ACUTE GINGIVAL INFECTIONS

CLASSIFICATION :

According to Manson

1. Traumatic lesions of the gingiva :

- Physical Injury
- Chemical Injury

2. Viral Infections :

- Acute Herpetic Gingivostomatitis
- Herpangina
- Hand, Foot & Mouth Disease
- Measles
- Herpes varicella / Zoster virus infections
- Glandular Fever

3. Bacterial Infections :

- Necrotizing ulcerative gingivitis
- Tuberculosis
- Syphilis

4. Fungal Diseases :

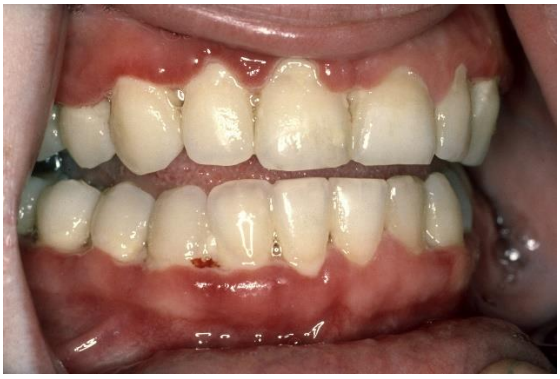
- Candidiasis

5. Gingival Abscess

6. Aphthous Ulceration

7. Erythema Multiforme

8. Drug Allergy & Contact Hypersensitivity



- An acute lesion is of sudden onset and short duration and is painful.
- They are manifested with severe pain along with systemic manifestations
- Thus, these lesions must be treated at the earliest with a proper treatment protocol.

Necrotizing Ulcerative Gingivitis :

- Acute necrotizing ulcerative gingivitis (ANUG) is a common, non-contagious infection of the gums with sudden onset. The main features are painful, bleeding gums, and ulceration of inter-dental papillae.
- **Synonyms** are : 1. Trench Mouth

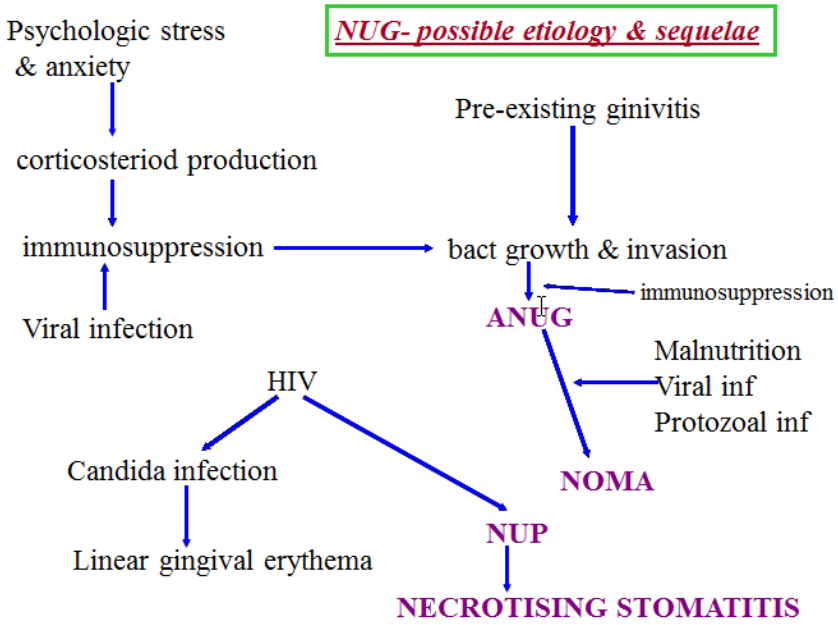
  2. Vincent's Infection

  3. Acute Ulceromembranous Gingivitis
- It causes destruction of the supporting structures

Etiology :

- Fusiform bacillus & Spirochetal organisms are responsible for causing ANUG
- Constant flora is composed of Fusospirochetal organisms, Bacteroides intermedius & Prevotella intermedia

