

INFLAMMATORY LESIONS OF ORAL CAVITY

Dr .Murad Ahmed
Assistant Professor
Dept. of Pathology

INTRODUCTION

- Peripheral reactive lesions of soft tissue are common oral lesions.
- Diagnosis and development of a treatment plan is difficult if dentists are not aware of the prevalence and clinical symptoms of these lesions.
- The frequency of these lesions differs across various populations.

- The oral mucosa is constantly under the influence of various internal and external stimuli.
- It exhibits a range of developmental disorders, irritation, inflammation, and neoplastic conditions .
- Reactive lesions are tumor-like hyperplasias which show a response to a low-grade irritation or injury .
- Such as chewing, food impaction, calculus, iatrogenic injuries such as broken teeth, overhanging dental restorations and extended flanges of denture.

DISEASES OF TEETH AND SUPPORTING STRUCTURE

- **Caries(tooth decay)**
- **Gingivitis**
- **Periodontitis**

CARIES (TOOTH DECAY)

- Dental caries is a multifactorial, infectious oral disease caused primarily by the complex interaction of cariogenic oral flora (biofilm) with fermentable dietary carbohydrates on the tooth surface over time.
- Caries are one of the most common disease world wide.
- Main cause of tooth lose before age 35.

- Improved oral hygiene and fluoridation of drinking water has decreased incidence of tooth decay.
- Fluoride is incorporated into the crystalline structure of enamel.
- Forming fluoroapatite, which is resistant to degradation by bacterial acids.

GINGIVITIS

- Gingivitis is a non-destructive disease that causes inflammation of gums.
- Result from poor oral hygiene and leads to accumulation of dental plaque and calculus.
- Most forms of gingivitis are plaque-induced.
- Gingivitis is reversible with good oral hygiene.

- The cause of plaque-induced gingivitis is bacterial plaque
- Acts to initiate the body's host response.
- Lead to destruction of the gingival tissues.
- May progress to destruction of the periodontal attachment apparatus.

RISK FACTORS

- Age
- [Osteoporosis](#)
- Low dental care utilization
- Poor oral hygiene
- overly aggressive oral hygiene such as brushing with stiff bristles
- Mouth-breathing during sleep
- medications and conditions that [dry the mouth](#)
- [Cigarette smoking](#)
- Genetic factors
- stress
- Mental health issues such as depression
- Pre-existing conditions such as [diabetes](#)

SIGNS AND SYMPTOMS

- Swollen gums
- Bright red or purple gums
- Gums that are tender or painful to the touch
- Bleeding gums or bleeding after brushing
- Bad breath (halitosis)



PREVENTION

Oral hygiene-brushing and flossing.

Hydrogen peroxide, saline, alcohol or chlorhexidine mouth wash can be used

PERIODONTITIS

- Inflammatory conditions affecting the tissues surrounding the teeth, alveolar bone and cementum.
- The gums can pull away from the tooth, bone can be lost, and the teeth may loosen or fall out.
- Caused by bacterial infection
- Factors increase the risk-
Smoking, Diabetes, HIV/AIDS, family history, certain medication.

APHTHOUS ULCER(CANKER SORES)

- **Aphthous stomatitis** is a common condition characterized by the repeated formation of benign and non-contagious superficial mouth ulcers(aphthae) that is exceedingly painful.
- Most common in second decade of life.
- The cause is not completely understood.

- Involves a T cell mediated immune response triggered by a variety of factors.
- Include nutritional deficiencies, local trauma, stress, hormonal influences, allergies, or genetic predisposition
- Associated with other autoimmune diseases, namely SLE inflammatory bowel diseases.

- Aphthous ulcers typically begin as erythematous macules (reddened, flat area of mucosa) which develop into ulcers that are covered with a yellow-grey fibrinous membrane.
- Can be scraped away.
- A reddish "halo" surrounds the ulcer.
- The size, number, location, healing time, and periodicity between episodes of ulcer formation are all dependent upon the subtype of aphthous stomatitis.



