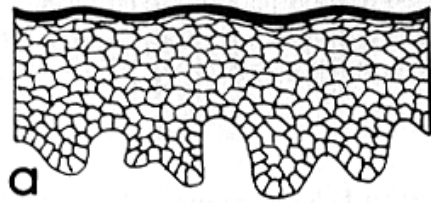


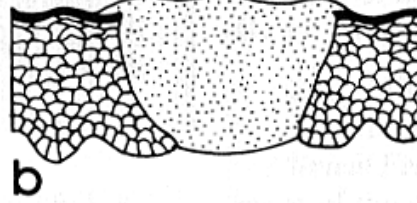
# ORAL MUCOSAL ULCERATIONS

# Pathogenesis of Oral Ulcers

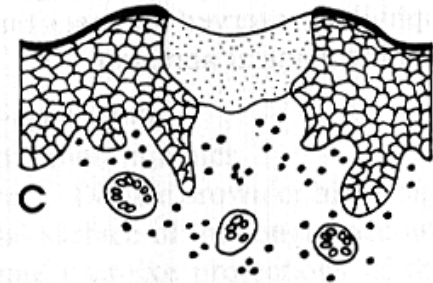
- Trauma
- Infection
  - Viral
  - Granulomatous Bacterial or Fungal
- Immunopathologic
- Ischemic
- Neoplastic
- Metabolic



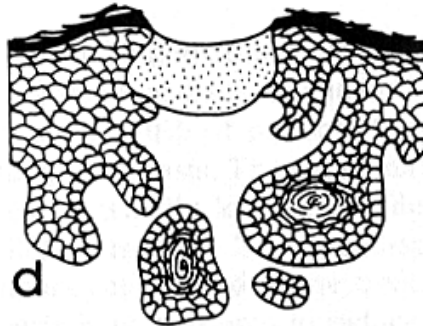
Normal mucosa



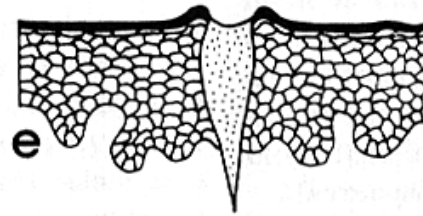
Ulceration



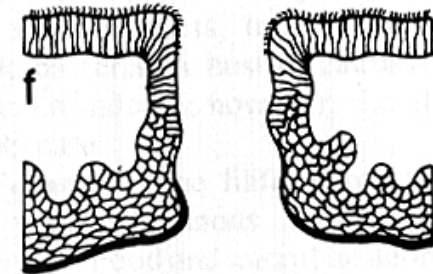
Granulomatous ulceration



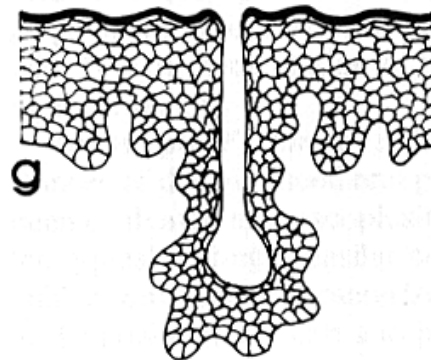
Carcinoma with ulceration



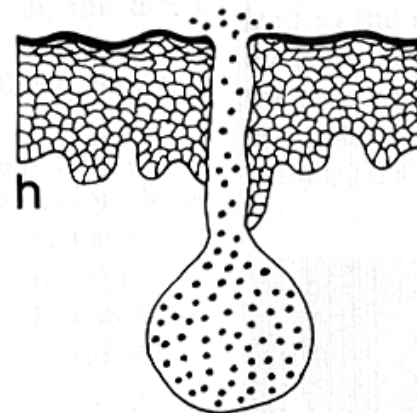
Fissure



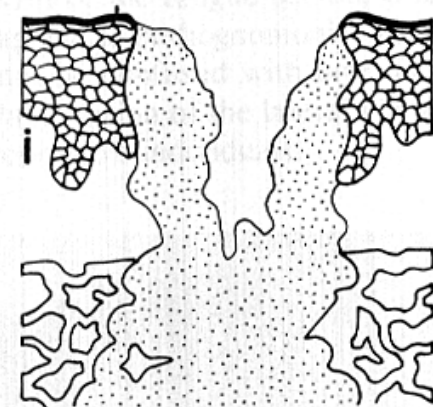
Oroantral fistula



Blind fistula



Infectious sinus tract



Osseous destructive ulceration

## Ulcers, Fistulae, and Sinuses

# THE FOCAL ULCER

- Traumatic Ulcer
- Traumatic Ulcerative Granuloma
- Atypical Histiocytic Granuloma
- Necrotizing Sialometaplasia
- Traumatic Bony Sequestrum
- Bisphosphonate Induced Sequestrum
- Granulomatous Ulcer
- Squamous Cell Carcinoma

# Traumatic Ulcers

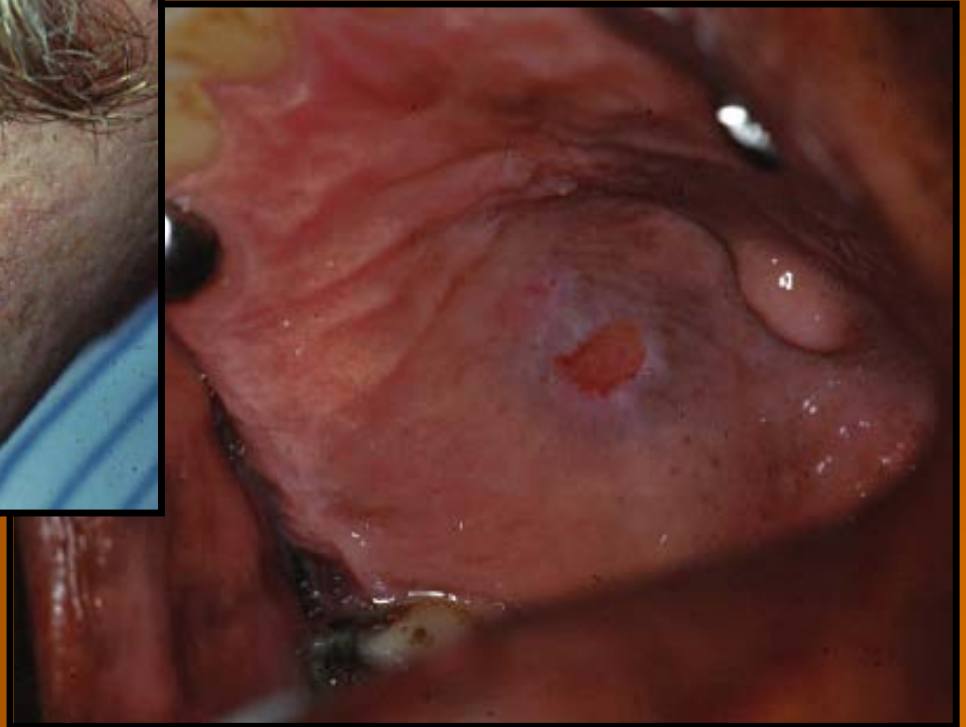
- Acute
- Chronic Irritation
- Heal within 10-12 days
- Removal of Irritant
- Nonspecific Inflammation

