

Oral ulcerative Conditions

- **Oral ulceration is a break in the oral epithelium, exposing nerve endings in the underlying connective tissue.**
- **It results in pain and soreness of the mouth especially with spicy food and citrus fruits.**
- **Patients vary in the degree to which they suffer and complain of the soreness.**

Ulcer

Ulcer: Is defined as loss of surface epithelium.

Oral ulcerations are the most common lesions seen in the dental practice. Some ulcers are extremely painful, others are completely asymptomatic & many of these unfortunately represent serious diseases.

The majority of oral ulcerations are the consequence of trauma or recurrent aphthous stomatitis, but a number of important & serious diseases manifest themselves as ulceration on the oral mucosa.

Some are infectious diseases as syphilis & T.B, others are malignant such as squamous cell carcinoma.

Oral ulceration may be classified on an aetiological basis:-

- 1- Traumatic ulceration**
- 2- Idiopathic ulceration**
- 3- Ulcers associated with systemic diseases**
- 4- Ulcers associated with dermatological diseases**
- 5- Ulcers associated with infectious diseases**
- 6- Neoplastic ulcers**

1- Traumatic ulceration:-

Traumatic ulceration may result from :-

--Mechanical injury:-

Mechanical trauma from biting, sharp cusp, ill-fitting denture is a common cause of oral ulcerations.

Acute traumatic ulceration is characterized by:

a break in the mucosa with a shallow base & non raised margins presented as area of erythema surrounding a central yellowish-white necrotic center.

Heal without scarring within 6–10 days, spontaneously or after removal of the cause.



Differential diagnosis Squamous-cell carcinoma and other malignancies, aphthous ulcer, syphilis, tuberculosis.

Treatment Removal of traumatic factors.

Topical steroids may be used for a short time.

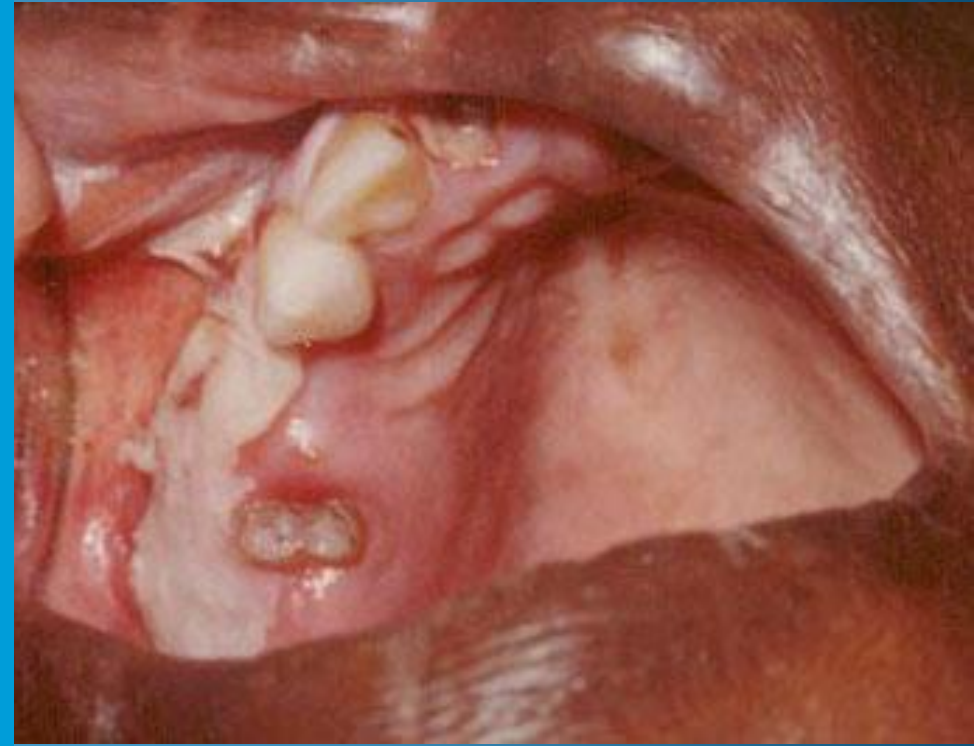
--Chemical injury:-

e.g

- 1-Chemicals used in routine dental practice(may be accidentally applied to the oral mucosa)
- 2-Aspirin misused by some patients locally for the relief of toothache.

Chemical (Aspirin burn)
ulceration:

- The photos show a patient who placed an aspirin on her gums . Aspirin is an acid and burned the oral tissues (gums and cheek).
- Fortunately the mouth heals quickly & within two weeks healing occurred.



