

MYCOTIC INFECTIONS OF THE ORAL CAVITY

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Candidiasis

Candidosis

Moniliasis

Thrush

- Caused by *Candida albicans*
 - Yeast like fungus
 - Normal inhabitant of oral cavity
 - Opportunistic infection

- Predisposing factors
 - Acute and chronic diseases
 - TB, diabetes mellitus, anemia
 - Hormonal disturbances
 - Myxedema, Hyperparathyroidism, Addison's disease
 - Immunodeficiency
 - AIDS
 - Prolonged use of antibiotics, corticosteroids, anticancer drugs
 - Radiation therapy
 - Old age, infancy, pregnancy

Clinical features

- Clinical classification
 - Acute
 - Acute pseudomembranous candidiasis (thrush)
 - Acute atrophic candidiasis
 - Chronic
 - Chronic hyperplastic candidiasis
 - Chronic mucocutaneous candidiasis
 - Chronic familial mucocutaneous candidiasis
 - Chronic localized mucocutaneous candidiasis
 - Chronic diffuse mucocutaneous candidiasis
 - Candidiasis endocrinopathy syndrome
 - Chronic hyperplastic candidiasis

Acute pseudomembranous candidiasis



–One of the most common form

–Buccal mucosa, tongue (most common sites)

–Soft, white, slightly elevated plaques (“curdy white” appearance)

–Can be wiped away leaving a normal or slightly erythematous area



- Acute atrophic/erythematous candidiasis

- Appears red or erythematous

- Also includes



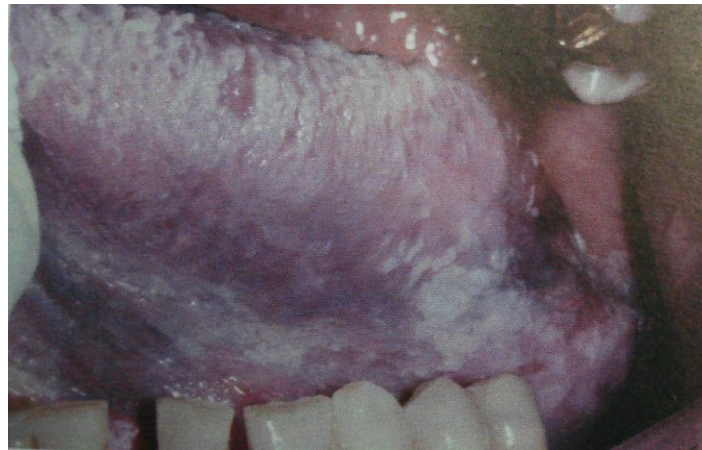
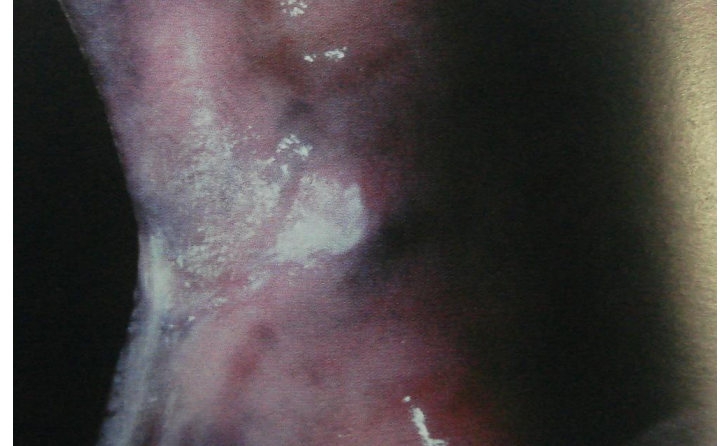
Central papillary atrophy of tongue

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Cheliocandidiasis

- **Chronic hyperplastic candidiasis/candidal leukoplakia**

- Firm, white, persistent plaques
- Usually on lips, tongue, cheeks
- May persist for years



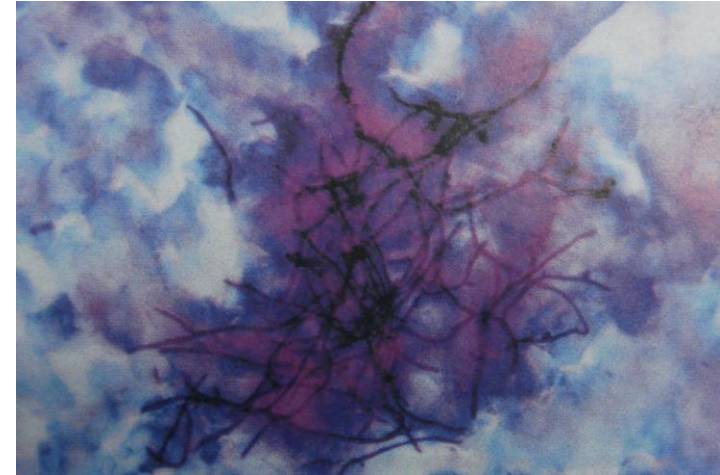
- Association with leukoplakia/oral cancer → still debatable