# Traumatic Ulcer

- Lip bite



- palate



# Facial Injury



# Traumatic Ulcerative Granuloma with Stromal Eosinophilia

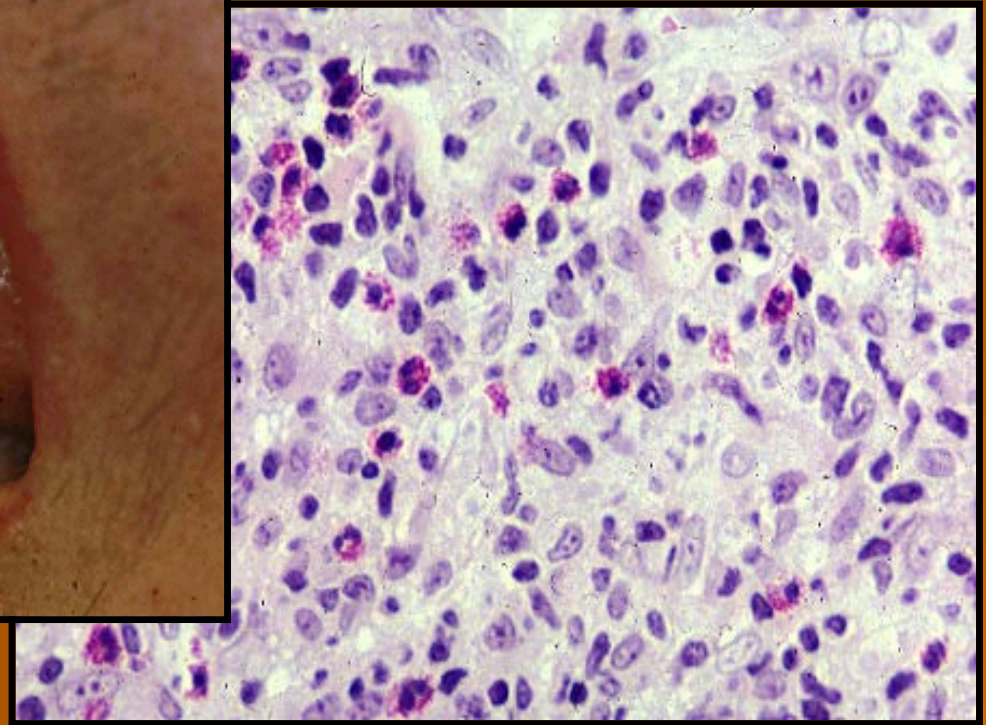
- Trauma or ? Etiology
- Dorsal or Lateral Tongue
- Large Dimensions, Symmetrical
- Histocytes, Eosinophils
- Inflammation into muscle



# Traumatic Ulcerative Granuloma with Stromal Eosinophilia

Clinical

Histopathology

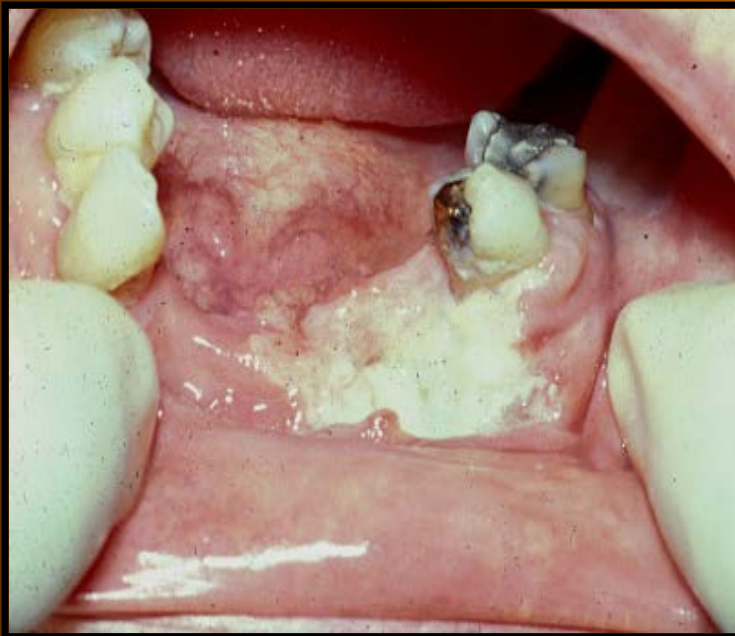


# Atypical Histiocytic Granuloma

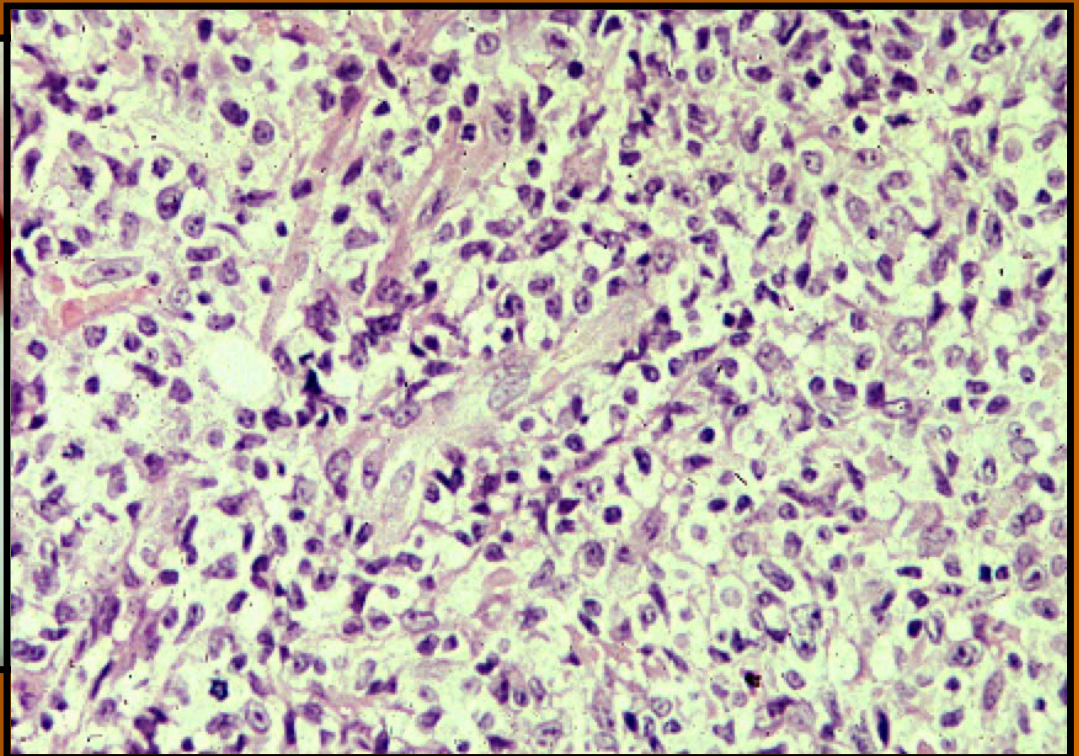
- Variant of TUGSE
- Elderly
- Lips, Buccal Mucosa, Tongue
- Asymmetrical, Irregular and Large
- Granulation Tissue
- Atypical Pleomorphic Mononuclear Cells
- Mitotic Figures
- Eosinophilia