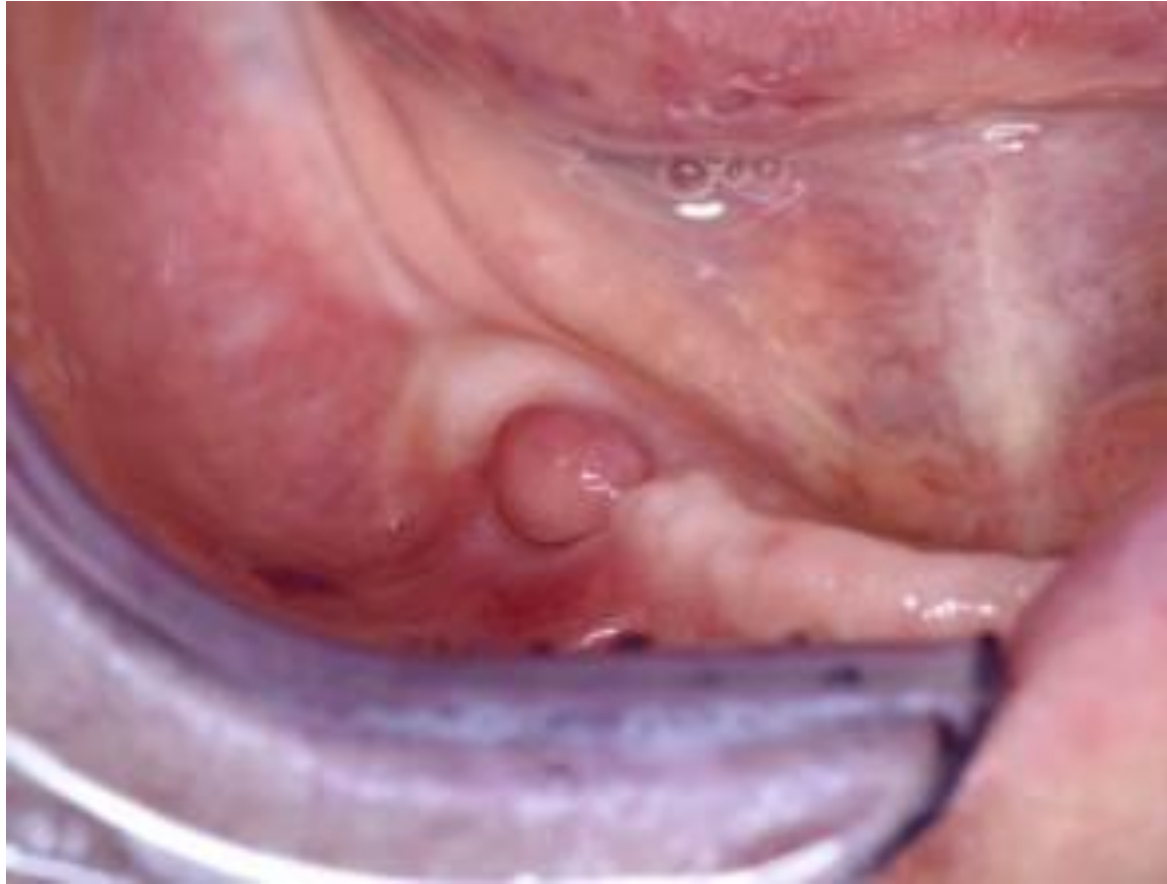
- The vast majority of people with aphthous stomatitis have minor symptoms and do not require any specific therapy.
- The pain is often tolerable with simple dietary modification during an episode of ulceration such as avoiding spicy and acidic foods and beverages.¹

IRRITATION FIBROMA

- An oral fibroma is a common benign scar-like reaction to persistent long-standing irritation in the mouth.
- It is also known as a traumatic fibroma, focal intraoral fibrous hyperplasia, fibrous nodule or oral polyp.
- An oral fibroma is most commonly seen in older adults but can occur at any age. It affects 1–2% of adults.
- Oral fibromas do not develop into oral cancer.

- It is usually due to chronic irritation such as: Cheek or lip biting, Rubbing from a rough tooth, Dentures or other dental prostheses.
- An oral fibroma presents as a firm smooth papule in the mouth.
- An oral fibroma is usually a solitary lesion
- It is usually dome-shaped but may be on a short stalk like a polyp (pedunculated).