- Chronic atrophic candidiasis
 - Denture sore mouth
 - Denture stomatitis



Diagnosis

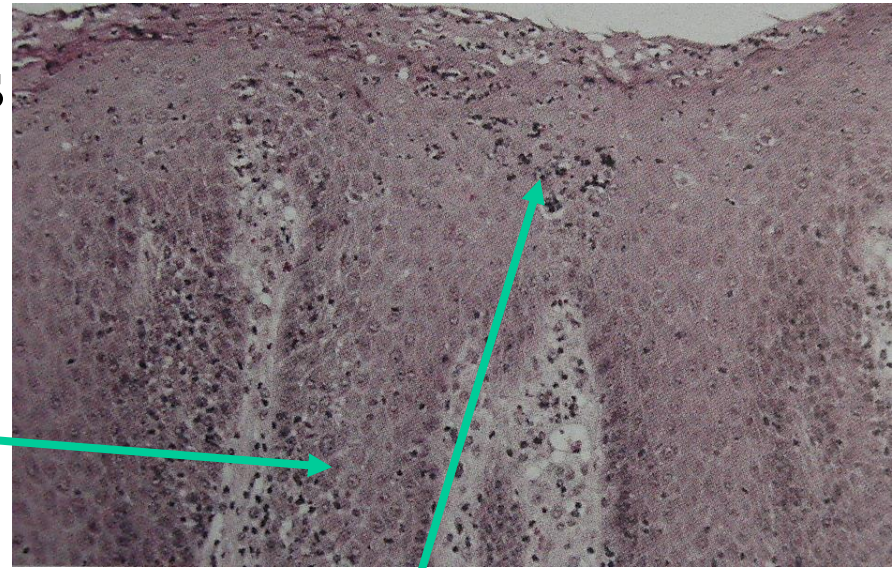
- Smear preparations
 - Potassium hydroxide mount
 - PAS stain
- Culture
 - Sabouraud's media
 - Cornmeal agar



- Histopathological findings

- Hyperparakeratosis

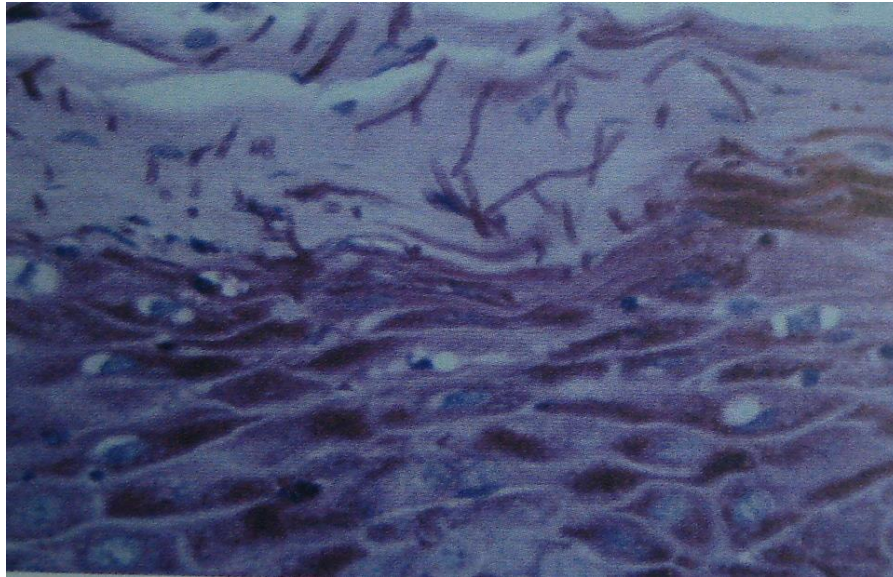
- Elongation of rete ridges



- Collection of neutrophils (micro abscesses) in the superficial and upper spinous layers

