Lec. 20 *Dr. Ali H. Murad*

Oral Ulcerative Lesions

1- Reactive lesions:

Traumatic Ulcerations:

Traumatic ulcers are the most common oral soft tissue lesions. Most are caused by simple mechanical trauma. Many are a result of accidental trauma and generally appear in regions that are readily trapped or abraded between the teeth, such as the lower lip, tongue or buccal mucosa. **Prostheses**, most commonly dentures are frequently associated with traumatic ulcers which may be acute or chronic.

Traumatic ulcers may be **iatrogenic**, induced by a health practitioner. **Overzealous** tissue manipulation may result in accidental soft tissue injury. Ulcers also may be induced by the removal of adherent **cotton** rolls, by the negative pressure of a saliva **ejector**, or by accidental striking of mucosa with **rotary** instruments.

Chemicals may also cause oral ulcers because of their acidity or alkalinity or act as irritants. These may be patient- induced (as **aspirin** burn when acetylsalicylic acid is placed against mucosa to relieve toothache, a mucosal burn or necrosis occurs), or **iatrogenic** (tooth-etching agents have been associated with chemical burn of mucosa, endodontic and bleaching procedures which use strong oxidizing agents such as hydrogen peroxide have also produced burns).

Heat burns may cause intraoral ulcers as; pizza burns caused by hot cheese have been noted on the palate. Iatrogenic heat burns may also be seen after use of **impression** materials such as hydrocolloid, wax or dental compound.

Oral ulcerations are also seen during the course of **radiation** therapy of the head and neck cancers. These radiations induced ulcers persist through the course of therapy and for several weeks afterwards.

Clinically: acute ulcers are painful, covered by yellow-white fibrinous exudates and surrounded by erythematous halo. The chronic ulcers may cause little or no pain, covered by yellow membrane and surrounded by elevated margins that may show hyperkeratosis. Induration often associated with these lesions due to scar formation and chronic inflammatory cells infiltration.

A particular benign chronic ulcer known as traumatic granuloma (traumatic ulcerative granuloma with stromal eosinophilia) occasionally seen in deep mucosal injuries.

2- Allergic and Immunologic Diseases

Recurrent Aphthous Stomatitis (RAS)

It is an autoimmune condition and one of the most common oral mucosal lesion. The reported prevalence is 20%. The hypothesis of its pathogenesis is numerous. Although no triggering agent is responsible, the mucosal destruction appears to represent a T-cell mediated immunologic reaction. Analysis of the peripheral blood in patient with RAS showed a decreased ratio of CD4+ to CD8+ lymphocytes.

Etiology: It is not clear yet but the following causes have been reported:

1- Allergy: to certain food.

2- Genetic predisposition: as in certain histocompatibility antigen (WA) types.

3- Nutritional deficiencies: as in B12 folate and iron deficiencies.

4- Hematological abnormalities.

5- Hormonal influence.

6- Infectious agents: as in AIDS, HSV and VZV.

7- Systemic disorders: Crohn's disease, Celioc disease and Behcet's syndrome.

8- Trauma.

9- Stress.

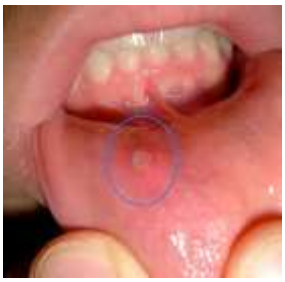
There are Three clinical variations of aphthous stomatitis are:

I-Minor 2-Major 3-Herpetiform

Clinical Features:

Typical features are: the onset frequently in childhood but peak in adolescence or early adult life. Attacks are variable but sometimes relatively regular intervals. Painful ulcers. Most patients are non-smokers and the ulceration usually self-limiting.

1- Minor aphthous stomatitis:

- The most common type.

- The patient experience the fewest recurrences.

- Non-keratinized mucosa affected (e.g. buccal, labial mucosa or ventral aspect of the tongue) uncommon on gingival and hard palate.

- Ulcers are shallow. Rounded 3-10 mm across with an erythematous margins and yellowish floor.

- One or several ulcers may be present.

- Ulcers last in a maximum 7-14 days.

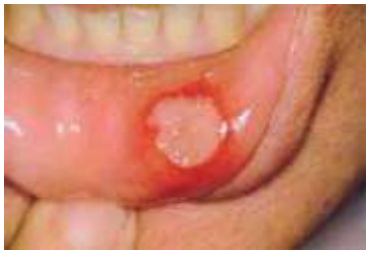
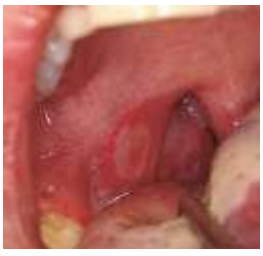
- Heal without scar.

- Recurrence rate ranging from two episodes per month up to few years.

Treatment: 1- by application of topical steroids.

2- Tetracycline mouth rinse.

2- Major aphthous stomatitis:

- Uncommon

- Ulcers' size frequently more than 0.5 cm and 1-10 in number.

- Ulcers more painful and persist for several months.

- Involves non-keratinized mucosa.

