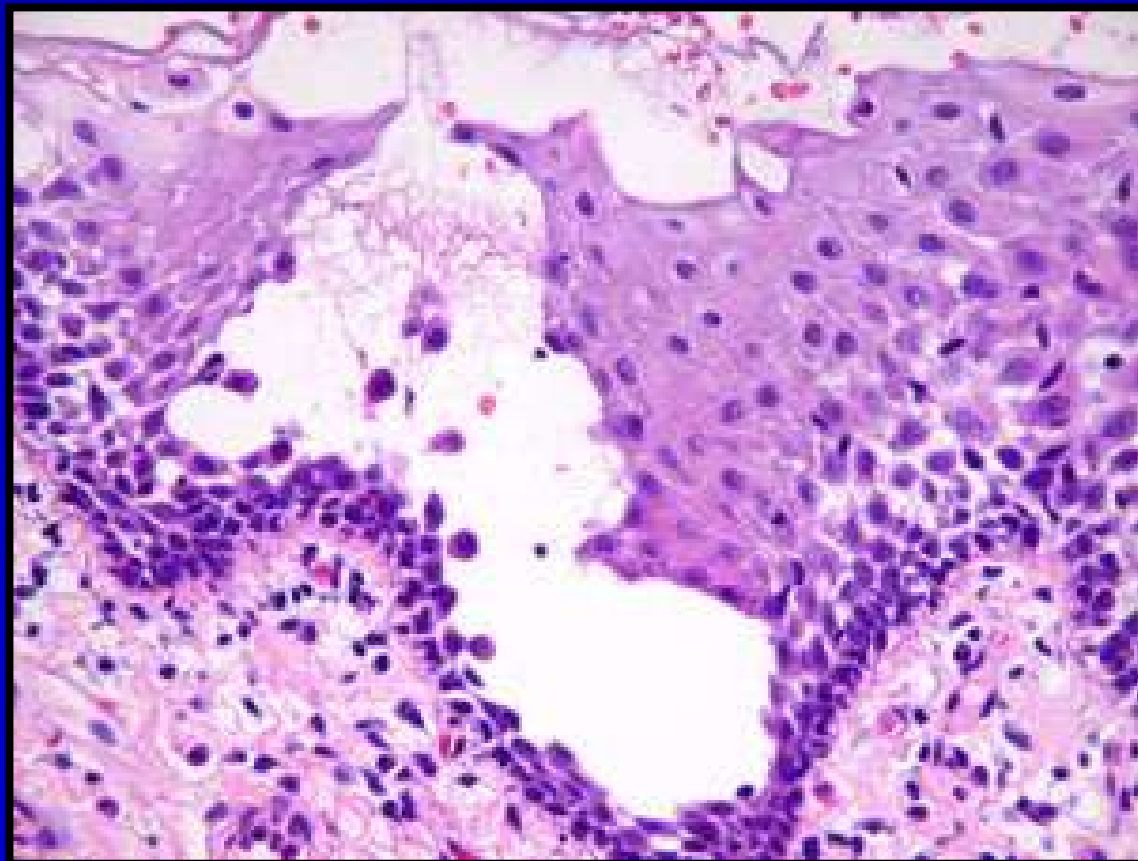
Pemphigus vulgaris

- Histopathology



Pemphigus vulgaris

- Histopathology



Pemphigus vulgaris

- Differential diagnosis
 - ✓ Paraneoplastic pemphigus
 - ✓ Mucous membrane pemphigoid
 - ✓ Erythema multiforme
 - ✓ Oral lichen planus



Pemphigus vulgaris

- Treatment
 - ✓ Corticosteroids
 - ✓ Steroid sparing immuno-suppressants (azathioprine, dapsone, mycophenolate, cyclophosphamide)
 - ✓ Rituximab