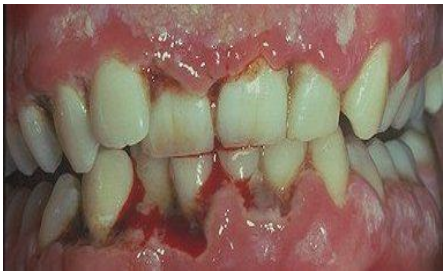
- Traumatic occlusion
- Toxic effect of tobacco on the Gingiva
- Nutritional deficiency : Deficiency of Vitamin C and Vitamin B
- Debilitating Diseases : Severe gastrointestinal diseases , Blood dyscrasias such as anemia, leukemia , and AIDS (Acquired Immunodeficiency Syndrome)
- Psychosomatic factors

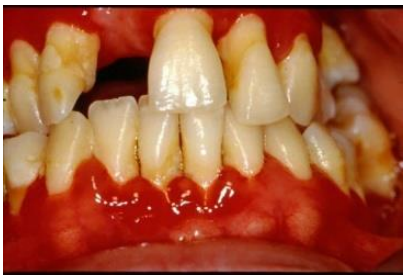


Clinical Signs & Symptoms :

- Punched out , crater-like depressions at the crest of the interdental papillae
- Craters are covered by grayish pseudomembranous slough demarcated by linear erythema
- Ulcerations are of two types : lateral ulceration & necrosis and Deep ulceration & necrosis
- Lateral ulceration involves the buccal wall of the papillae
- Deep ulcerations involve necrosis of the tissues of the embrasure giving rise to a typical truncated papilla
- Gingival hemorrhage
- Fetid Odor
- Increased Salivation
- Lesions are sensitive to touch

- Patients might complain of constant radiating , gnawing pain which intensifies on taking hot or spicy food
- Metallic foul taste
- Pasty Saliva



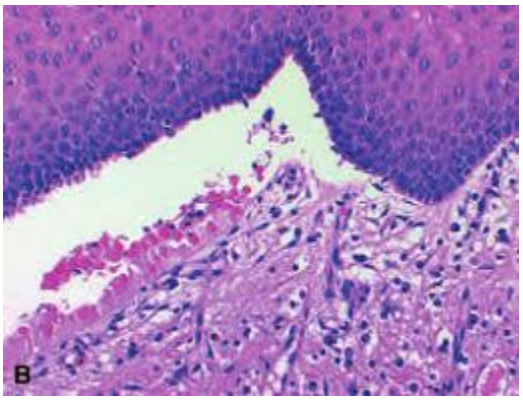


Extra-Oral Symptoms :

- Local lymphadenopathy
- Slight elevation in temperature
- High fever
- Increased pulse rate
- Leukocytosis
- Loss of appetite
- General Lassitude
- In Rare Cases , Noma / gangrenous stomatitis , fusospirochetal meningitis , peritonitis , toxemia , fatal brain abscess

Histopathology :

- Pseudomembranous mesh work of fibrin , necrotic epithelial cells , neutrophils
- Hyperemic underlying connective tissue
- **Lisgarten & colleagues described four zones as below :**
- **Zone I : Bacterial Zone :** It is the most superficial zone . Consists of varied bacteria which includes spirochetes of small , medium & large types
- **Zone II : Neutrophil- Rich Zone :** Contains numerous leukocytes predominantly neutrophils & Spirochetes
- **Zone III : Necrotic Zone :** Consists of dead tissue cells, remnants of connective tissue fragments & numerous spirochetes
- **Zone IV : Zone of Spirochetal Infiltration :** Consists of a well-preserved tissue infiltration with spirochetes of intermediate & large size



Differential Diagnosis :