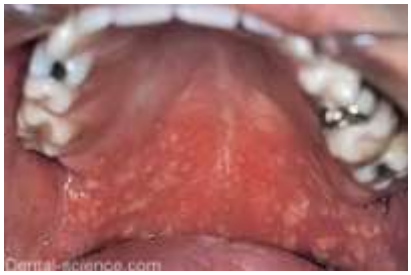
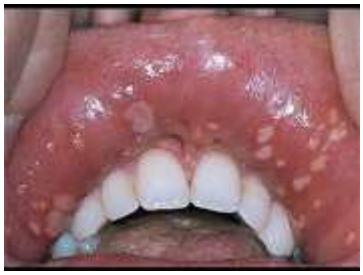
- The shape usually ragged oval or crateriform

- Scar follow healing.

Treatment: 1- Topical/systemic or Intralesional corticosteroids.

2- Immunosuppressive.

3- Herpetiform aphthous stomatitis:

- Uncommon recurrent crops of small ulcers

- Any intra-oral site affected.

- Ulcers are oval in shape & less than 0.5 cm in size.

- 10-100 ulcers may be present.

- May coalesce to form irregular ulcers.

- Healing generally occurs in 1-2 weeks.

Treatment: 1- Topical / systemic corticosteroids

2- Tetracycline mouth rinse.

Histopathology of RAS

The microscopic picture of aphthous ulcer is non-specific, and diagnosis must be based on history and careful clinical examination. The mucous membrane of aphthous ulcer shows superficial tissue necrosis with a fibrinopurulent membrane covering the ulcerated area. The necrosis is covered by tissue debris and neutrophils. Epithelium is infiltrated by lymphocytes and few neutrophils. Intense inflammatory cell infiltration, predominantly neutrophils present immediately below the ulcer, mononuclear lymphocytes are seen in adjacent areas. Minor salivary glands commonly present in areas of aphthae exhibit focal periductal and perialveolar fibrosis and chronic inflammation

Behcet's Syndrome:

A multisystem disease (gastrointestinal, cardiovascular, ocular, CNS, pulmonary and dermal), in which recurrent oral aphthae are a consistent feature.

Etiology: The cause is basically unknown, although the underlying disease mechanism may be an immunodysfunction in which vasculitis is a feature. It may have a genetic predisposition.

Clinical Features: Affect mostly young adult males between 20-40y.

Major Criteria:

1- Recurrent oral aphthae: the ulcers are usually of minor aphthous form & found in the typical aphthous distribution.

2- Genital lesion: ulcerations causing significant pain & discomfort.

3- Ocular changes: Uveitis, conjunctivitis & retinitis are more common inflammatory processes.

Minor Criteria:

1- Joints: Arthralgia or arthritis

2- Cardiovascular manifestations result from vasculitis & thrombosis.

3- C.N.S involvement: headache, nerve palsies & inflammation.

4- Pustular Erythema- nodosum like skin lesions.

Treatment: Corticosteroids & immunosuppressive drugs.

Wegener's granulomatosis:

Etiology: It is a serious, systemic inflammatory condition of unknown etiology.

Clinical features:

- Rare disease of middle age.

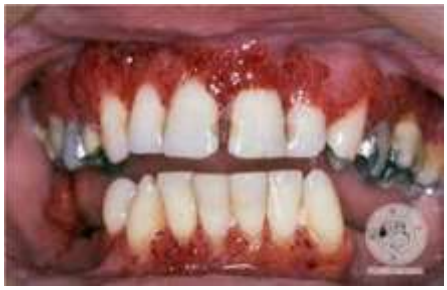
- Initial presentation: sinusitis, rhinorrhea, nasal stuffiness & epistaxis.

- Majority of cases, nasal & maxillary sinus ulceration.

- Necrosis & perforation of the nasal septum or palate are occasionally seen.

- Intraoral lesions consist of red, hyperplastic, granular lesion on attached gingiva.

- Classical triad: upper respiratory tract, lung & kidney involvement.




Histopathology:

The basic pathological process is granulomatous with characteristic necrotizing vasculitis. Necrosis & multinucleated giant cells may be seen in the granulomatous areas. Diagnosis is made by exclusion of other diseases particularly midline granuloma.

Treatment: Combined cytotoxic & corticosteroids.

Allergic Mucosal Reactions:

1- Allergic reactions to systemic drug administration:

The allergic reaction of the oral mucosa to systemic administration of many medications presented in different patterns of oral mucosal lesions as in:

Lichenoid Drug Reaction: The presence of lesions resembling erosive lichen planus on the buccal mucosa associated with ingestion of some medications like: antibiotics, antihypertensive, diuretics, gold compounds & non-steroidal anti-inflammatory drugs.

Clinically: Oral lesions primarily located on the posterior buccal mucosa. Lesions are painful with central erythematous area of erosions with surrounding zone radiating white stria that gradually fades (sunburst appearance).

Treatment: Application of topical steroids in combination with cessation or reduction in the dose of systemically administered drug.

2- Allergic contact stomatitis:

Hypersensitivity which occur after repeated contact with an external antigen (allergen), is commonly seen in oral cavity.

Antigenic stimulation lead to T-cell mediated reaction, langerhanse cells appear to have a major role in the recognition of foreign antigen & lymphocytes secrete (cytokines) lead to appearance of these lesions.

Clinical features: erythematous, vesicular and ulcerative lesions.

Allergic factors: Tooth pastes, mouth washes, candies, chewing gums, topical antimicrobials, topical steroids, iodine, essential oils & cinnamon.

Histopathology:

Spongiosis, epithelial vesiculation, perivascular lymphophagocytic infiltration in connective tissue, dilated blood vessels, eosinophils are seen.

Diagnosis: careful history taken.

Treatment: removal of the causing factor, uncomplicated cases heal within 1-2 Weeks, steroid will hasten the healing process.