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Vesiculobullous and Desquamative Lesions in oral cavity
Definitions:

- Normal mucosa
- Vesicle
- Bulla
- Desquamative lesion
VESICLE & BULLA

A clear fluid lesion just below the epithelium which ruptures to form an ulcer, if this is smaller than 5mm then it is a vesicle, if larger than 5mm than it is a bulla.
CLASSIFICATION:

**INTRAEPITHELIAL VESICLES**: The lesion is formed within the epithelium.

- **Acantholytic vesicles**: This is because of the break down of specialized attachments called the desmosomes.

- **Nonacantholytic vesicles**: It is usually in the viral infections because of the death or the rupture of the group of cells.

**SUBEPITHELIAL VESICLES**: Lesions formed between the epithelium and the lamina propria.

**eg**: Erthyma multifomme, Phempegoid, Epidermolysis bullosa
(I) **Bullous Diseases:**

1. Pemphigus Vulgaris
2. Bullous Pemphigoid
3. Benign Mucous Membrane Pemphigoid
4. Bullous Lichen Planus
5. Erythema Multiforme
6. Stevens-Johnson Syndrome
7. Epidermolysis Bullosa.
8. Dermatitis Herpetiformis
(II) **Desquamative Lesions:**

1. Desquamative Gingivitis

2. Erosive Lichen Planus
Bullous Diseases

Caused by autoantibody-mediated disruption of adhesion between basal keratocytes and the basement membrane.

1. Filaments.
2. Desmosome.
3. Hemidesmosome.
4. Basal cell layer.
Nikolsky’s sign:

- A positive Nikolsky's sign signifies a separation of epithelial cells either from one another or from the basement membrane, which is a layer of connective tissue to which epithelium usually adhered.

- In these diseases, there are defects in the cell-to-cell attachment mechanisms, and even minimal trauma can elicit a clinical response of a blister formation when the cells are manually detached with the forceful turn of the pencil eraser on the skin.

- Within minutes, a blister will form, and this is pathognomonic, or absolutely indicative, of a vesicular/bullous disease.
(I) *Bullous Diseases:*

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1. **Pemphigus Vulgaris**

- Pemphigus Vulgaris is potentially lethal disease.

- It is a rare autoimmune mucocutaneous disorder, characterized by blistering of the skin and mucous membrane.

- PV accounts for approximately 70% of Pemphigus cases.

- The mouth is frequently the first site of attack.

- **Age:** middle-age and elderly

- **Sex:** Females predominantly

- **Geographic:** Ashkenazi Jewish, Asians or Mediterranean descent
Skin lesions
1. Pemphigus Vulgaris

Clinical Features:

- The oral changes are highly variable ranging from small blisters or erosions to widespread destruction of the oral epithelium.
- Painful oral lesion may precede the development of skin lesion in 50% of the affected population.
- Rupture occurs within days leaving a broad area of desquamation associated with erythema.
- Positive Nikolsky’s sign.
PEMPHIGUS VULGARIS
PEMPHIGUS VULGARIS
PEMPHIGUS VULGARIS
PEMPHIGUS VULGARIS
Bullous Diseases:

1. Pemphigus Vulgaris

Pemphigus Vulgaris: intraepithelial defect with an intact basal cell area.
PEMPHIGUS VULGARIS

Acantolytic cells of Tzanck
Bullous Diseases:

1. Pemphigus Vulgaris

Pemphigus Vulgaris: immunofluorescence staining with anti IgG shows deposit along the intercellular borders of the epithelium and coating acantholytic cells.
Bullous Diseases:

1. Pemphigus Vulgaris

Differential Diagnosis:

- Include: Pemphigoid, Erythema Multiforme

- Careful history, biopsy, clinical and laboratory results (serum) is confirmative.

Management:

- Corticosteroids (topical and systemic)
Paraneoplastic Pemphigus
Bullous Diseases:

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2. Bullous Pemphigoid

- Bullous Pemphigoid is a **chronic mucocutaneous bullous disease** that usually affects older individuals.

- Autoimmunity. Bullous Pemphigoid antigens (BP180, BP230) are the main target antigens.

- **Age:** Mean age of 65 years at onset

- **Sex:** The disease affects women slightly more often than men (ratio 1.7 : 1)
2. Bullous Pemphigoid

Clinical Features:

- The oral mucosa is affected in about 20–40% of cases, usually after skin involvement.
- The oral lesions usually follow cutaneous manifestations and begin as bullae that soon rupture, leaving shallow ulcerations.
- Other mucous membranes may also be affected.
Pemphigoid – skin lesions
2. Bullous Pemphigoid

Clinical Features:

- Skin lesions are always present, and begin as a nonspecific generalized rash followed by large, tense bullae that rupture, leaving denuded areas without a tendency to extend peripherally.