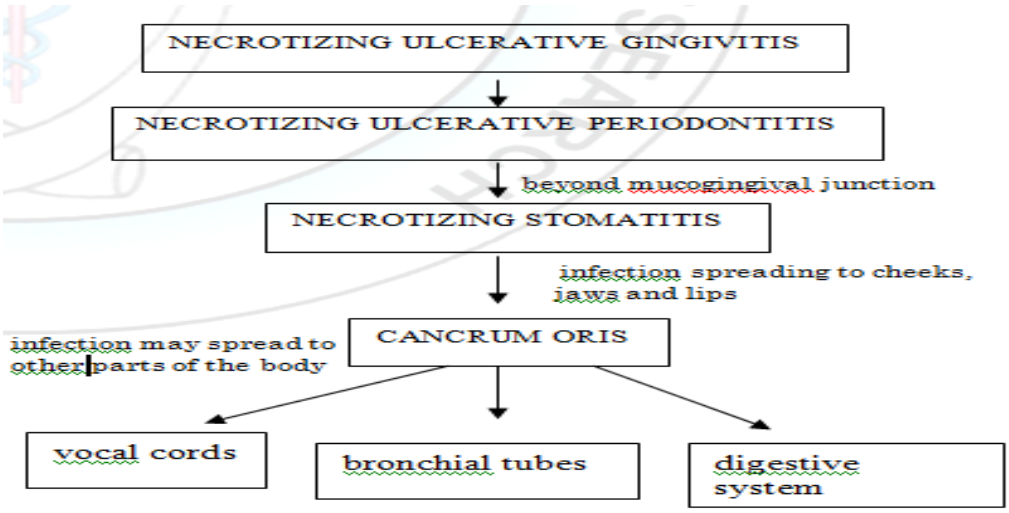
- Gonococcal stomatitis
- Agranulocytosis
- Vincent's Angina
- Desquamative Gingivitis
- Streptococcal Gingivostomatitis

Treatment : (For Non-Ambulatory patients)

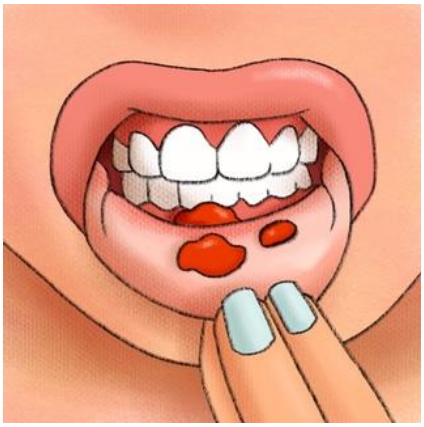
- Removing the necrotic pseudo membrane with a pellet of cotton saturated with H_2O_2
- Advised bed rest & rinse the mouth every 2 hours with diluted 3% H_2O_2
- Systemic antibiotics like penicillin or metronidazole

Treatment : (For Ambulatory patients)

- **Antibiotic regime of amoxicillin 500 mg thrice daily / Azithromycin 500 mg once a day for 3 days / Metronidazole 200 mg or 400 mg twice daily for 7 days**
- Subgingival Scaling / Curettage
- Avoid smoking & alcohol consumption
- Rinse with 3 % H_2O_2 & warm water for every 2 hours
- Chlorhexidine mouthwash
- Root Planing
- Reinforcement of Oral Hygiene Instructions
- Treatment of chronic gingivitis , Pericoronal flaps , elimination of local irritants
- Gingivoplasty
- Drugs like Sodium perborate , Hydrogen Peroxide can be used
- Supportive Periodontal Treatment : Copious fluid consumption
- Administration of analgesics & Bed Rest
- Vitamin B / Vitamin C supplements