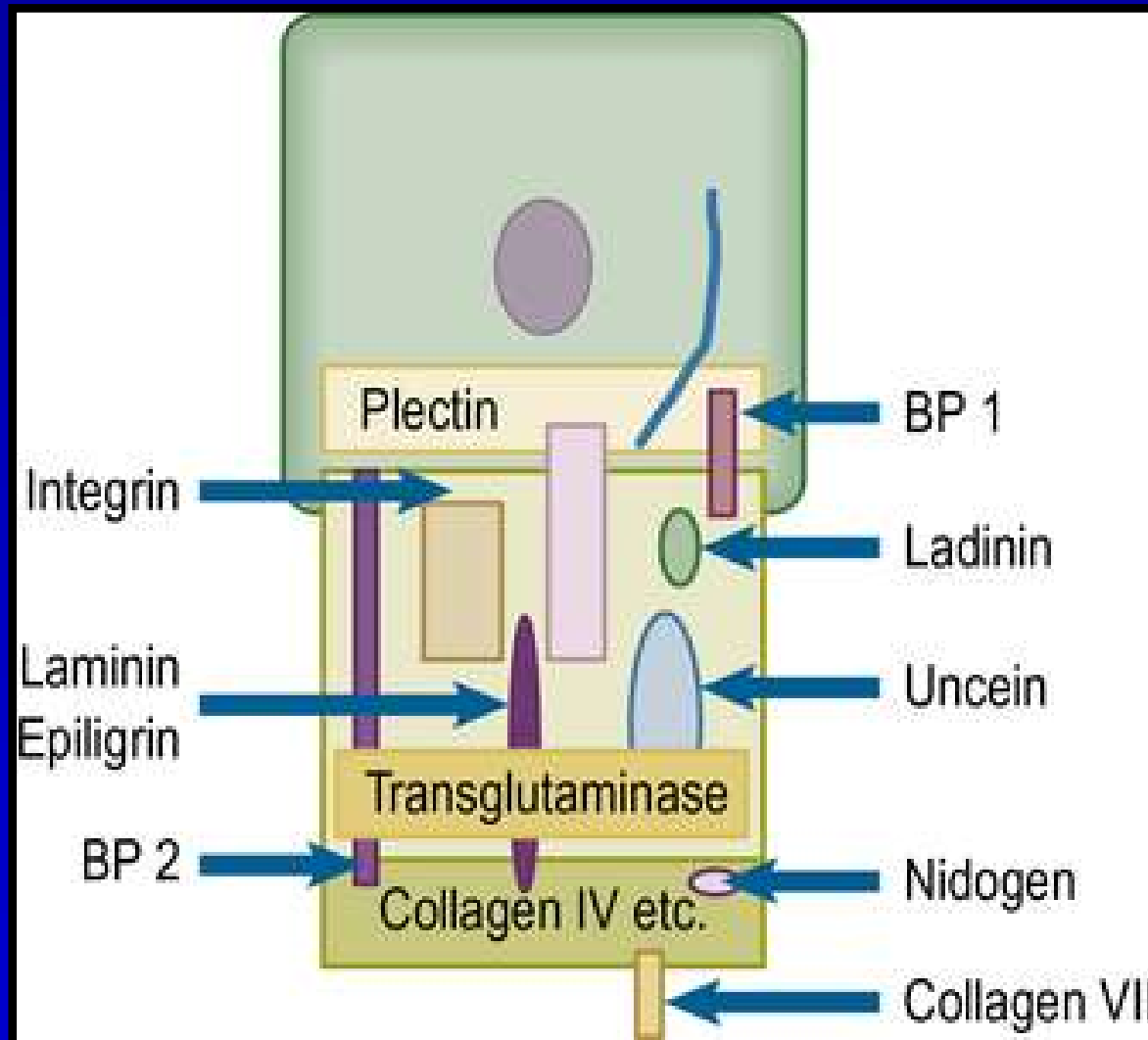


Pemphigoid

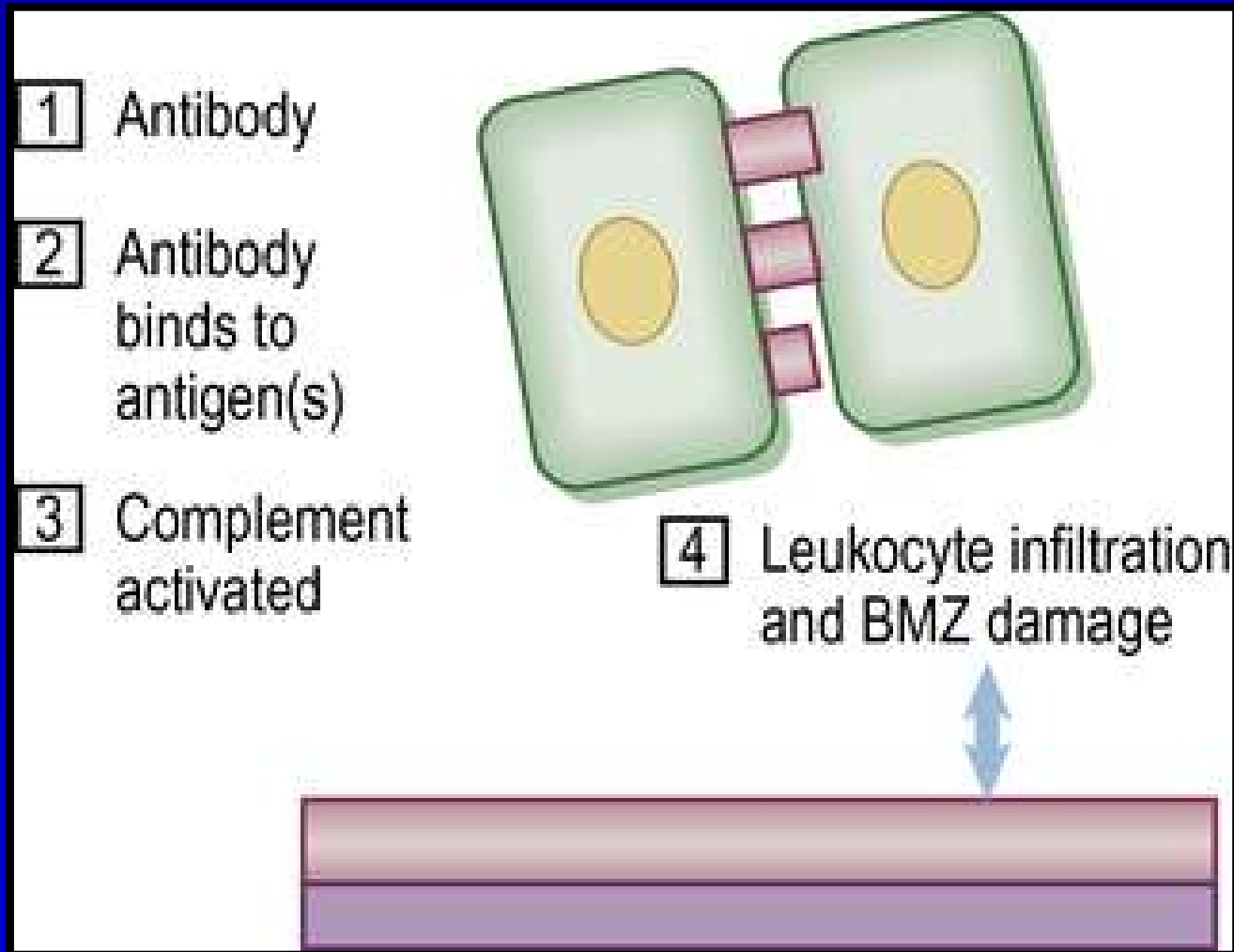
- Aetiology and pathogenesis
 - ✓ Group of sub-epithelial immunologically mediated vesiculobullous disorders that affect stratified squamous epithelium and are characterised by damage to one of the protein constituents of the BMZ anchoring filament components