# Atypical Histiocytic Granuloma

Clinical



Histopathology



# Kimura's Disease

- Ulcer or Subcutaneous/Submucosal Nodule
- Facial Skin
- Common in Asia
- Prominent Vessels
- Lymphoid Aggregates with Germinal Centers
- Stromal Eosinophilia

# Necrotizing Sialometaplasia

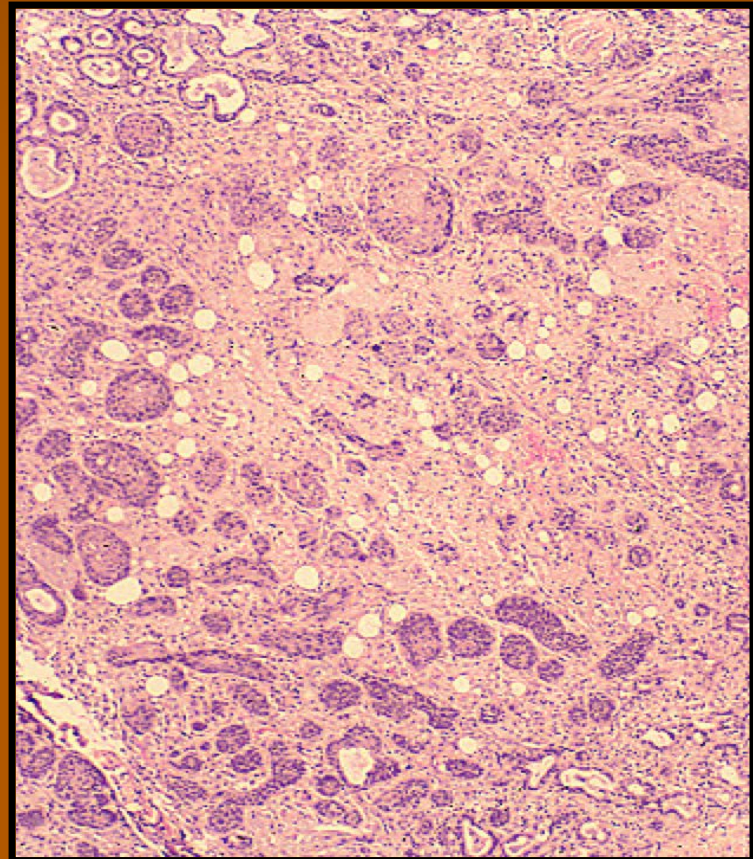
- Ischemic Necrosis of Salivary Tissue
- Deep Ulcer, Flat Borders
- Central Grey, Granular Necrosis
- Palate
- Young Adults
- Acinar Coagulation Necrosis
- Ductal Squamous Metaplasia
- Confused with Squamous Cancer

# Necrotizing Sialometaplasia

Clinical



Histopathology



# Focal Sequestration

- Isolated foci of ulceration and sequestration
- Lingual Mandible (mylohyoid ridge): develop following trauma from intubation during general anesthesia
- Sequestra occur spontaneously among patients treated with Bisphosphonates for osteoporosis or as adjunct chemotherapy in patients with cancer.
- Tx: sequestrectomy with debridement

# Osteochemonecrosis (bisphosphonates)



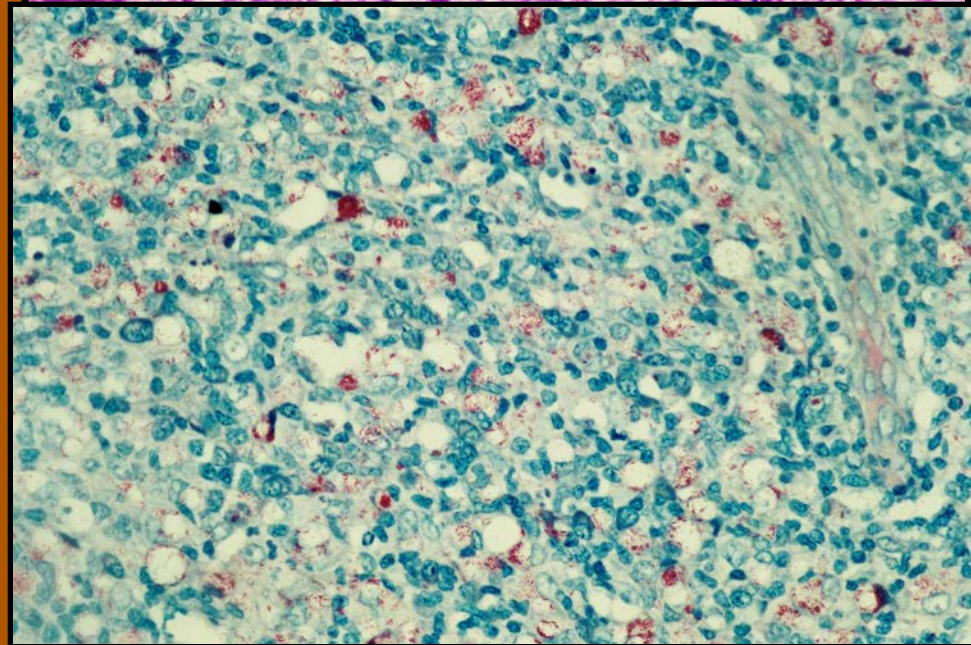
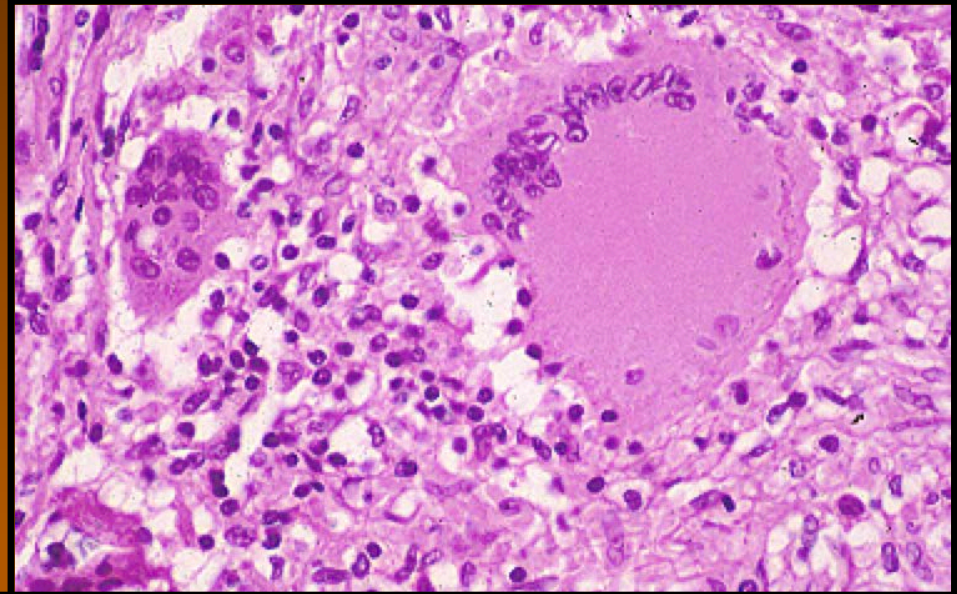