ACUTE HERPETIC GINGIVOSTOMATITIS



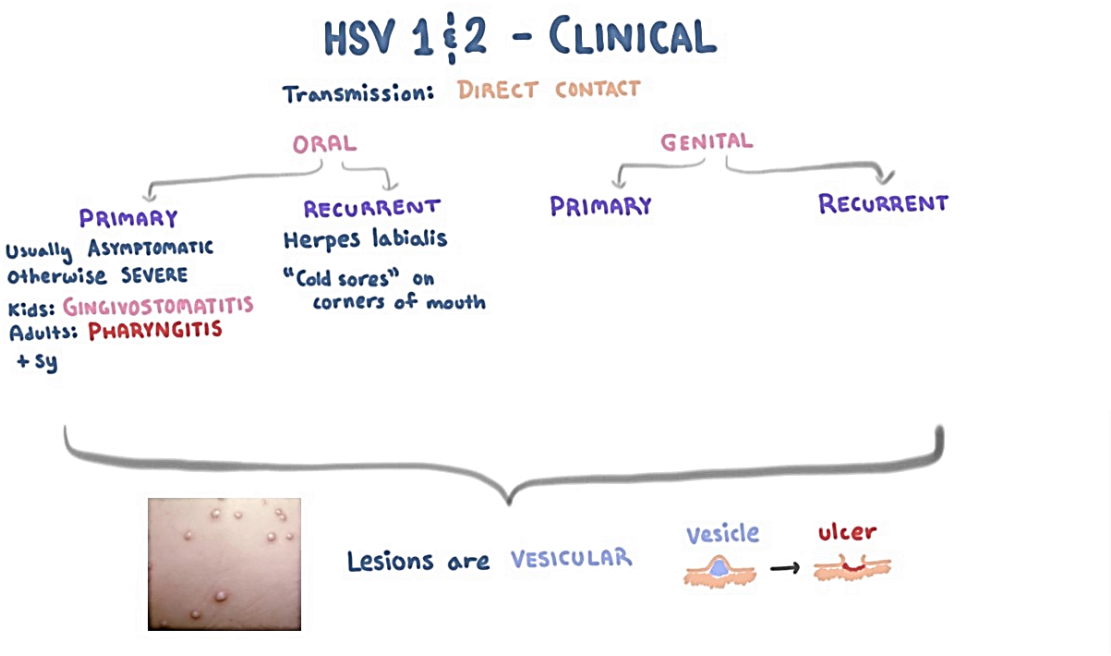
Herpetic gingivostomatitis. **Gingivostomatitis** is a combination of gingivitis and stomatitis, or an inflammation of the oral mucosa and gingiva. **Herpetic gingivostomatitis** is often the initial presentation during the first ("primary") herpes simplex infection.

Clinical Features :

- Diffuse , shiny erythematous involvement of the gingiva and the adjacent oral mucosa
- Edema & Gingival bleeding
- In its initial stages it appears as discrete , spherical clusters of vesicles found in labial & buccal mucosa , hard palate , pharynx , and tongue
- These vesicles rupture & form painful ulcers with scalloped borders and surrounding erythema
- Diffuse , enlargement of the gingiva is seen which bleeds profusely
- The course of the disease is 7-10 days
- Generalized soreness of the oral cavity
- Ruptured vesicles are sensitive to touch , thermal changes & food.
- Prodromal symptoms : fever , loss of appetite and myalgia , Cervical lymphadenopathy
- Tingling & Itching on the corners of the lips followed by vesicle formation & ulceration

Etiology :

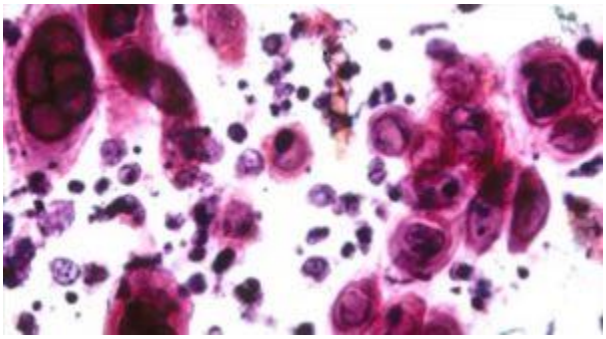
- ✓ **HSV Infection 1 & 2**
- ✓ Cytomegalovirus
- ✓ Varicella Zoster Virus
- ✓ Epstein- Barr Virus
- ✓ Human Herpes Virus 8