Pemphigoid



Mucous Membrane Pemphigoid



Mucous Membrane Pemphigoid

- Clinical features
 - ✓ F>M
 - ✓ 5th-6th decade
 - ✓ No known geographic incidence
 - ✓ Genetic predisposition
 - ✓ May be drug induced
 - ✓ Extra-oral involvement: ocular, laryngeal, nasal, genital, skin



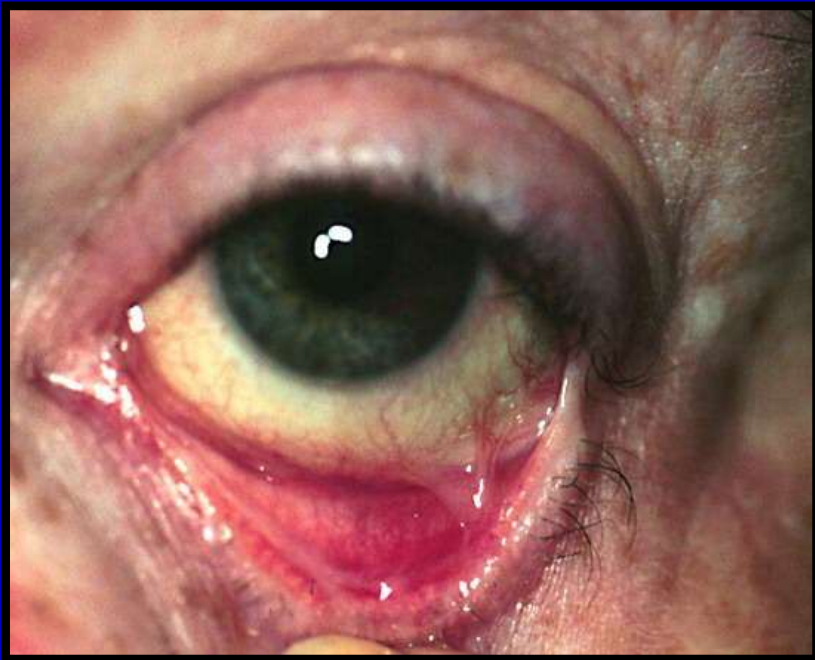
Mucous Membrane Pemphigoid

- Clinical features



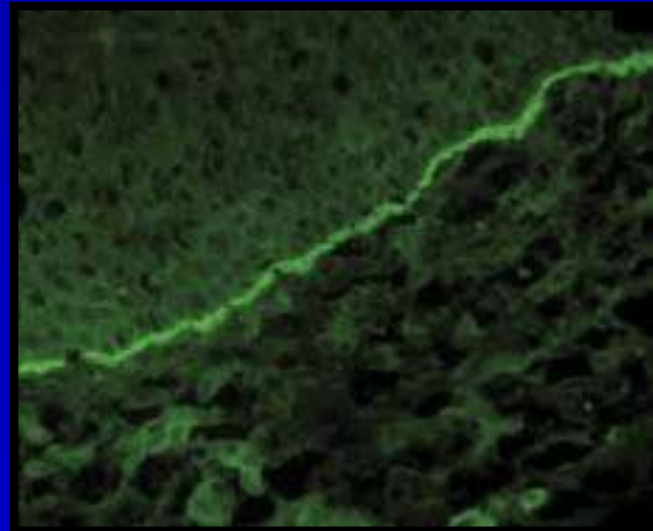
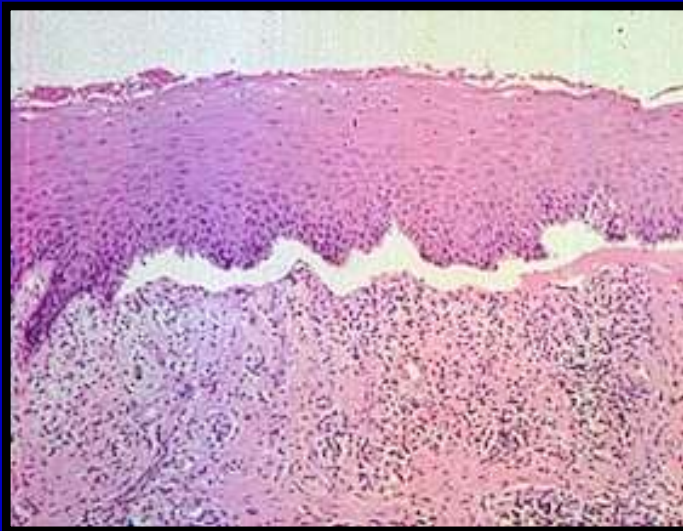
Mucous Membrane Pemphigoid