# Granulomatous Ulcer

- Tuberculosis (Miliary)
- Deep Fungus
- Nonhealing, Painless
- Rolled Margins
- Palatal Perforation
- Bone Erosion
- Specific Granulomatous Inflammation with Giant Cells/Special Stains

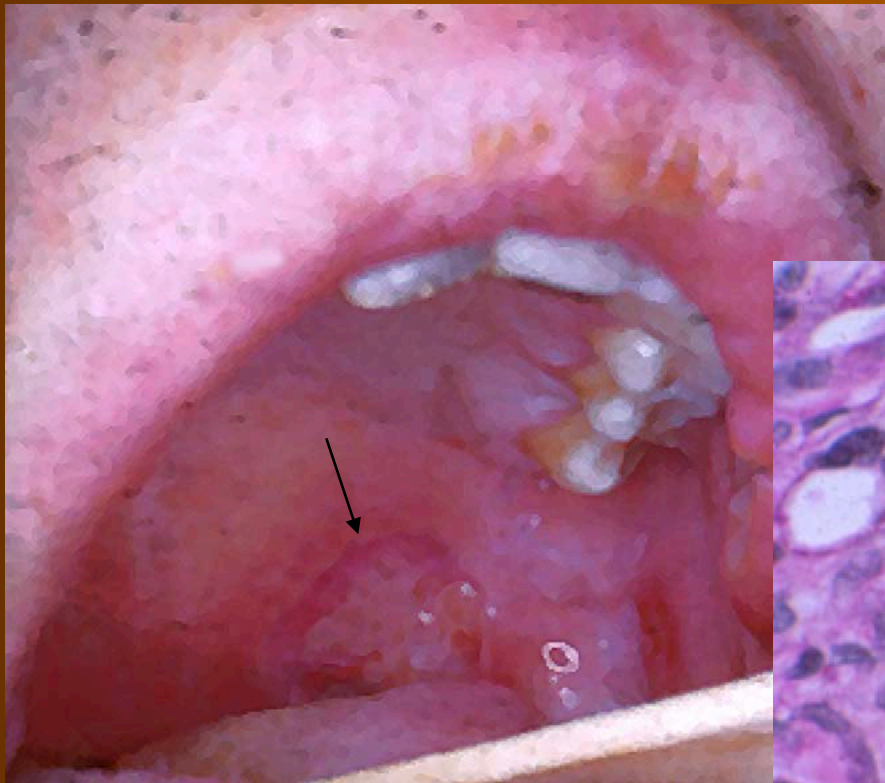
# Granulomatous Ulcer

## Clinical

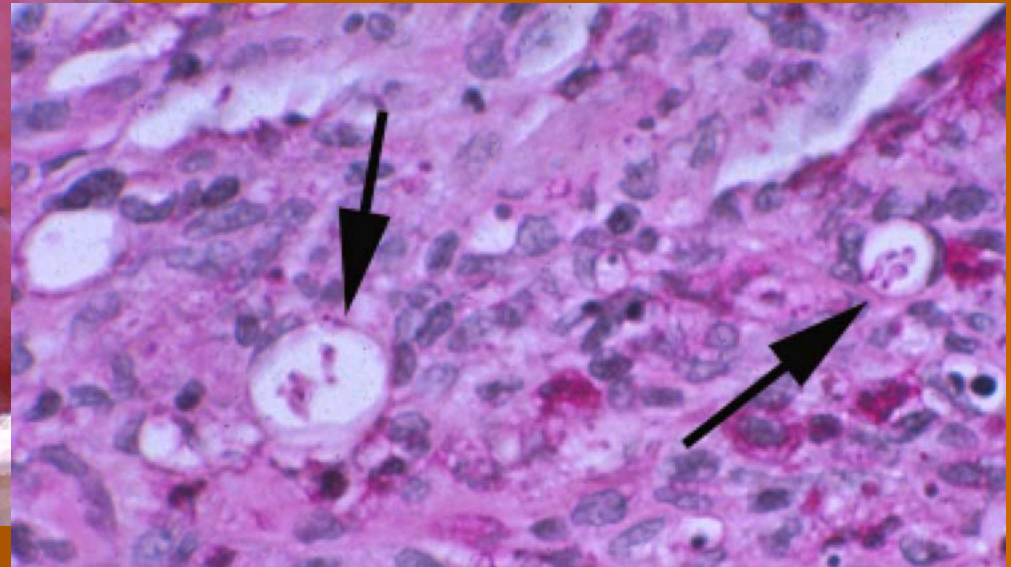


# Granulomatous Ulcer

Clinical, Histoplasmosis



H&E, PAS stain



# Squamous Cell Carcinoma

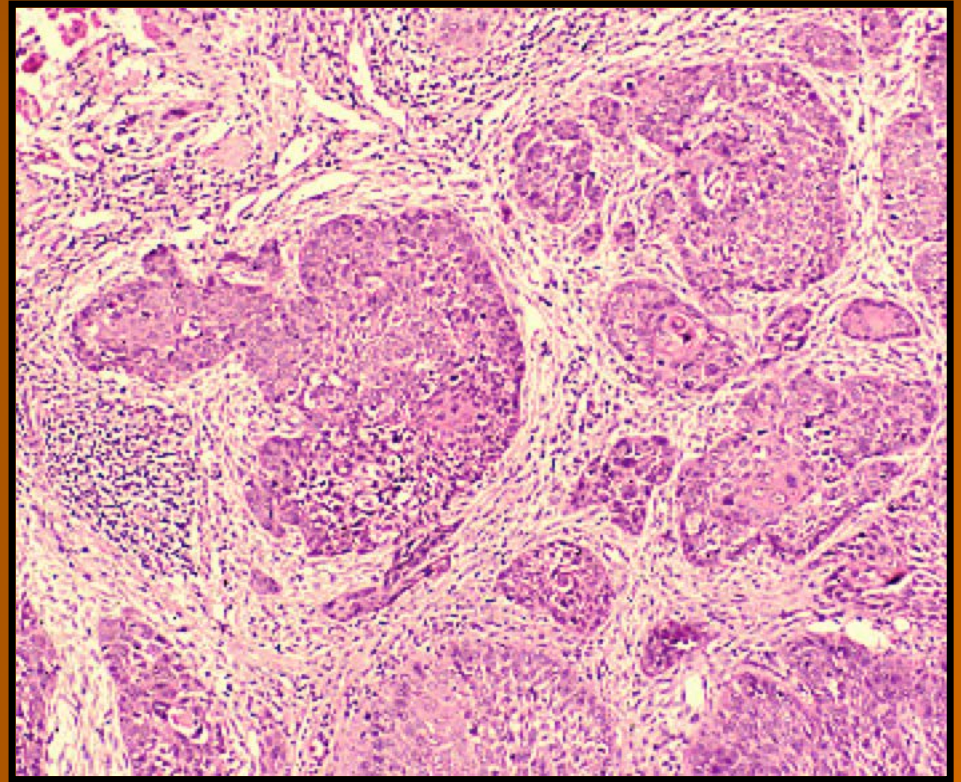
- >50 years
- Smoke Tobacco >75%
- Alcoholol
- Lateral Tongue, FOM, Gingiva
- Rolled Borders
- Tumefactions