Histopathology :

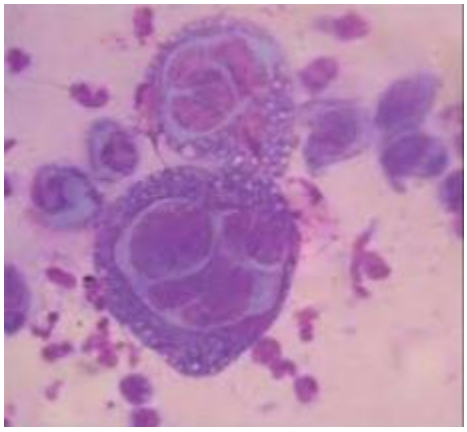
- ☞ Extra & Intra cellular Edema
- ☞ Degeneration of the Epithelial cells
- ☞ Cell cytoplasm is clear & liquified
- ☞ **Presence of Lipschutz bodies : Inclusion bodies**, sometimes called **elementary bodies**, are nuclear or cytoplasmic aggregates of stable substances, usually proteins. They typically represent sites of viral multiplication in a bacterium or a eukaryotic cell and usually consist of viral capsid proteins.

- Connective tissue is infiltrated by plasma cells
- Smear obtained is **Tzanck smear**
- Stain used is **Giemsa's stain**



Diagnosis :

- HSV isolation by cell culture
- Clinical finding & Patient's history
- PCR (Polymerase Chain Reaction)
- Tzanck Smear : Multi-nucleated cells with swelling , ballooning & degeneration



Differential Diagnosis :

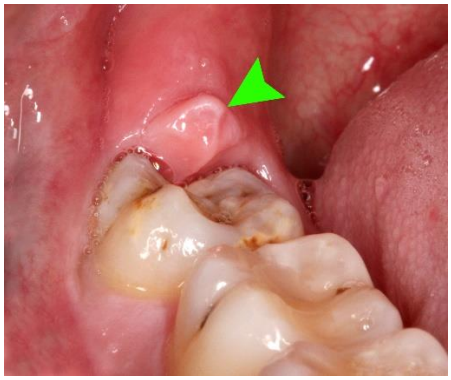
- Necrotizing Ulcerative Gingivitis

- ❖ Erythema Multiforme
- ❖ Stevens – Johnson Syndrome
- ❖ Aphthous Stomatitis (Canker Sores)

Treatment :

- Topical Lignocaine for relief of pain
- Acyclovir : 15mg/kg given 5 times a day for 5-7 days
- Topical Anti-viral medications such as 5% acyclovir cream or 3% Penciclovir cream applied 3-5 times a day

PERICORONITIS



Pericoronitis is inflammation of the soft tissues surrounding the crown of a partially erupted tooth, including the gingiva (gums) and the dental follicle.

Types

- **Acute**
- **Sub-Acute**
- **Chronic**

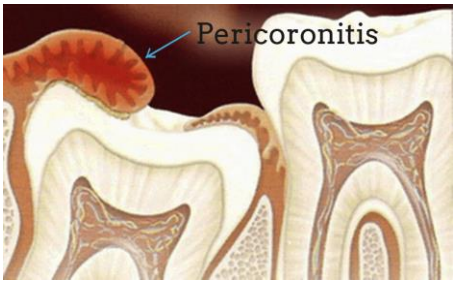
Clinical Features :

- Red , edematous suppurating lesion which is tender
- Radiating pain to the ear , throat & floor of the mouth
- Trismus
- Foul taste
- Pain & swelling in the cheek region & in the angle of the jaw

Acute Pericoronitis :

Acute pericoronitis (i.e. sudden onset and short lived, but significant, symptoms) is defined as "varying degrees of inflammatory involvement of the pericoronal flap and adjacent structures, as well as by systemic complications"

Systemic complications refer to signs and symptoms occurring outside of the mouth, such as fever, malaise, or swollen lymph nodes in the neck.