- Clinical features



Mucous Membrane Pemphigoid

- Histopathology



Mucous Membrane Pemphigoid

- Differential diagnosis
 - ✓ Oral lichen planus
 - ✓ Pemphigus
 - ✓ Angina bullosa haemorrhagica
 - ✓ Dermatitis herpetiformis
 - ✓ Linear IgA disease
 - ✓ Erythema multiforme



Mucous Membrane Pemphigoid

- Treatment
 - ✓ Corticosteroids
 - ✓ Steroid sparing immuno-suppressants
 - ✓ Rituximab



Linear IgA disease

- Aetiology and pathogenesis
 - ✓ Chronic autoimmune disease of the skin that commonly affects the mucous membranes including the gingiva
 - ✓ Autoantibodies to BP180 (collagen XVII)



Linear IgA disease

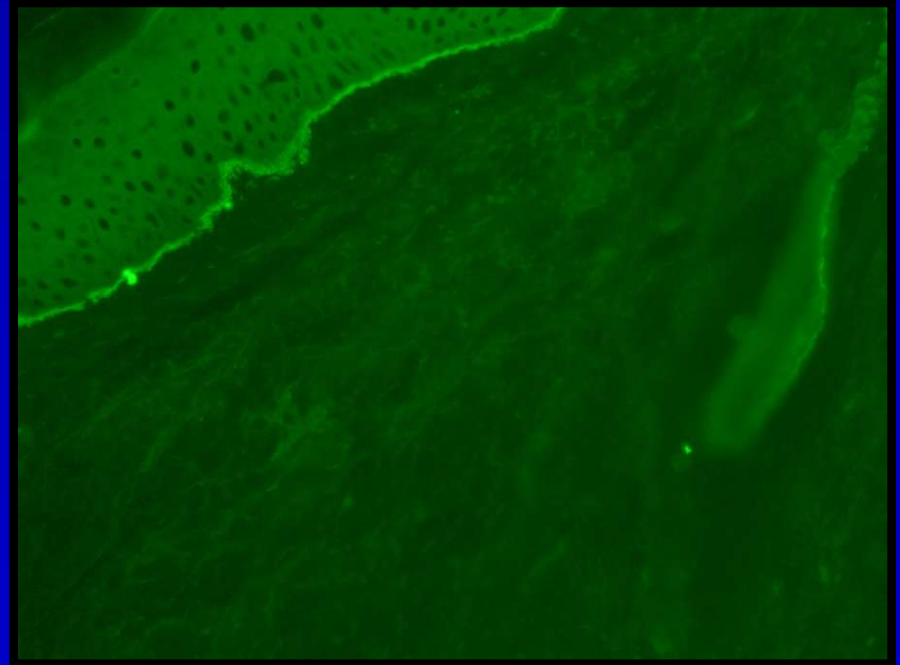
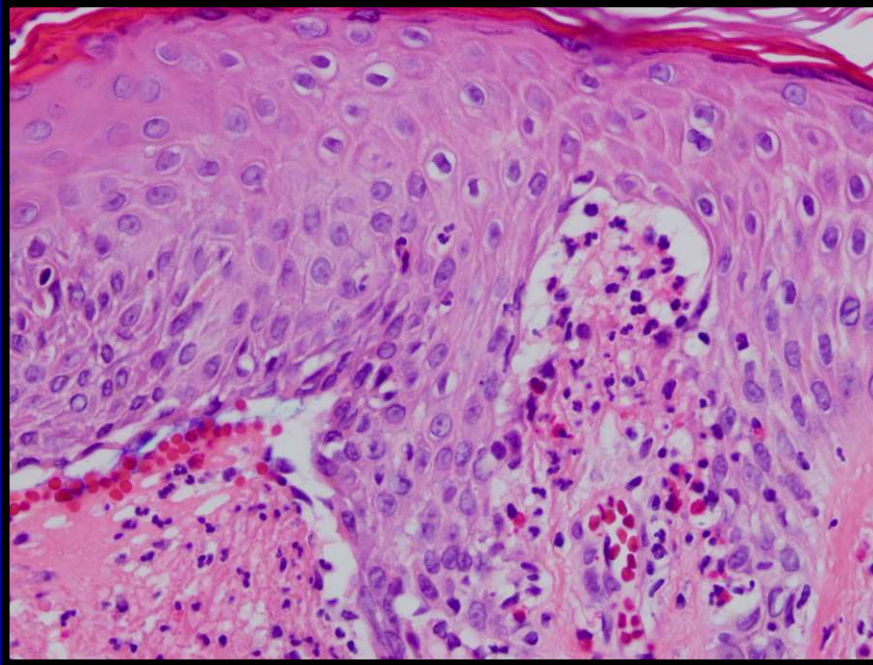


- Clinical features
 - ✓ Skin lesions may be urticarial, annular, targetoid or bullous
 - ✓ Oral lesions are ulcerative (preceded by bullae) or erosive