--Thermal injury:- Very hot foods or drinks may cause ulceration commonly on the palate.

--Factitious injury:-Abnormal habit such as ,cheek & lip biting, gingival damage by finger nail , may lead to this self-induced ulcer.

--Radiation injury:-Patients undergoing therapeutic radiotherapy for head& neck cancer may develop oral ulceration, which persist through the course of therapy & for several weeks afterward. Similarly, ulcers can occur during chemotherapy. Radiation ulcers are painful.

2-Idiopathic ulceration:-

Recurrent aphthous stomatitis(RAS):-

It is an immune-mediated condition. It is one of the most common oral mucosal lesions. The reported prevalence is 20% from oral ulcerations.

Etiology

The etiology of RAS is far from clear, but there is increasing evidence that mucosal destruction appear to represent a T-cell mediated immunologic reaction.

Analysis of the peripheral blood in patients with RAS shows a decreased ratio of **CD4+** to **CD8+** T lymphocytes.

In addition, a number of local & general factors have also been implicated & one or more of these factors may play a contributory role.

These factors includes the followings:-

1- Hereditary predisposition :-

Family history found in 45% of patients, but there is unclear mode of inheritance. In addition, several investigators have shown an association with certain histocompatibility antigen(HLA).

2- Truma:-

It may influence the site of ulcer, but not play a role in its etiology.

3- Emotional stress:-

It is a precipitating factor, not a direct cause of the ulcer.

4- Allergic disorders:-

Allergy to certain foods, together with the raised IgE level is found in some patients.

5- Haematological disorders:- Anaemia (↓ Hb level).

6- Nutritional deficiencies:-

As in B₁₂, folate & iron deficiency(causing atrophy of oral mucosa) .

7- Hormonal influence:-

RAS & menstrual cycle have been reported in some females.

8- Gastrointestinal disaeses:-

RAS may be associated with Crohn's disease,& Coeliac disease(gluten-sensetive enteropathy).

- Three types of aphthous ulcers are recognized clinically= **Minor, major & herpetiform** ulcers.
- Any of them may be associated with Behcet's disease.
- A prodromal symptoms are described by some patients as soreness, burning or pricking sensation are recognized **1-2** days before the onset of ulceration.

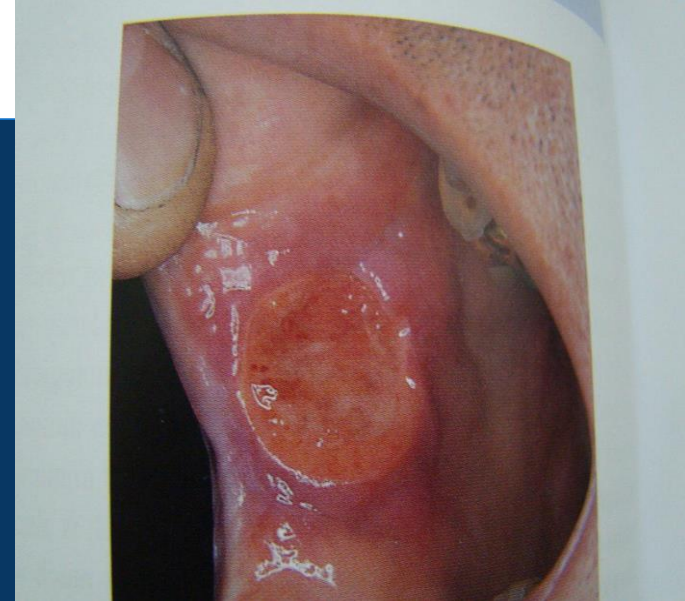
Minor aphthous ulceration

- Most common type.
- Account for more than 80% RAS.
- Clinically presents as shallow, rounded ulcer, 3-5 mm across, with yellowish/ grey base & erythematous margins.
- Affecting non-keratinized mucosa (buccal, labial, ventral tongue, floor of mouth).
- One or several ulcers (1-5) may be seen in the mouth.
- Ulcers last in a maximum 7-14 days.
- Heal without scar.
- It tend to recur at 1- 4 month intervals.
- The patient experience the fewest recurrence.
- Treatment is by topical steroid application & mouthwash.