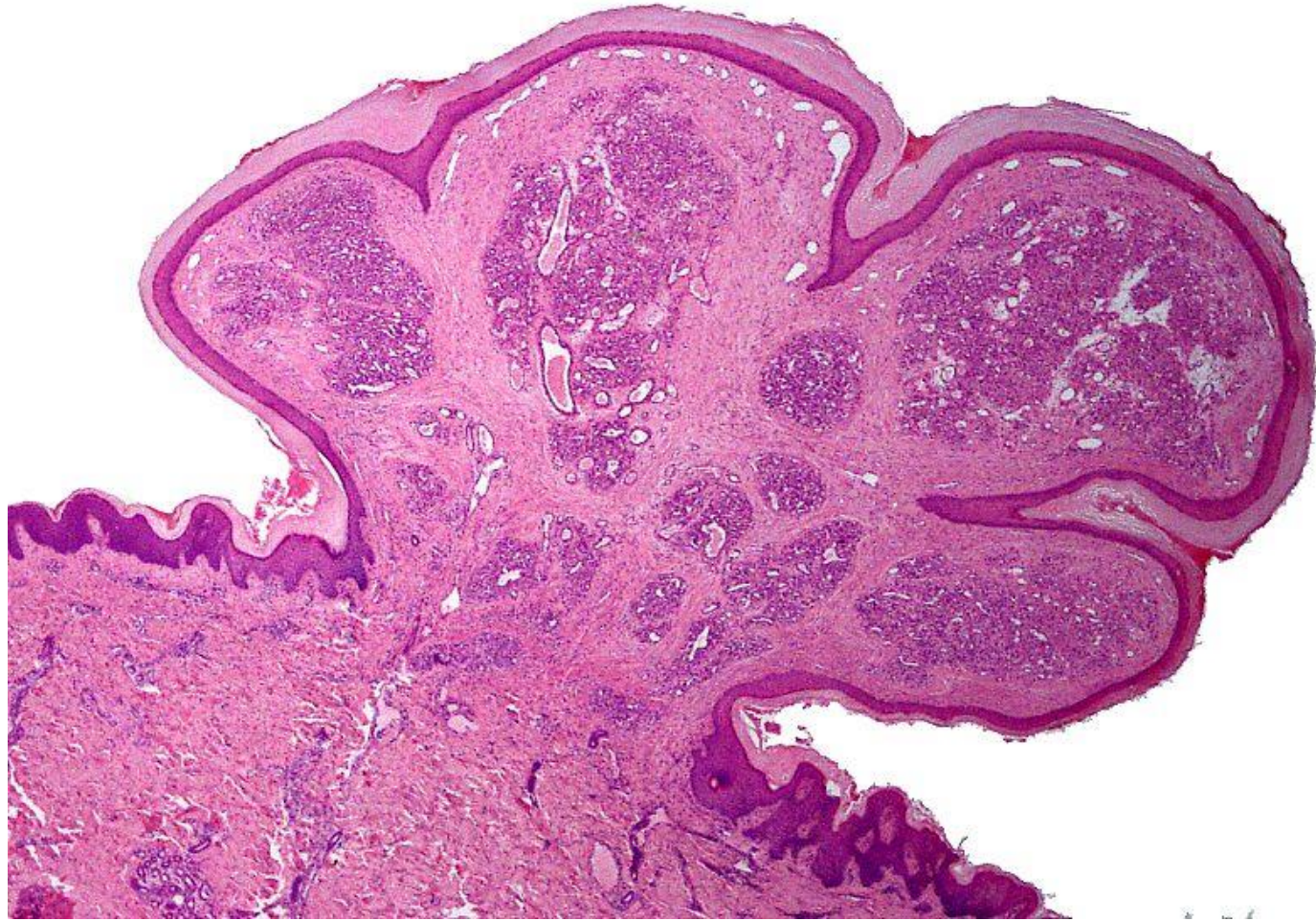
- The commonest location for an oral fibroma is on the inside of the cheek where the upper and lower teeth meet.
- Other common sites include the sides of the tongue, gums and inside the lower lip.
- Histology shows typical dense fibrous tissue with relatively few cells. The overlying epithelium may be ulcerated, thinned or thickened.
- Treatment is surgical excision of the fibroma



PYOGENIC GRANULOMA

- The name *pyogenic granuloma* is misleading as it is neither pyogenic or a true granuloma..
- Also called as lobular capillary hemangioma.
- Lesion is prone to bleeding on touch.
- **Pyogenic granuloma** or pyogenic fibroma is vascular tumor like condition.
- Occurs on both mucosa and skin
- Appears as overgrowth of tissue due to irritation ,physical trauma or hormonal factors..