# Squamous Cell Carcinoma

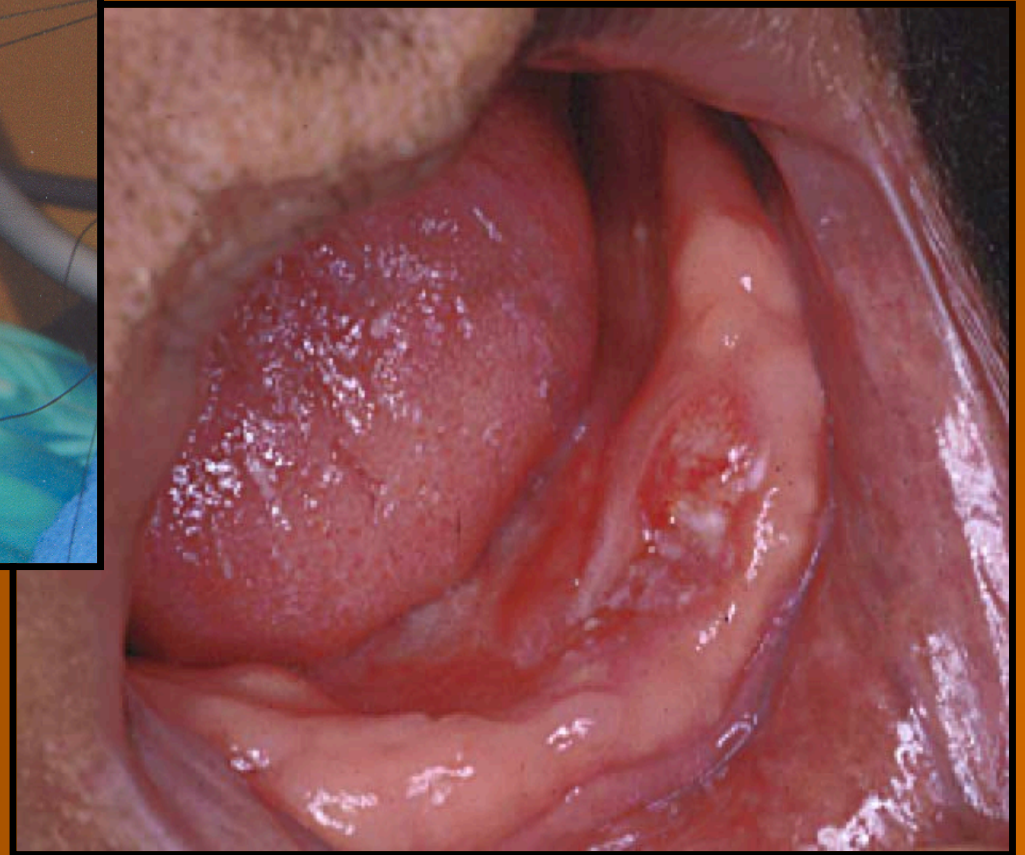
## Clinical



## Histopathology



# Squamous Cell Carcinoma



# Deep Osseous Destructive Ulcers

- Mucormycosis (Phycomycosis)
- Antral Carcinoma
- Tertiary Gummatous Syphilis
- HIV associated Histoplasmosis
- Midline Lethal Granuloma
  - Angiocentric T Cell Lymphoma
  - Wegener's Granulomatosis

# Mucormycosis

- Type I IDDM
- Immunocompromised Patients
  - Hematologic Malignancies
- Oral Perforation
- Hyphael Vascular Invasion
- Osseous Necrosis

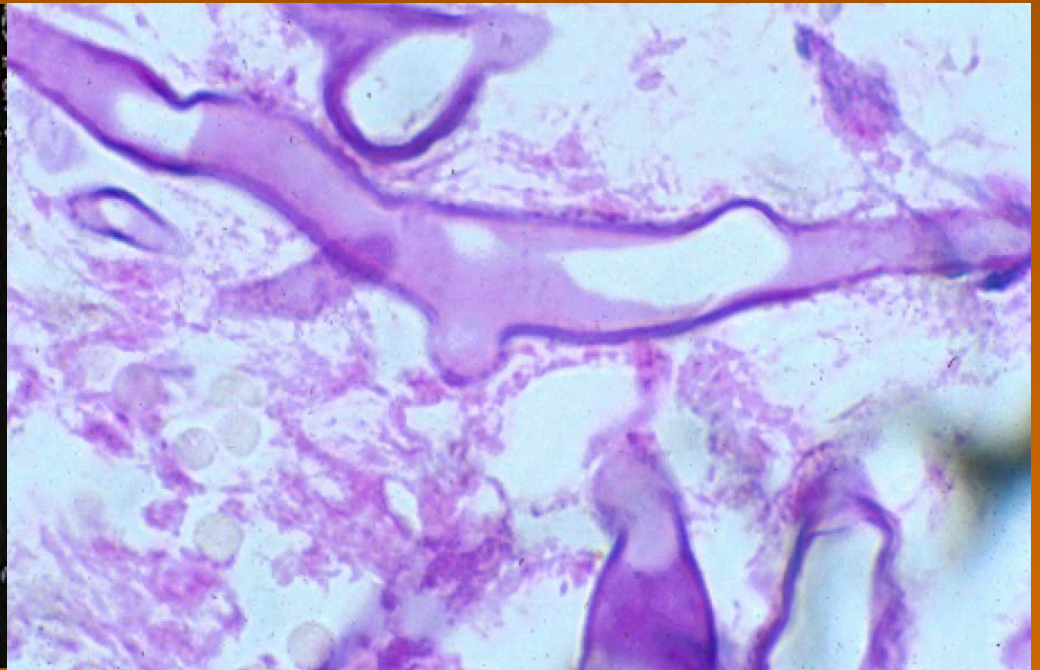


# Mucormycosis

Radiographic



H&E, GMS stain



# Antral Carcinoma

- Elderly
- Nasal stuffiness
- Oral Perforation (OA Fistula)
- Squamous Cell CA
- Silent Tumor
- Superoposterior Region of Sinus