Complications :

- **Pericoronal Abscess**
- **Cyst Formation**
- **May spread to oropharyngeal area & medially into the base of the tongue**

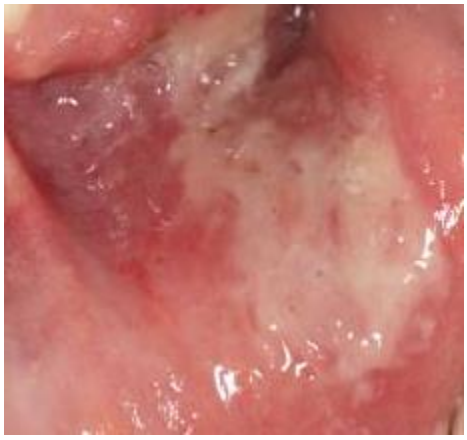
- **Involvement of the submaxillary , cervical , deep cervical & retropharyngeal lymph nodes**
- **Peritonsillar abscess , Cellulitis**
- **Ludwig's angina**

Treatment :

- ✓ Area is gently flushed with warm water
- ✓ Application of topical anesthetic agent
- ✓ Hourly rinses with a solution of saltwater
- ✓ If the flap is swollen, then an antero-posterior incision is made
- ✓ Periodontal surgical procedures are involved in some cases

RECURRENT APTHOUS STOMATITIS

Recurrent aphthous stomatitis is a common condition in which round or ovoid painful ulcers recur on the oral mucosa. Also called **Canker Sores .**



Etiology is unclear, but recurrent aphthous stomatitis (RAS) tends to run in families. The damage is predominately T–cell-mediated. Cytokines, such as IL-2, IL-10, and particularly TN-alpha, play a role.

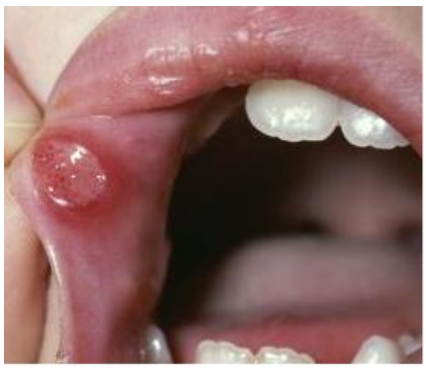
Predisposing factors include

- Oral trauma
- Stress
- Foods, particularly chocolate, coffee, peanuts, eggs, cereals, almonds, strawberries, cheese, and tomatoes

Allergy does not seem to be involved. Factors that may, for unknown reasons, be protective include oral contraceptives, pregnancy, and tobacco, including smokeless tobacco and nicotine-containing tablets.

- ✓ **Symptoms and signs** usually begin in childhood (80% of patients are < 30 years) and decrease in frequency and severity with aging.
- ✓ Symptoms may involve as few as one ulcer 2 to 4 times a year or almost continuous disease, with new ulcers forming as old ones heal. A prodrome of pain or burning for 1 to 2 days precedes ulcers, but there are no antecedent vesicles or bullae.
- ✓ Severe pain, disproportionate to the size of the lesion, can last from 4 to 7 days.
- ✓ Aphthous ulcers are well-demarcated, shallow, ovoid, or round and have a necrotic center with a yellow-gray pseudo membrane, a red halo, and slightly raised red margins.

Minor aphthous ulcers account for 85% of cases. They occur on the floor of the mouth, lateral and ventral tongue, buccal mucosa, and pharynx; are < 8 mm (typically 2 to 3 mm); and heal in 10 days without scarring.