- Pyogenic granulomas may be seen at any age, and are more common in females than males.
- In pregnant women, lesions may occur in the first trimester with an increasing incidence up until the seventh month, and are often seen on the gums.
- Pyogenic granulomas are caused by proliferation of capillaries and are not caused by infection or cancer.



PERIPHERAL OSSIFYING FIBROMA

- Also known as **ossifying fibrous epulis**.
- A gingival nodule is composed of a cellular fibroblastic connective tissue stroma which is associated with the formation of randomly dispersed foci of mineralised products, which consists of bone, cementum-like tissue, or a dystrophic calcification.

- Can arise from long standing pyogenic granuloma and peripheral giant cell granuloma.
- The color of peripheral ossifying fibromas ranges from red to pink, and is frequently ulcerated.
- It can be sessile or pedunculated with the size usually being less than 2 cm

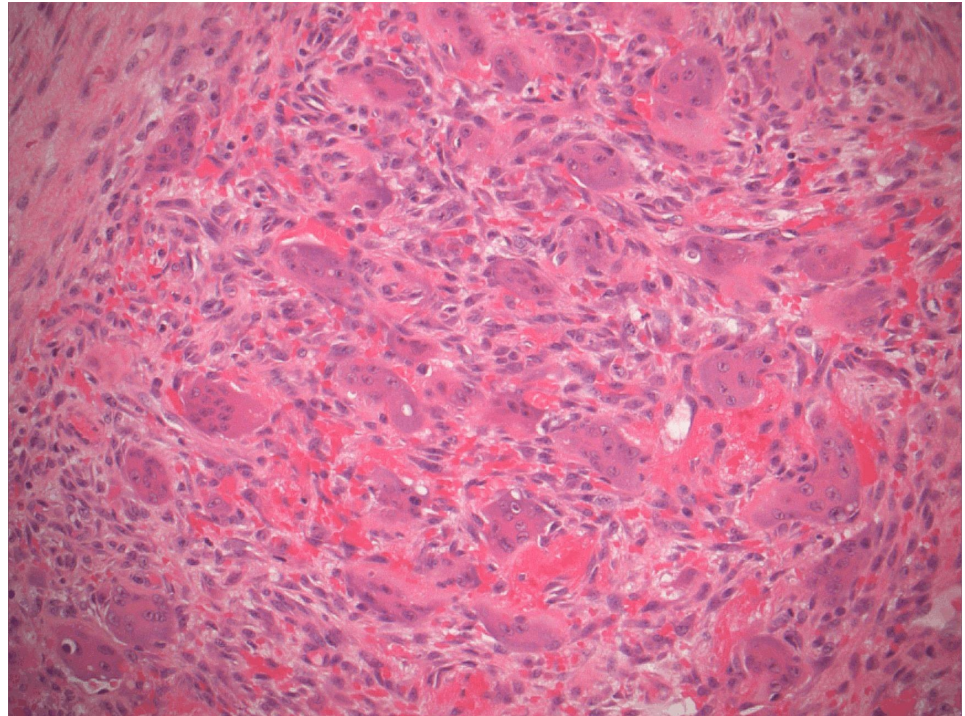
- 66% of the disease occurring in females.
- The prevalence of peripheral ossifying fibromas is highest around 10 – 19 years of age.
- It appears only on the gingiva, more often on the maxilla rather than the mandible.
- Treatment usually involves surgical removal of the lesion down to the bone

PERIPHERAL GIANT CELL GRANULOMA

- Peripheral giant cell granuloma or the so-called “giant cell epulis” is the most common oral giant cell lesion
- It normally presents as a soft tissue purplish-red nodule.
- Does not represent a true neoplasm, but rather may be reactive in nature, believed to be stimulated by local irritation or trauma.