Linear IgA disease

- Histopathology



Linear IgA disease

- Differential diagnosis
 - ✓ Oral lichen planus
 - ✓ Mucous membrane pemphigoid
 - ✓ Pemphigus vulgaris
 - ✓ Chronic ulcerative stomatitis



Linear IgA disease

- Treatment
 - ✓ Topical / systemic corticosteroids
 - ✓ Other immunosuppressive agents may be used in more severe or refractory cases



Erythema multiforme

- Aetiology and pathogenesis
 - ✓ Acute, often recurrent, non-immediate allergic hypersensitivity reaction affecting mucocutaneous tissues, characterised by serosanguinous exudates on the lips, mucosal ulceration or target like lesions on the skin

Note: Steven-Johnson syndrome / toxic epidermal necrolysis



Erythema multiforme

- Aetiology and pathogenesis
 - ✓ Infections
 - ✓ Dugs
 - ✓ Vaccines
 - ✓ Food additives / chemicals
 - ✓ Radiation therapy



Erythema multiforme

- Aetiology and pathogenesis
 - ✓ Presentation of antigens to T lymphocytes initiates the immune reaction
 - ✓ Effector cells: CD8+ T-cells, Macrophages and PMNL



Erythema multiforme

- Clinical features
 - ✓ Peak incidence 20-40y
 - ✓ M>F
 - ✓ Worldwide
 - ✓ Genetic predisposition

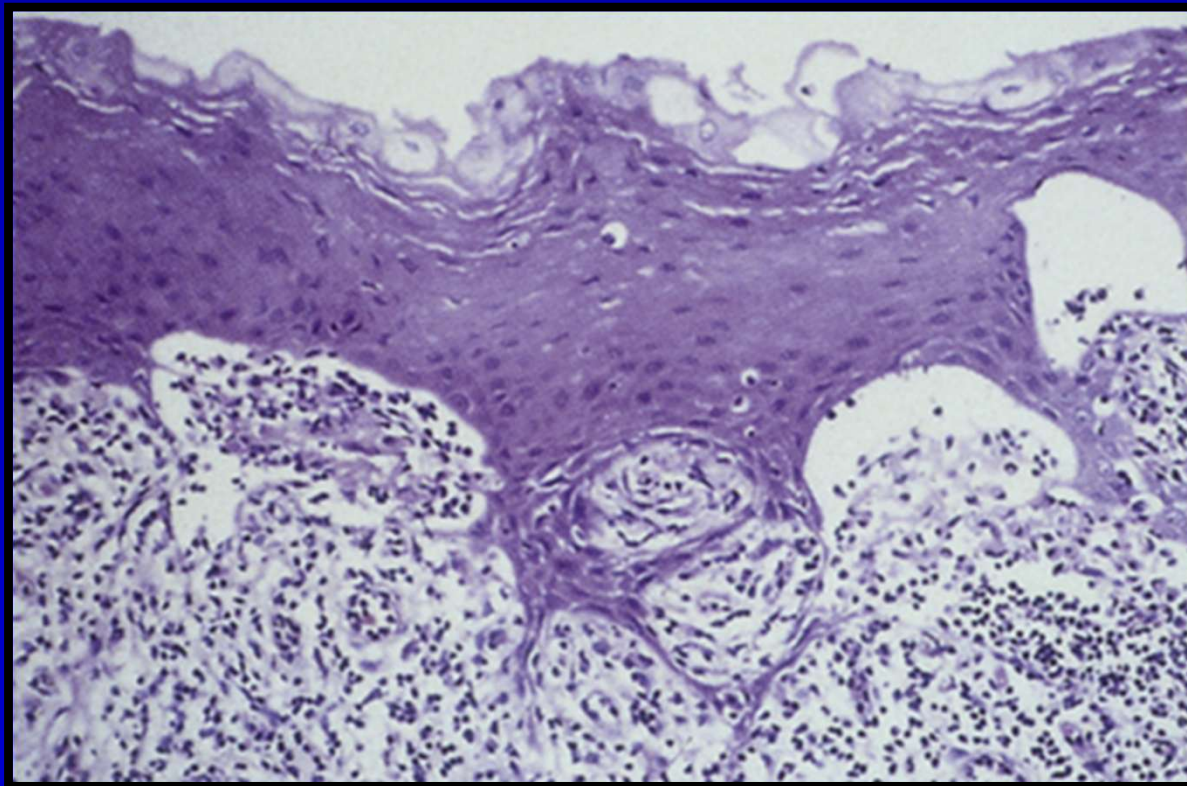


Erythema multiforme



Erythema multiforme

- Histopathology



Erythema multiforme

- Differential diagnosis
 - ✓ HSV
 - ✓ Aphthous ulcers
 - ✓ Pemphigus vulgaris
 - ✓ Mucous membrane pemphigoid
 - ✓ Oral lichen planus



Erythema multiforme

- Treatment
 - ✓ Corticosteroids
 - ✓ May require hospitalization
 - ✓ Avoid triggers!