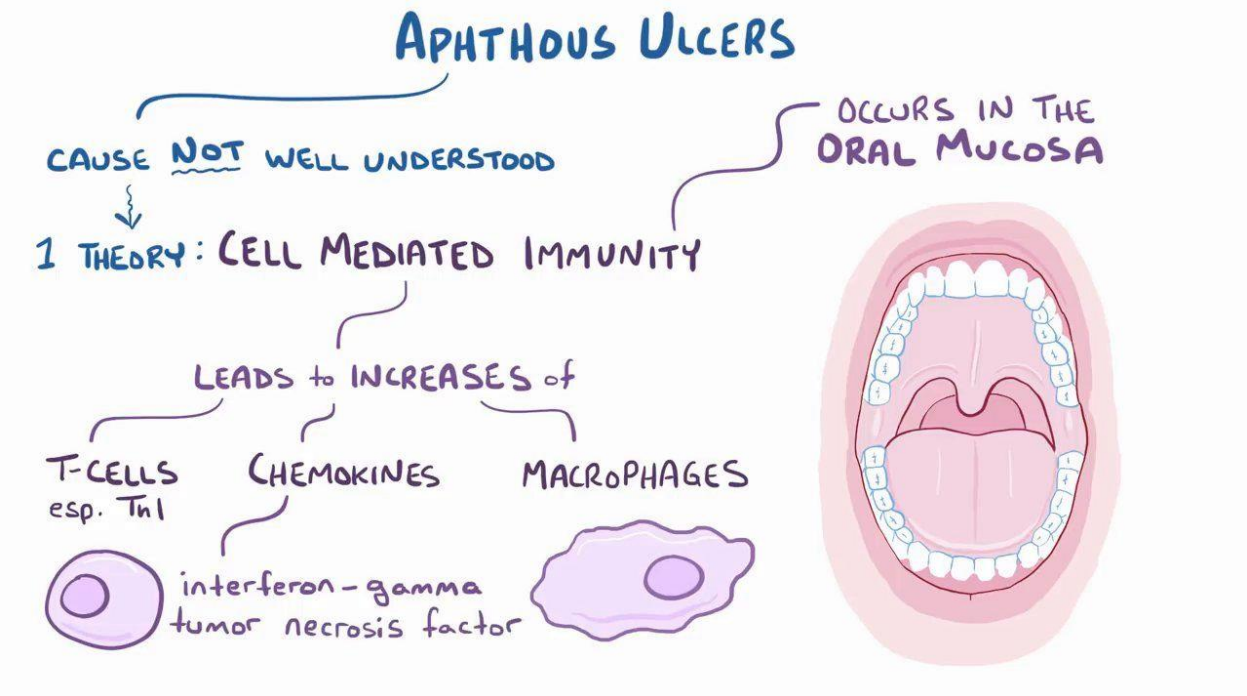
Major aphthous ulcers (Sutton disease, periadenitis mucosa necrotica recurrens) constitute 10% of cases.

Appearing after puberty, the prodrome is more intense and the ulcers are deeper, larger (> 1 cm), and longer lasting (weeks to months) than minor aphthae.

They appear on the lips, soft palate, and throat. Fever, dysphagia, malaise, and scarring may occur.

Treatment :

- ✓ Application of Lignocaine & Benzocaine
- ✓ Topical Steroids application
- ✓ Systemic Therapy : Like Thalidomide therapy



APHTHOUS ULCERS

* mildly painful, ANNOYING
* a FEW millimeters across
* HEAL in 7-10 days
  - no SCARRING
* RECUR (usually) 3-4 times a year

RECURRENT APHTHOUS ULCERS

* may recur MONTHLY
* CHILDHOOD to ~AGE 40

MAJOR APHTHOUS ULCERS

* lesions >1 cm
* MORE painful
* recur FREQUENTLY
* 10-30 days to HEAL
  - can SCAR

NOT LINKED TO HERPES

HERPETIFORM ULCERS

* typically affects ♀
* tiny, discrete ulcers that coalesce into ULCERATED PATCHES
* HEAL in ~10 days
* recur FREQUENTLY

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