# Antral Carcinoma

Palatal perforation



Sinus opacity due to CA



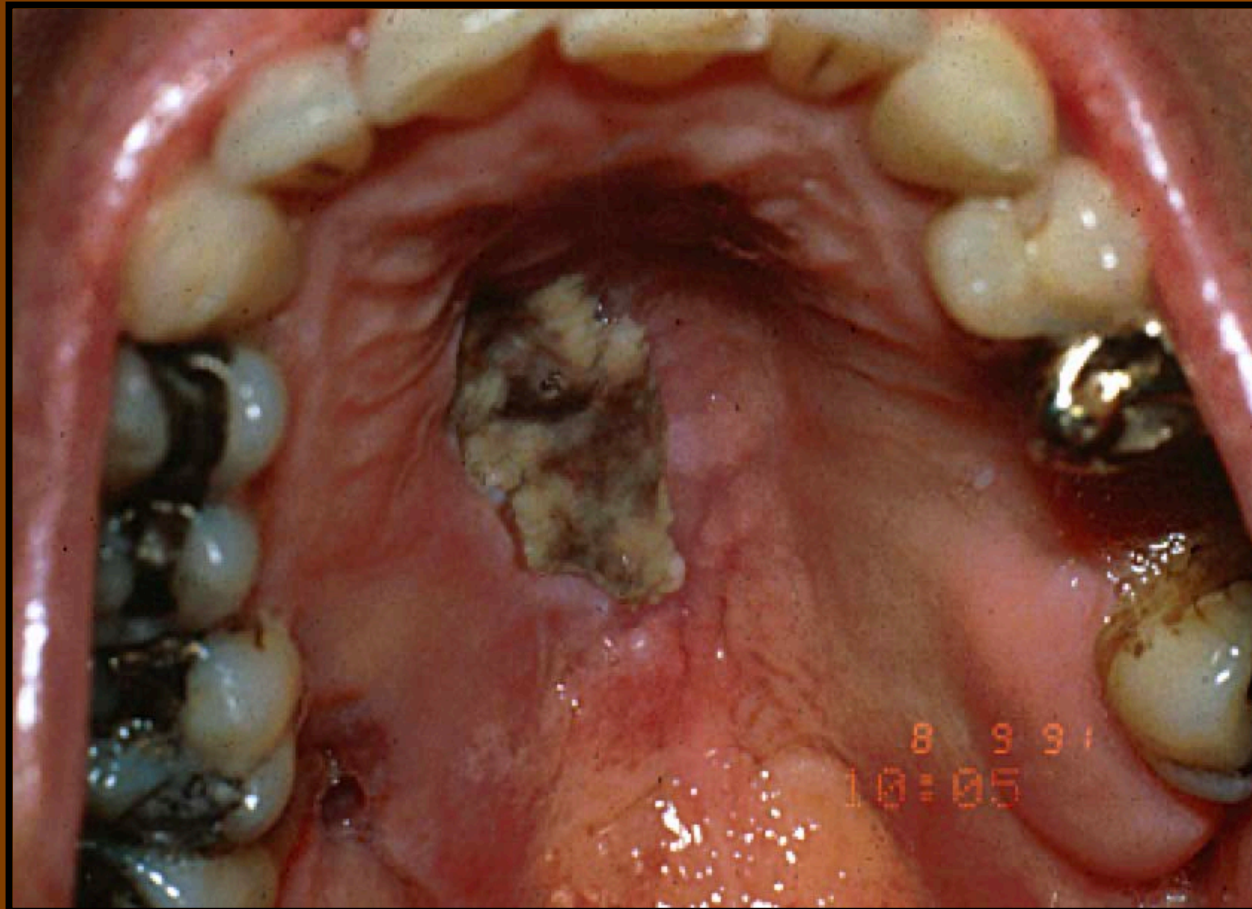
# Gummatous Necrosis in Tertiary Syphilis

- Palatal perforation
- 30-50 years post exposure
- Necrotic foci are sterile (no spirochaetes)
- Other manifestations of tertiary syphilis
  - Aortic Aneurysm
  - Neurosyphilis
  - Tabes dorsalis
  - Other foci of gummatous necrosis
- No treatment, prosthetic obturator

# Gummatous Necrosis



# HIV, Histoplasmosis



# HIV Periodontitis, Necrotizing Stomatitis

- HIV +
- Low CD4 counts
- Skip lesions
  - Spared regions alternate with affected regions
- No Periodontal Pockets
  - Both soft and hard tissues necrose and slough
- Aggressive Debridement, Betadyne and Chlorhexidine Rinses

# HIV Periodontitis (HIV-P)





# Necrotizing Stomatitis (HIV)



# Wegener's Granulomatosis

- Vasculitis, Fibrinoid Necrosis
- Palatal perforation
- Gingival “strawberry gums”
- Lung, Renal Lesions
- ANCA (antineutrophil cytoplasmic Abs)
- Potentially Fatal
- Chemotherapy (Cytosan, prednisone)

# Wegener's Granulomatosis



# Multiple Ulcers

- Aphthous Stomatitis
- Acute Necrotizing Ulcerative Gingivitis
- Viral Ulcerations
- Immediate Hypersensitivity
- Erythema Multiforme
- Agranulocytosis

# Recurrent Aphthae

- Minor
- Major
- Herpetiform
- Systemic Disease Associations
  - Gluten Enteropathy
  - B Vitamin and Folate Deficiency
  - HIV
  - Cyclic Neutropenia