Chronic ulcerative stomatitis

- Aetiology and pathogenesis
 - ✓ Rare immune-mediated mucocutaneous disorder that produces desquamation and ulceration of oral mucosa



Chronic ulcerative stomatitis

- Clinical features
 - ✓ Resembles other mucocutaneous conditions
 - ✓ Usually affects older white women
 - ✓ Tongue, buccal mucosa and gingiva usually affected



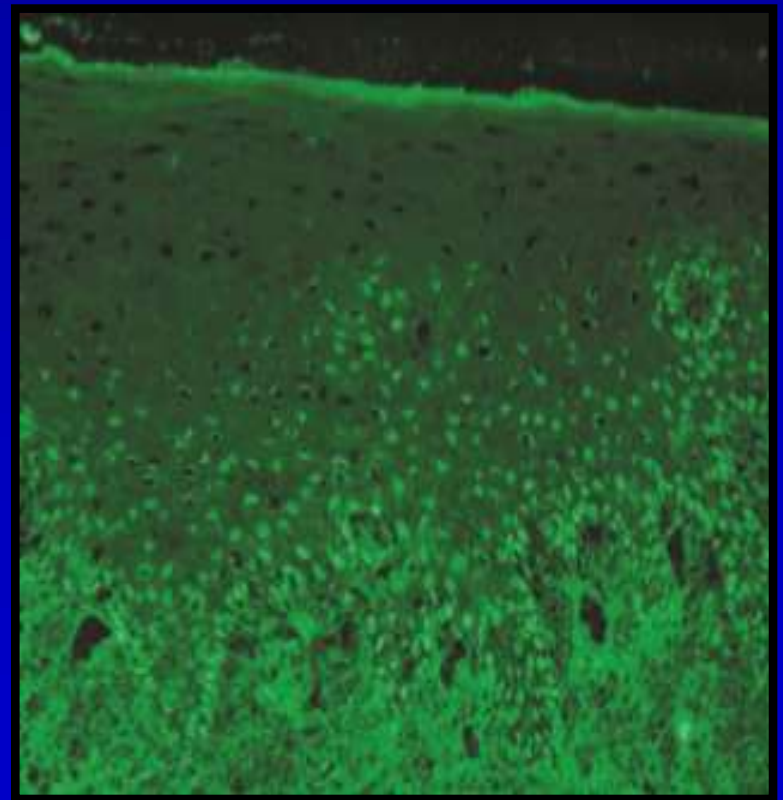
Chronic ulcerative stomatitis

- Clinical features



Chronic ulcerative stomatitis

- Histopathology
 - ✓ H&E: resembles OLP
 - ✓ DI: perinuclear deposits of IgG in basal layer and lower 1/3 epithelial layers



Chronic ulcerative stomatitis

- Differential diagnosis
 - ✓ Oral lichen planus
 - ✓ Mucous membrane pemphigoid
 - ✓ Linear IgA disease
 - ✓ Pemphigus vulgaris



Chronic ulcerative stomatitis

- Treatment
 - ✓ Hydroxychloroquine



Lupus erythematosus

- Aetiology and pathogenesis
 - ✓ Autoimmune disease involving both humoral and cell mediated arms of the immune system
 - ✓ Antibodies directed against various cellular antigens in the nucleus and the cytoplasm



Lupus erythematosus

- Clinical features
 - ✓ Occurs in three forms
 - Systemic (acute)
 - Discoid (chronic)
 - Subacute



Lupus erythematosus

- Clinical features

- ✓ DLE

- F > M

- Skin lesions are disk shaped erythematous plaques with hyper-pigmented margins

- Similar to OLP



Lupus erythematosus



Lupus erythematosus

- Clinical features

- ✓ SLE

- Skin and mucosal lesions are mild

- Multiple organ involvement

- Serologic tests positive for autoantibodies

- i. ANA

- ii. Other

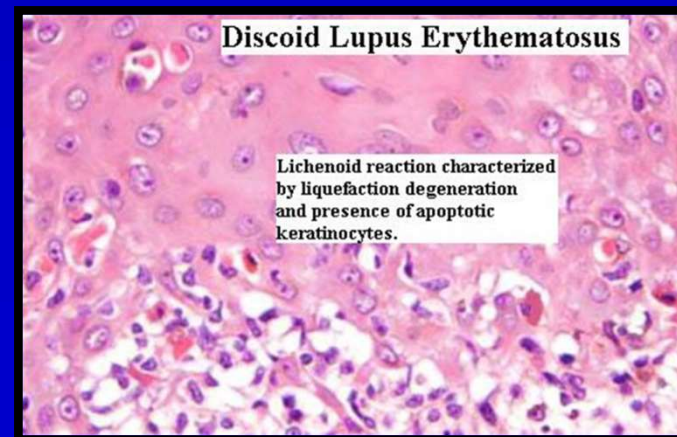
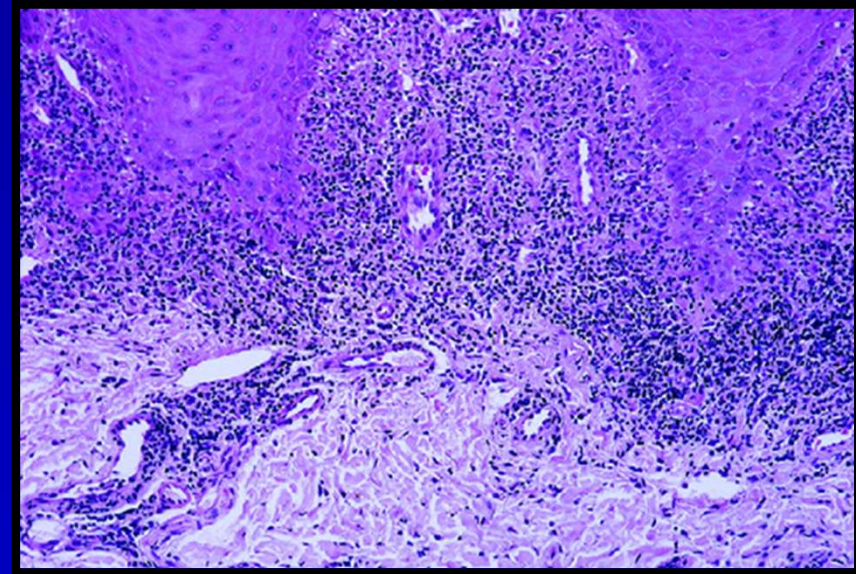