- 60% gender predilection to females.
- The prevalence of the peripheral giant-cell granuloma is highest around 50 - 60 years of age.
- It appears only on the gingiva or on an edentulous alveolar ridge.
- It is more often found in the mandible rather than the maxilla.
- The underlying alveolar bone can be destroyed, leaving a unique appearance referred to as "cupping resorption" or "saucerization"

- Microscopy - large number of multinucleated giant cells, which can have up to dozens of nuclei.
- Additionally, there are [mesenchymal cells](#) that are ovoid and spindle-shaped.
- Near the borders of the lesion, deposits of hemosiderin and hemorrhage is often found.



HERPES SIMPLEX INFECTION

- Herpetic gingivostomatitis is an infection caused by the Herpes Simplex Virus(HSV).
- HSV-1 is predominantly responsible for oral, facial and ocular infections whereas HSV-2 is responsible for most genital and cutaneous lower herpetic lesions.
- Both HSV-1, and HSV-2 can be the cause of herpetic gingivostomatitis.
- HSV-1 is the source of infection in around 90% of cases

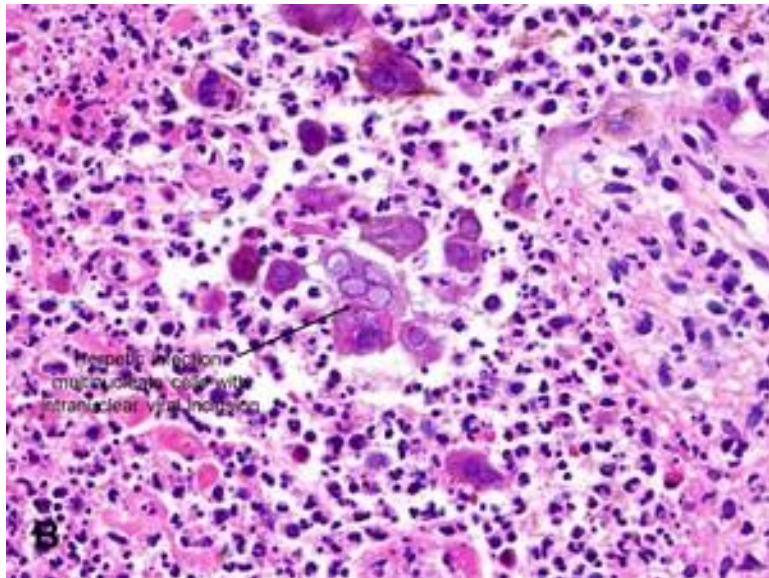
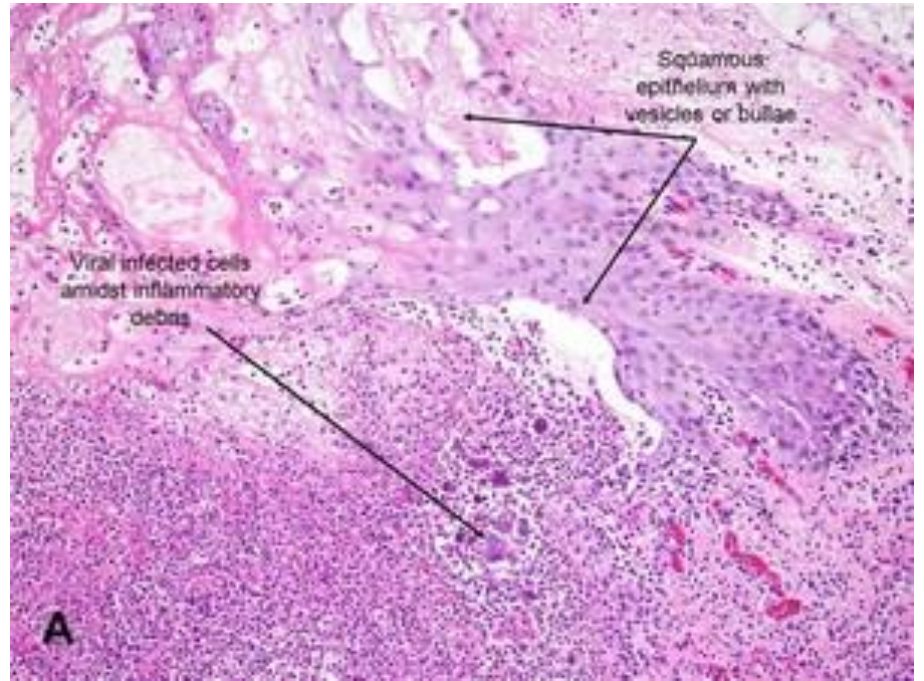
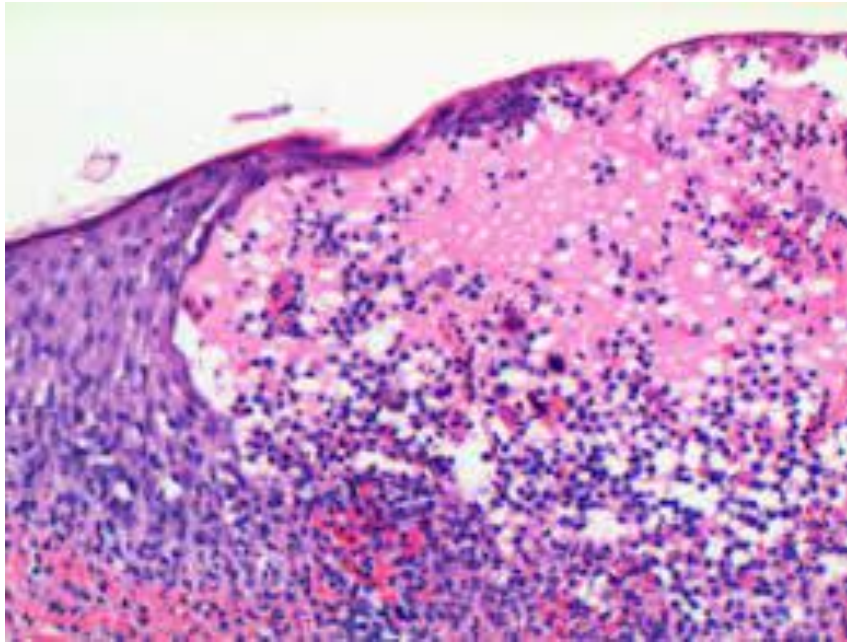
Clinical presentation