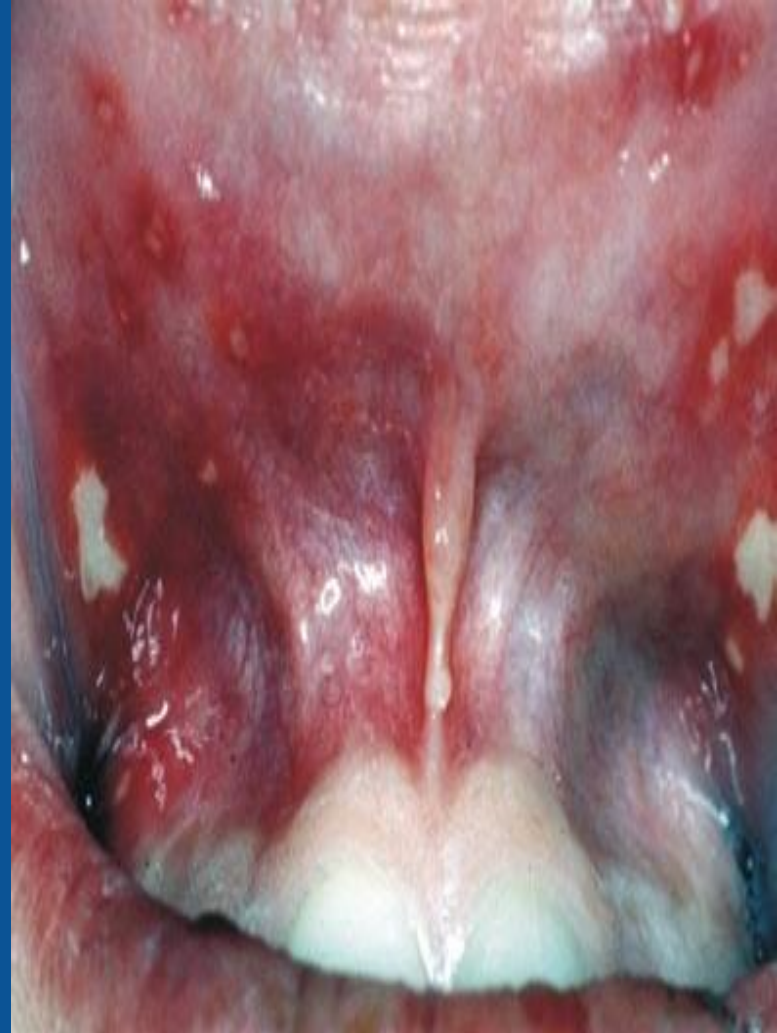
Major aphthous ulceration

- Larger than normal one (1-3 cm across).
- Occur anywhere in the oral mucosa, including the keratinized one, but the lips, soft palate, tonsillar area & oropharynx are the common sites.
- The shape usually ragged oval or cratiform-like ulcers.
- Number of the ulcers varies from (1-10).
- Healing with longer duration (4-6) weeks, with scarring.
- Tend to recur at less than monthly intervals.
- In severe cases ,the ulceration is continuous with severe discomfort & difficulty in eating & speaking.
- Treatment : Topical & systemic steroid, mouthwash, topical anaesthesia to allow adequate nutritional intake.



Herpetiform aphthous ulceration

- Uncommon , recurrent, multiple small, pinhead sized ulcers.
- 1-2 mm across. (10- 100) ulcers may be seen, that may be coalesce to form irregular ulcers.
- Any intra-oral site is affected.
- Healing occur within 2-3 weeks.
- Occur in older age group than minor & major type.
- **Treatment:-** Topical/ systemic steroid, mouthwash.



Aphthous ulcers

Differential diagnosis:

- 1) Recurrent herpetic infection, including herpes simplex virus (HSV), herpes zoster

HSV: on keratinized mucosa

- 2) Other viral infections (e.g. enterovirus, etc.)
- 3) Ulcers associated with neutropenia
- 4) Traumatic ulcer

3- Ulcers associated with systemic diseases Behchet's disease (syndrome)

- Uncommon, multisystemic inflammatory disease (GIT, CV, CNS, Pulmonary, ocular , dermal) in which recurrent oral aphthae are a consistent feature.
- Unknown etiology.
- The underlying disease mechanism may be immunodysfunction(immune-mediated mucosal damage).It may have genetic predisposition (presence of HLA-B51 within this group).
- Common in Eastern Meditranean area to the far East.

Clinically:-

- **Affect mostly males between 20-40 Years.**
- **Characterized by multiple intra oral minor aphthous like ulcers, genital ulcers, ocular ulcers.**

The presence of two of these classic trait of the syndrome are sufficient for the diagnosis.