Lupus erythematosus



Lupus erythematosus

- Histopathology
 - ✓ Basal cell destruction
 - ✓ Hyperkeratosis
 - ✓ Epithelial atrophy
 - ✓ Lymphocytic infiltration
 - ✓ Vascular dilation oedema



Lupus erythematosus

- Differential diagnosis
 - ✓ Oral lichen planus
 - ✓ Mucous membrane pemphigoid
 - ✓ Pemphigus vulgaris
 - ✓ Erythematous candidiasis
 - ✓ Contact hypersensitivity



Lupus erythematosus

- Treatment
 - ✓ Topical / systemic corticosteroids
 - ✓ Other immunosuppressive agents



Systemic sclerosis

- Aetiology and pathogenesis
 - ✓ Rare immunologically mediated disease
 - ✓ Dense collagen is deposited in the tissues of the body



Systemic sclerosis

- Clinical features
 - ✓ Most patients are adults
 - ✓ F>M
 - ✓ Raynaud's phenomenon
 - ✓ Diffuse, hard skin texture
 - ✓ Multi-organ involvement



Systemic sclerosis

- Clinical features

- ✓ Oral manifestations:

- Microstomia

- Dysphagia

- Xerostomia

- Widening of the PDL space



Systemic sclerosis



Systemic sclerosis

- Histopathology

- ✓ Diffuse deposition of collagen within and around normal structures
- ✓ The abnormal collagen replaces and destroys normal tissue → loss of normal function



Systemic sclerosis

- Treatment
 - ✓ Difficult!
 - ✓ Various systemic agents have been trailed with limited success



CREST syndrome

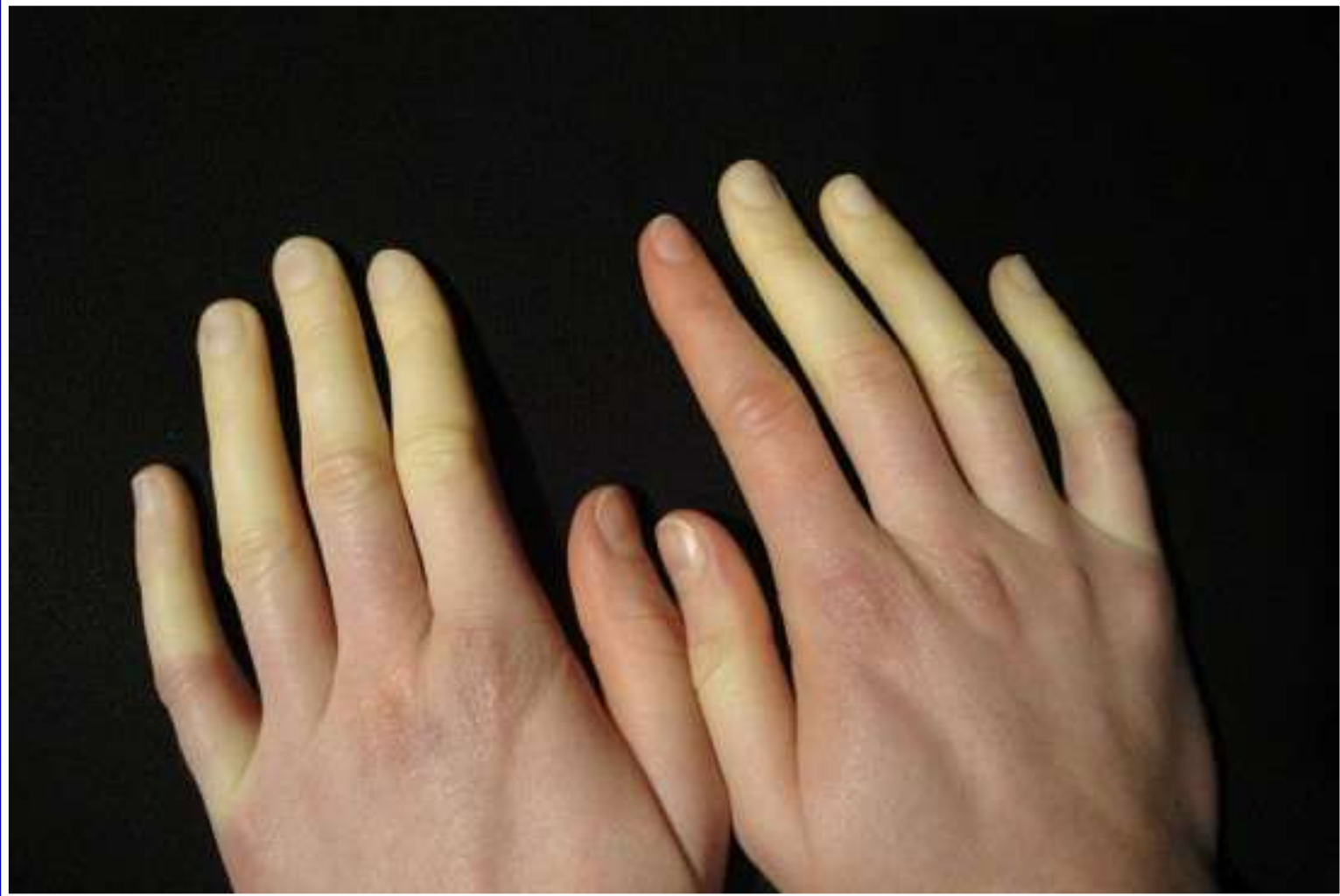
- Aetiology and pathogenesis
 - ✓ Uncommon condition that is a mild variant of systemic sclerosis:
 - Calcinosis cutis
 - Raynaud's phenomenon
 - Esophageal dysfunction
 - Sclerodactyly
 - Telangiectasia