# Minor Aphthae

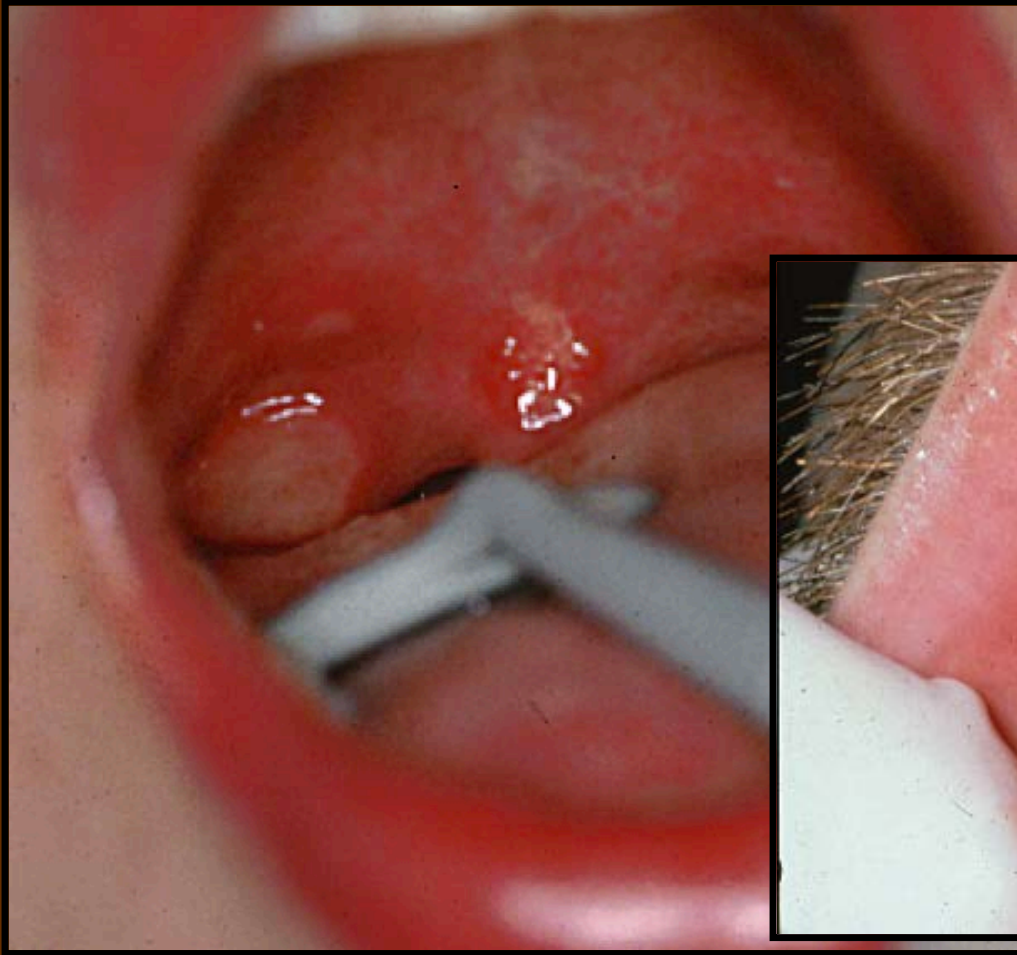


# Recurrent Aphthae Minor

- Silver Nitrate

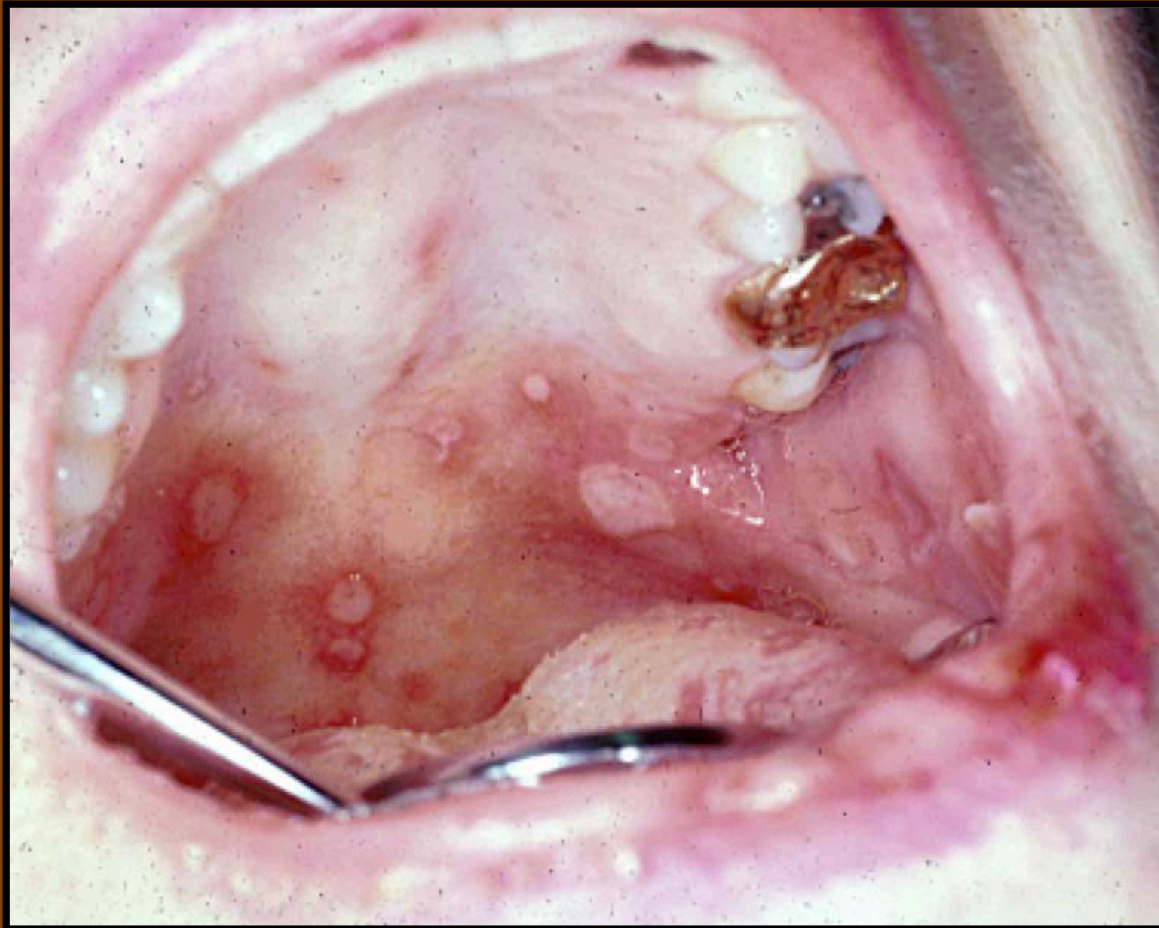


# Recurrent Aphthae Major





# Recurrent Aphthae Herpetiform



# Acute Necrotizing Ulcerative Gingivitis

- Ulcerations of Interdental Papillae
- Periodontal Bone Loss not a feature
- Fetid Odor
- Stress is Predisposing Factor
  - Physical, nutritional, emotional stresses
- Acute onset
- Low Grade Fever or Afebrile
- Spirochaetes and Fusiform Bacteria
- Debridement, Peroxide Rinses