- Prodromal symptoms, such as fever, anorexia, irritability, malaise and headache, may occur in advance of disease.
- The disease presents as numerous pin-head vesicles to large bulla filled with clear serous fluid.
- Rupture rapidly to form painful irregular ulcerations covered by yellow–grey membranes.
- Sub-mandibular lymphadenitis
- Halitosis and refusal to drink are usual concomitant findings.

- Herpetic gingivostomatitis infections can present as acute or recurrent.
- Acute infection refers to the first invasion of the virus.
- Recurrent is when reactivation of the latent virus occurs.
- Acute herpetic gingivostomatitis primarily occurs in children, particularly of those under the age of six years old.

MICROSCOPIC FINDINGS

- Acantholysis
- Intraepithelial bulla formation
- Eosinophilic intranuclear viral inclusion
- Giant cells(multinucleated polykaryons)
- Tzanck test –diagnostic test



ORAL CANDIDIASIS

- **Oral candidiasis**, also known as **oral thrush**.
- *Candida albicans* is the most commonly implicated organism in this condition.
- *C. albicans* is carried in the mouths of about 50% of the world's population as a normal component of the oral microbiota.



- Three major types
- Pseudomembranous,
- Erythematous (atrophic)
- Hyperplastic

PSEUDOMEMBRANOUS

- Acute pseudomembranous candidiasis is a classic form of oral candidiasis.
- Commonly referred to as thrush.
- This is the most common type of oral candidiasis.
- Accounting for about 35% of oral candidiasis cases.

- It is characterized by a coating or individual patches of pseudomembranous white slough that can be easily wiped away to reveal erythematous (reddened), and sometimes minimally bleeding, mucosa beneath.
- These areas of pseudomembrane are sometimes described as "curdled milk", or "cottage cheese".



Pseudomembranous type

Common local and systemic predisposing factors

- *Local host factors*

- Dentures
- Corticosteroid inhalers
- Reduced salivary flow
- High sugar diet

- *Systemic host factors*

- Extremes of age
- Endocrine disorders (e.g., diabetes)
- Immunosuppression
- Broad spectrum antibiotics (e.g., tetracycline)
- Nutritional deficiencies

THANK YOU