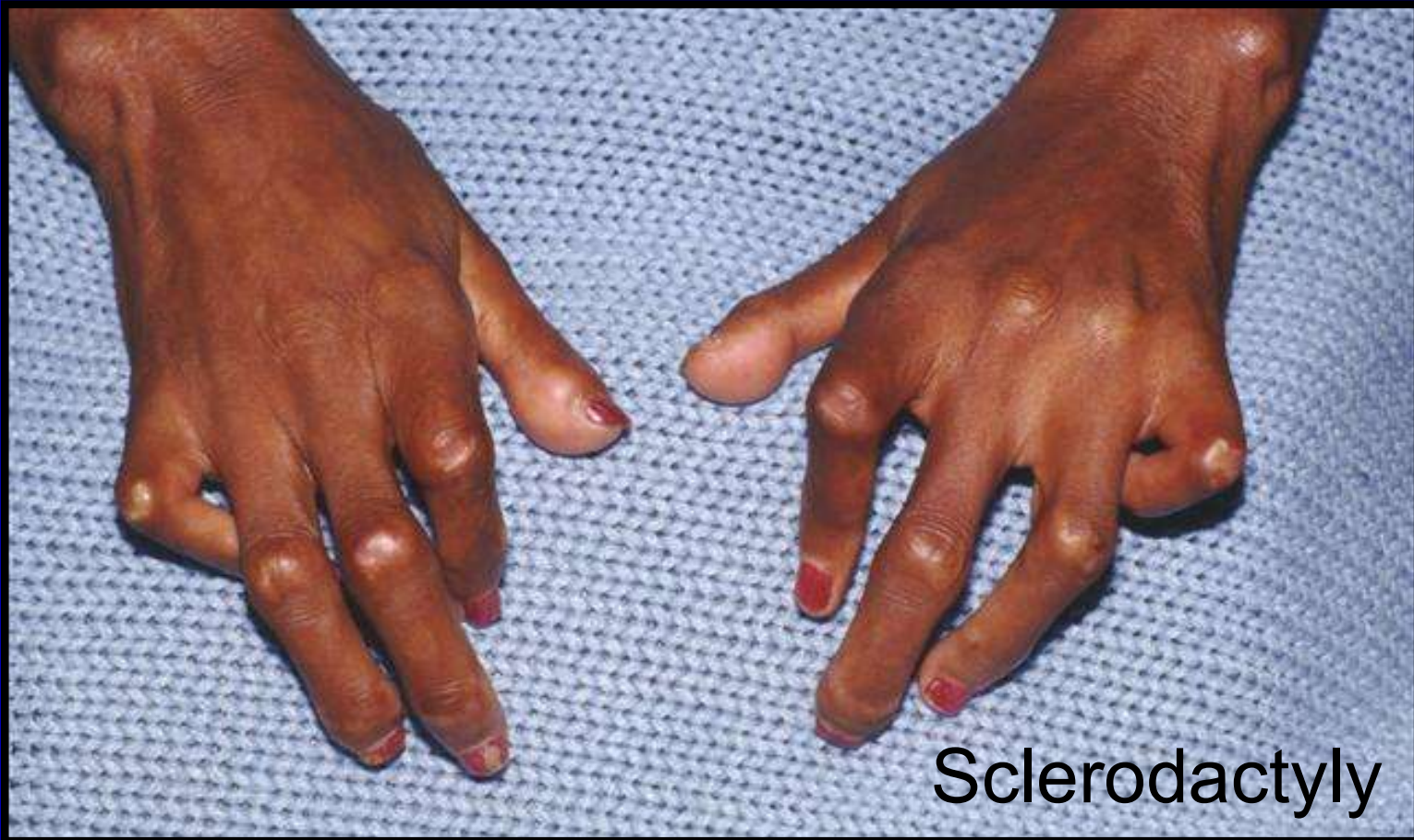
CREST syndrome



CREST syndrome



CREST syndrome



Sclerodactyly



CREST syndrome



CREST syndrome

- Histopathology
 - ✓ Similar to systemic sclerosis
 - ✓ Telangiectatic vessels



CREST syndrome

- Differential diagnosis
 - ✓ Hereditary haemorrhagic telangiectasia
 - *Anti-centromere antibodies*



CREST syndrome

- Treatment
 - ✓ As for systemic sclerosis