- The trunk, arms, and legs are the sites of predilection.
2. Bullous Pemphigoid

**Histopathological Descriptions:**
- Histopathological examination
- Direct and indirect immunofluorescence.

**Differential Diagnosis:**
- Pemphigus, Cicatricial Pemphigoid, linear IgA disease, Dermatitis Herpetiformis, Epidermolysis Bullosa Acquisita, Pemphigoid Gestationis.

**Management:**
- Systemic steroids, immunosuppressive drugs.
- The prognosis is usually good.
(I) **Bullous Diseases:**

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3. Benign Mucous Membrane Pemphigoid

- Is a chronic autoimmune disease of mucous membrane and/or skin.
- **Age:** predominately a disease of the elderly with a peak incidence at around 70 years. However, childhood cases have been reported.
- **Sex:** It appears to be twice as common in women than men.
3. Benign Mucous Membrane Pemphigoid

**Clinical Features:**

**Mouth:**

- Blisters form first on the gums near the teeth, palate, tongue, lips, buccal mucosa, floor of the mouth and throat may be affected, painful and make it difficult to eat.
- Lesions occurring in the throat (oesophagus, trachea and larynx) can become life-threatening.
Bullous Diseases:

3. Benign Mucous Membrane Pemphigoid
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Clinical Features:

Skin:

- Blisters on the skin develop in 25-30% of patients. May be itchy
- Bleeding may occur if traumatized.
Positive sign of Nikolsky
Pemphigoid – eyes symptoms
Pemphigoid – pathohistology

Mucous Membrane Pemphigoid:
The full thickness of epithelium has separated from the corium, which is edematous and infiltrated by inflammatory cells.
Mucous Membrane Pemphigoid: immunofluorescence shows deposition of C3 along the basement membrane zone (linear type)
Pemphigus vulgaris

IgG & C3

Pemphigus vulgaris

Pemphigoid
Bullous Diseases:

3. Benign Mucous Membrane Pemphigoid

Differential Diagnosis:

Oral lesions may be confused clinically with Pemphigus, dermatitis herpetiformis and linear IgA disease or occasionally with erosive lichen planus, acquired epidermolysis bullosa, toxic epidermal necrolysis or erythema multiforme.

Management:

- Topical steroids and referral to a specialist (including ophthalmologist)
- Sever cases needs systemic administration of steroids.
Local occlusive therapy with corticosteroids and soft silicone splints
(1) **Bullous Diseases:**

1. Pemphigus Vulgaris
2. Bullous Pemphigoid
3. Benign Mucous Membrane Pemphigoid
4. **Bullous Lichen Planus**
5. Erythema Multiforme
6. Stevens-Johnson Syndrome
7. Epidermolysis Bullosa
8. Dermatitis Herpetiformis
4. Bullous lichen Planus

Bullous lichen planus is a rare form of lichen planus

Clinical Features:
- It is clinically characterized by the formation of bullae that soon rupture, leaving painful shallow ulcerations.
- The bullae usually arise on a background of papules or striae with the typical pattern of lichen planus.
Bullous lichen Planus - pathohistology
Bullous lichen planus
4. Bullous lichen Planus

**Histopathological Descriptions:**
Histopathological examination, direct immunofluorescence

**Differential Diagnosis:**
Cicatricial Pemphigoid, linear IgA disease, Pemphigus, erythema multiforme, drug reactions

**Management:**
LLLT, PDT, topical or systemic steroids in low doses, in severe cases.
(I) **Bullous Diseases:**

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5. **Erythema Multiforme**
6. Stevens-Johnson Syndrome
7. Epidermolysis Bullosa
8. Dermatitis Herpetiformis
5. Erythema Multiforme

- Erythema multiforme is an acute or subacute self-limiting disease that involves the skin and mucous membranes.
- The etiology is unclear. However, an immunologically mediated process triggered by *Herpes simplex* virus or *Mycoplasma pneumoniae*, drugs, radiation, or malignancies, is probable.
- **Age:** the ages of 20 and 30 years
- **Sex:** The disease more frequently affects *young men*. 
Bullous Diseases:

5. Erythema Multiforme

- The oral lesions present as coalescing small vesicles that rupture within two or three days, leaving irregular, painful erosions covered by a necrotic pseudomembrane.
- The lips, buccal mucosa, tongue, soft palate, and floor of the mouth are most commonly involved.
5. Erythema Multiforme

Clinical Features:

• The skin manifestations consist of erythematous, flat, round macules, papules, or plaques, usually in a symmetrical pattern.