# Acute Necrotizing Ulcerative Gingivitis

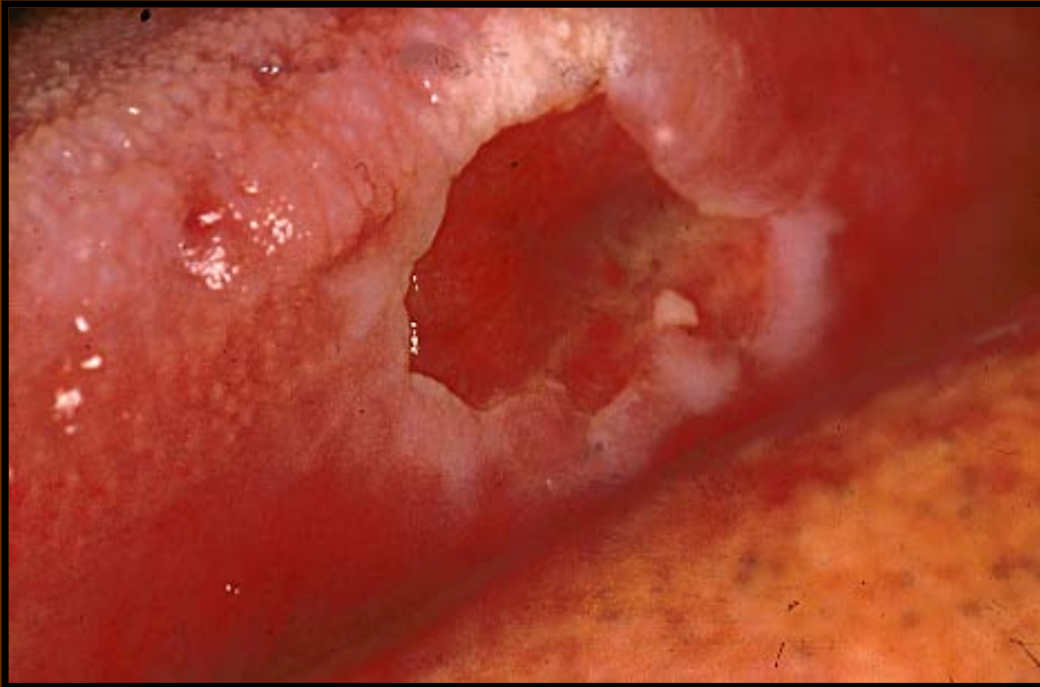


# Agranulocytosis

- Idiopathic
- Pancytopenia/Aplastic Anemia
- Chemotherapy

# Agranulocytosis

## Clinical



- WBC – 2800
  - PMNS 30%
  - LYMPHOCYTES 60%
  - MONOCYTES 6%
  - EOSINOPHILS 3%
  - BASOPHILS 1%

# HIV Oral Ulceration

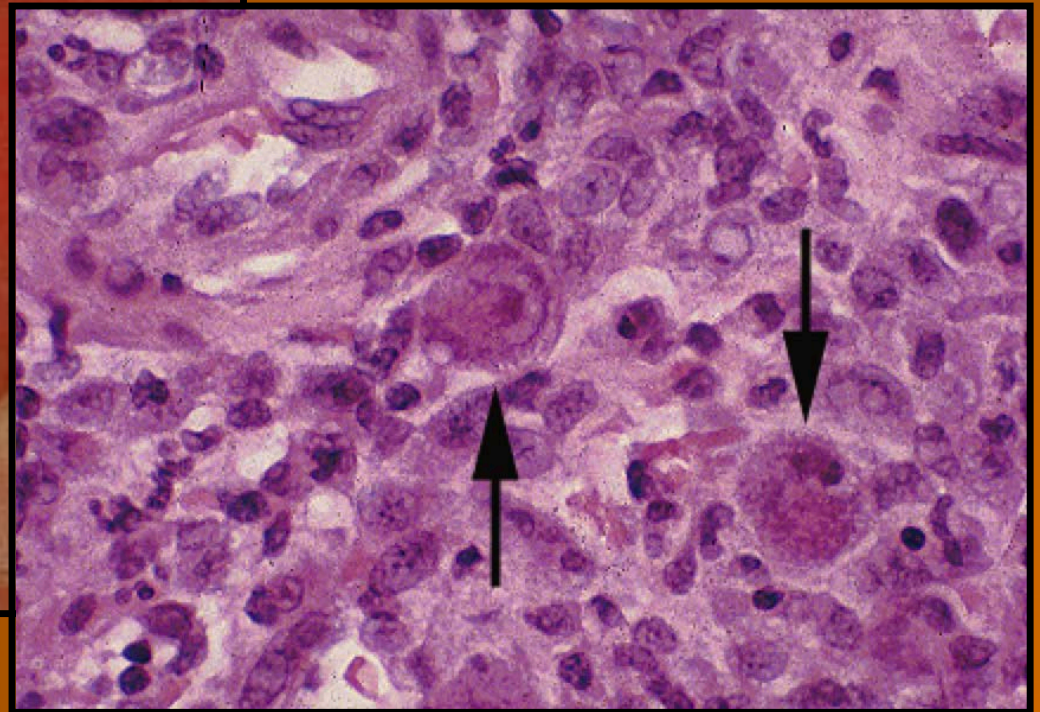


# HIV Infectious Ulcers

- CMV



- CMV inclusions

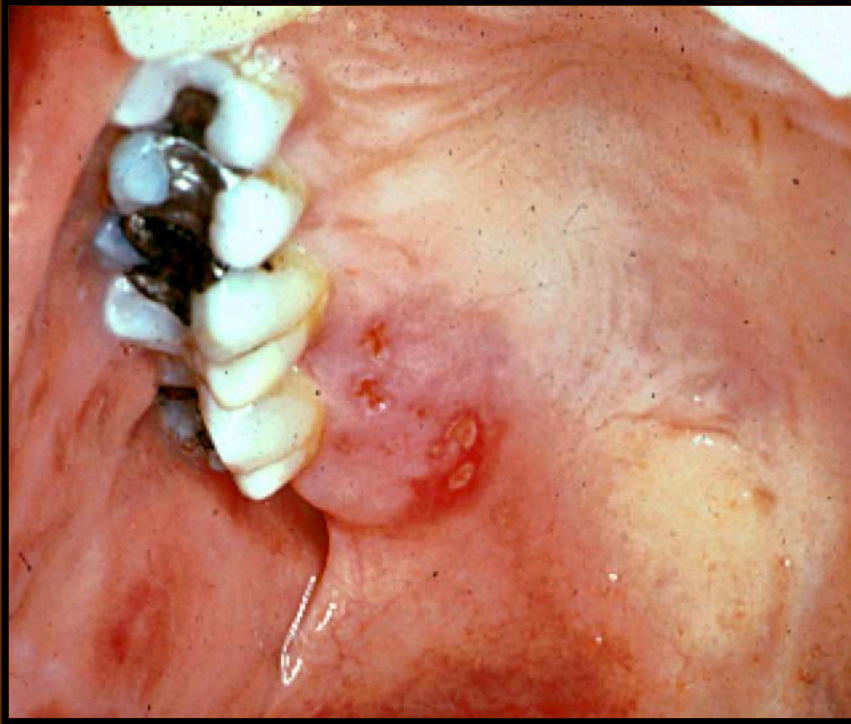


# Viral Vesicles to Ulcers

- **Herpes simplex**
  - Gingivostomatitis
  - Intraoral
  - labialis
- **Varicella-zoster**
  - Chickenpox
  - Shingles
- **Coxsackievirus/Enteroviruses**
  - Hand Foot and Mouth
  - Herpangina
  - Enterovirus stomatitis



# Viral Ulcers, HSV, Coxsackie



# Allergic Stomatitis