- **Other features includes:- *CNS involvement (headache), *Recurrent arthritis of the wrist, ankles & knee, *CVS manifestation as vasculitis & thrombosis.**

Treatment:- Systemic steroid therapy to prevent serious ocular damage & to achieve relief of pain.

4- Ulcer associated with dermatological disease (*Erosive lichen planus*)

Lichen planus is a skin disease common in oral cavity, where it appears in different clinical presentation

5-Ulcer associated with infectious diseases

Bacterial e.g : Acute Necrotizing Ulcerative
Gingivitis(ANUG), Syphilis,
Tuberculosis

Fungal e.g : Candidal infections
(Chronic mucocutaneous candidosis)

Viral e.g : Herpes simplex infections

Bacterial infections:-

1- Syphilis

- Syphilis is a relatively common sexually transmitted disease.
- Etiology *Treponema pallidum*.
- Clinical features: Syphilis may be *acquired* (common) or *congenital* (rare).
- Acquired syphilis is classified as *primary*, *secondary* and *tertiary*.

Syphilis

-Clinical features:

-The characteristic lesion in the primary stage is (**chancre**) that appears at the site of inoculation, usually three weeks after the infection.

- Oral chancre appears in about 5–10% of cases, and clinically presents as a painless ulcer with a smooth surface, raised borders, and an indurated base.

- Regional lymphadenopathy is a constant finding.



2- Tuberculosis



- **Clinically:** The ulcer is painless and irregular, with a thin undermined border and a vegetating surface, usually covered by a gray-yellowish exudate.
- The dorsum of the tongue is the most commonly affected site, followed by the lip, buccal mucosa, and palate.
- **Differential diagnosis:** carcinomas, syphilis, major aphthous ulcer.
- **Treatment :** Antituberculous drugs.

3- Acute Necrotizing Ulcerative Gingivitis (ANUG)

-Clinical features: The characteristic clinical feature is painful necrosis of the interdental papillae and the gingival margins, and the formation of craters covered with a gray pseudomembrane.

- Spontaneous gingival bleeding, halitosis, and intense salivation are common. ---- Fever, malaise, and lymphadenopathy are less common.

-Etiology: *Fusobacterium nucleatum*, *Treponema vincentii*, and probably other bacteria play an important role.

- The diagnosis is made at the clinical level.



**3-Acute Necrotizing
Ulcerative Gingivitis
(ANUG)**

Viral infections

Herpes simplex infection

Acute infectious disease caused by Herpes simplex virus **HSV** (type 1 in oral cavity) & (type 2 in genital area).

Two forms of oral infection are produced by this virus:-

- 1-Primary herpetic infection.
- 2- Secondary herpetic infection.

Primary HSV infection

(Acute herpetic gingivostomatitis)

- Develop in children & young adult (rarely in children less than 6 months, because infants has inherited antibodies from their mothers).
- It represented initial exposure to virus, no antibodies.
- The attack is characterized by the development of fever, irritability, headache, malaise, pain on swallowing, & regional lymphadenopathy.



- In the oral cavity ,the primary infection characterized by development of multiple vesicular eruption located on the attached gingiva & movable mucosa, chiefly the lips buccal mucosa, palate, pharynx & tonsil.
- The vesicles rupture forming painful ulcers covered by a grey membrane & surrounded by erythematous area.
- Gingival inflammation precede the formation of the ulcers by several days.
- The ulcers heal spontaneously within 7-14 days with no scar.



Treatment:-

Supportive one ,consists of prescribing soft diet (large fluid intake), antifibrial drugs, antibiotics

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Secondary HSVinfection

(recurrent herpes infection,herpes
labialis,fever blister)

- Seen in adult patients.
- Represent a reactivation of the virus- **that is residue in the trigeminal ganglia** -by a trauma , fatigue, fever, menstruation, upper respiratory tract infection (as common cold=so called *cold sore*), stress & sunlight exposure.
- It is the most frequent type of recurrent infection, & appear as a clusters of vesicles on the lips & the adjacent skin, a few hours after prodromal symptoms of itching or tingling. The vesicles ruptures within a short time (**2-3**)**days** & become crusted. Healing within a week, with no scarring.
- It is a recurrent lesion, (completely disappear & return).



Herpetic whitlow=(Herpetic cross infection)

Contact with an infected patients by a dentists & their assistants, result in herpetic whitlow , a viral dermatitis of the finger.



6- Neoplastic ulcers:-

As with squamous cell carcinoma & other malignant neoplasm.