• The characteristic skin patterns are target- or iris-like lesions.

• Skin bullae may occasionally be seen.

• Conjunctivitis, balanitis, vulvitis, and prodromal symptoms such as headache, malaise, arthralgias, and fever, may also be present.

• Recurrences are common.
Erythema Multiforme
Erythema Multiforme
5. Erythema Multiforme

**Histopathological Descriptions:**

Junctional separation, intraepithelial separation.

**Differential Diagnosis:**

bullous lichen planus, pemphigus vulgaris, pemphigoid.

**Management:**

- Systemic steroids, NSAID, LLLT
- Aciclovir may be helpful in cases of recurrence.
Erythema exudativum multiforme
LLLT with diode laser (810nm), 0.2 W, CW, 60s.
(I) **Bullous Diseases:**

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6. Stevens-Johnson Syndrome

- Stevens–Johnson syndrome, or erythema multiforme major, is a severe form of erythema multiforme that predominantly affects the mucous membranes, in which bullous and erosive erythematous lesions are found in the oral cavity.

- Drugs usually trigger the disease

- **Age:** young adults

- **Sex:** Male predilection
6. Stevens-Johnson Syndrome

Clinical Features:

- The oral lesions are always present, and are characterized by extensive vesicle formation, followed by painful erosions covered by grayish-white or hemorrhagic pseudomembranes.
- Typical iris-like lesions are presented.
Stevens-Johnson Syndrome
Clinical Features:
- The lesions may extend to the pharynx, larynx, and esophagus.
- The ocular lesions consist of conjunctivitis or uveitis.
- The genital lesions are balanitis or vulvovaginitis, and scrotal erosions.
- The skin manifestations may vary from very light to severe.
- The diagnosis is mainly made on the basis of the clinical presentation.

Differential Diagnosis:
- Behçet disease, pemphigus, pemphigoid, primary herpes simplex.

Management:
- Systemic steroids; antibiotics (if considered necessary in severe cases).
(1) Bullous Diseases:

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Epidermolysis Bullosa

- Epidermolysis bullosa is a heterogeneous group of usually inherited mucocutaneous bullous disorders.
- Depending on the defective mechanism of cellular cohesion, three main inherited groups are recognized: simplex, junctional, and dystrophic. Each group includes several forms, depending on the inheritance pattern.

- **Age:** The lesions appear at birth or early in infancy

- **Clinical Features:** The clinical spectrum and the degree of severity may range from mild to severe or fatal.
**Clinical Features:**

- Oral manifestations are more common in the junctional and dystrophic forms.
- Oral lesions present as bullae, usually in areas of friction, which rupture, leaving shallow ulcers, and later atrophy and scarring.
- Dysplastic teeth may be seen in the severe forms of the disease.
- Leukoplakia and squamous-cell carcinoma may develop on the scars.
Clinical Features:

- Skin lesions are characterized by the formation of bullae, followed by ulcerations and scarring, particularly in areas exposed to low-grade chronic trauma.

- Nail involvement, deformities of hands and feet, and involvement of the larynx, pharynx, and esophagus are common in the recessive dystrophic type.
Facial appearance
Microstoma, dysplastic teeth and contractures
Histopathological Descriptions:

- Histopathological examination, direct immunofluorescence.

7. Epidermolysis Bullosa
Bullous Diseases:

7. Epidermolysis Bullosa

Differential Diagnosis:

- Pemphigus, cicatricial and bullous pemphigoid, linear IgA disease,
- bullous dermatoses of childhood, epidermolysis bullosa acquisita.

Management:

- Supportive.
- Systemic steroids in severe cases
- Systemic treatment with Phenytoin (Inhibits colagenaze)
(I) **Bullous Diseases:**

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8. **Dermatitis Herpetiformis**
8. Dermatitis Herpetiformis

- Dermatitis herpetiformis, or Duhring–Broca disease, is a chronic recurrent cutaneous bullous disease, rarely with oral involvement.
- Etiology unclear. Immunological and genetic factors, as well as gluten sensitivity, may be involved in the pathogenesis.
- **Age:** Between the ages of 20 and 50 years
- **Sex:** The disease is more common in men
Clinical Features:

- The oral mucosa is affected in 5–10% of cases.
- Oral manifestations follow the skin eruption, and present as maculopapular, erythematous, purpuric, and mainly vesicular lesions.
- The vesicles appear in a cyclic pattern, and rupture rapidly, leaving shallow, painful ulcerations.
- The tongue, buccal mucosa, and palate are more frequently involved.
- Cutaneous lesions are always present and appear as erythematous papules or plaques followed by severe burning and pruritus and small vesicles that group in a herpes-like pattern.
- The lesions exhibit exacerbations and remissions, and are commonly located symmetrically on the extensor surfaces.
8. Dermatitis Herpetiformis

**Histopathological Descriptions:**
- Sub-basilar separation with a subacute inflammatory infiltrate.

**Differential Diagnosis:**
- Bullous pemphigoid, cicatricial pemphigoid, linear IgA disease, pemphigus, herpetiform ulcers.

**Management:**
- Sulfones and sulfapyridines. A gluten-free diet may control the disease activity.
(II) Desquamative Lesions:

1. Desquamative Gingivitis

2. Erosive Lichen Planus
1. Desquamative Gingivitis

- A diffuse or patchy, often painful inflamed area of the gum caused by changes to the connective tissue as a result of the atrophy of epithelial cells.

- Originally considered to be related to hormonal changes at menopause, since many of the patients are middle-aged women, DG is now recognized to be mainly a manifestation of a number of disorders ranging from vesiculobullous diseases to adverse reactions to a variety of chemicals or allergens.

- **Age:** Middle-aged adults

- **Sex:** Exclusively in females
Desquamative lesions:

1. Desquamative Gingivitis

Clinical Features:

- It presents as erythema and edema of the marginal and attached gingiva.
- The facial surface is more frequently affected than the lingual gingiva.
- Spontaneous desquamation of the epithelia, blister formation, and areas of superficial erosions are common.
1. Desquamative Gingivitis

Clinical Features:

• Characteristically, after mild pressure on the affected gingiva, desquamation of the epithelium or hemorrhagic blister formation usually occur.

• The lesions may be either localized or generalized. Desquamative gingivitis may be the only oral manifestation or may be associated with additional oral lesions of the underlying chronic bullous dermatosis.
1. Desquamative Gingivitis

**Histopathological Descriptions:**

- Like in BMMP, junctional separation occurs

**Differential Diagnosis:**

- BMMP, Necrotizing ulcerative gingivitis, plasma cell gingivitis, plaque related gingivitis, drug reactions, granulomatous gingivitis, oral psoriasis.

**Management:**

- Good oral hygiene, avoidance of any mechanical pressure on the gingiva.
- Systemic treatment (corticosteroids, immunosuppressants, dapsone) depends on the identification of the underlying disease
(II) Desquamative Lesions:

1. Desquamative Gingivitis

2. Erosive Lichen Planus
2. Erosive Lichen Planus

- Lichen planus is a relatively common chronic inflammatory disease of the oral mucosa and skin.
- **Etiology.** Although the cause is not well known, T cell-mediated autoimmune phenomena are involved in the pathogenesis of lichen planus.
- **Age:** Middle-aged individuals are more commonly affected.
- **Sex:** the ratio of women to men ratio is 3:2
Desquamative lesions:

2. Erosive Lichen Planus

Clinical Features:

- The erosive variety of LP is clinically characterized by a mixture of erosive erythematous areas and whitish pseudomembranes.
- When in the gingiva or the buccal mucosa, it tends to form small striations at the periphery of the lesion.
- Gingival erosive LP may affect the four quadrants and often is diagnosed as desquamative gingivitis. This term should be considered a transitory diagnosis until a biopsy and laboratory test confirm or rule out the diagnosis of LP.
Clinical Features:

- Patients with this variety of LP complain of burning sensation especially when eating spicy foods or drinking alcohol, bleeding may also be present especially upon palpating or during tooth brushing.

- Erosive LP tends to remain for life and at times might become secondarily infected. When the oral manifestations are severe there is constant, mild to moderate pain as well as inability to eat properly.
2. Erosive Lichen Planus

**Histopathological Descriptions:**

- Histopathological examination is very helpful. Direct immunofluorescence can also be used, although the features are not specific.

**Differential Diagnosis:**

- The differential diagnosis should include: pemphigus vulgaris, mucous membrane pemphigoid, linear IgA disease, candidiasis and discoid lupus erythematosus

**Management:**

- The prognosis of lichen planus is usually good, and malignant transformation (particularly of the erosive form) remains controversial.
- Topical steroids (ointment in Orabase, intralesional injection), may be helpful.
- Systemic steroids in low doses can be used in severe and extensive cases.
- The topical use of antiseptic mouthwashes should be avoided.