- Chronic inflammatory cell infiltrate in connective tissue

- Candidal hyphae in the parakeratin layer



- Stains used to visualize fungal hyphae and spores
 - PAS
 - Methenamine silver

Blastomycosis

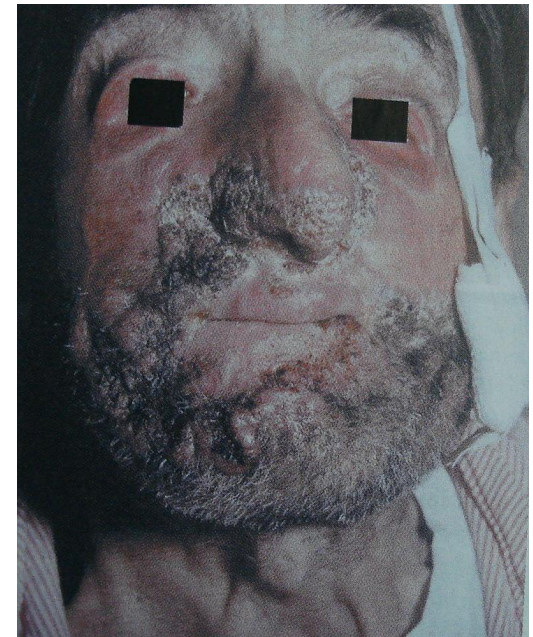
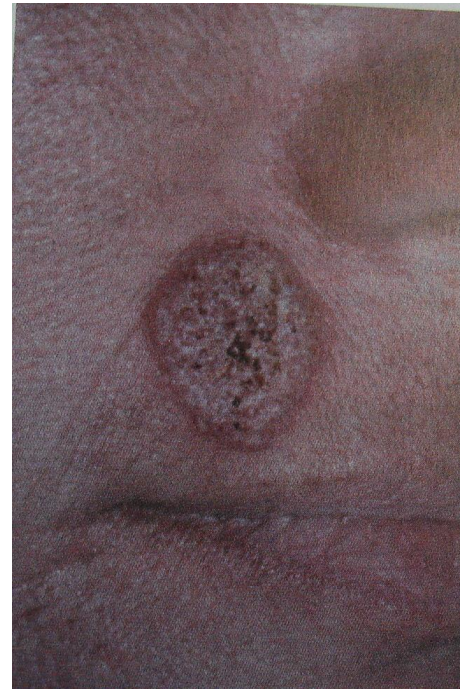
North American blastomycosis

Gilchrist's disease

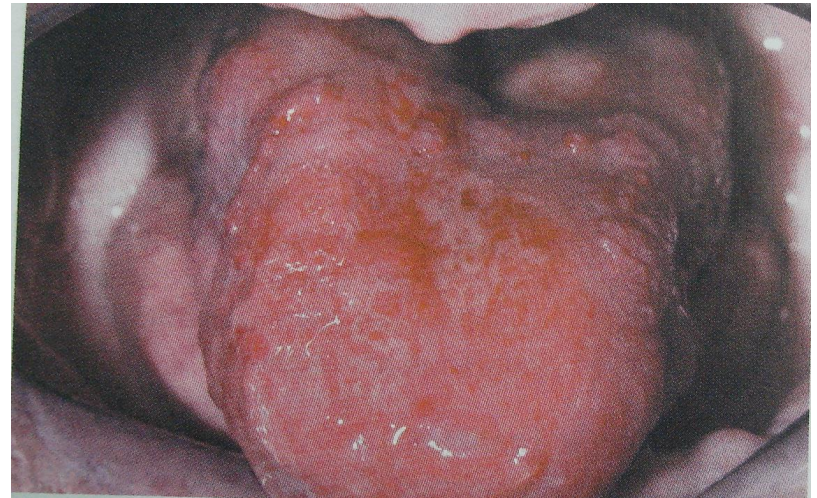
- Caused by *Blastomyces dermatitidis*
- Two types
 - Cutaneous
 - Systemic
 - Bones
 - Liver
 - Lungs
 - Subcutaneous tissue
- Source of infection in humans is unknown

Clinical features

- More common in males
- Middle age
- Small red papules that slowly increase in size
- Ulcerate to discharge pus
- Spreads through subcutaneous tissue and disseminates through blood

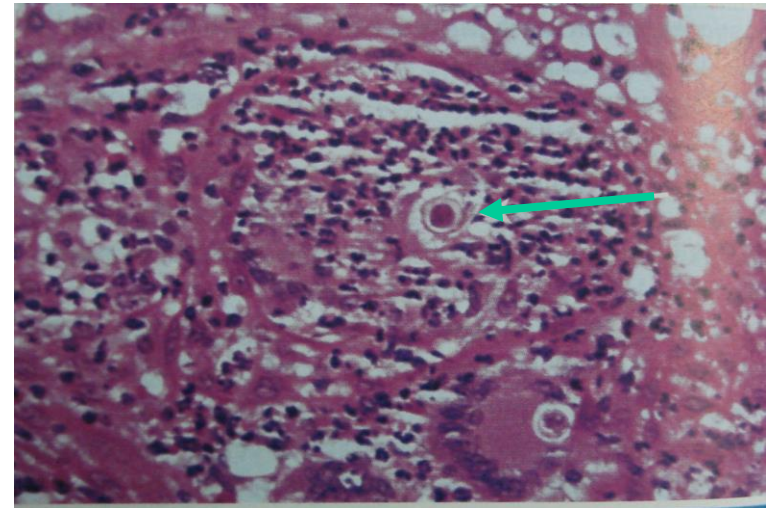


- Oral manifestations
 - Seen in 25% of cases
 - Resemble actinomycosis
 - Tiny ulcers
 - May sometimes resemble oral cancer



Histopathological features

- Granulomatous inflammation
 - Giant cells
 - Macrophages
- Microabscess within the epithelium
- Organism
 - Round in shape
 - Budding is often seen
 - Doubly refractile capsule



Paracoccidioidomycosis

South American blastomycosis

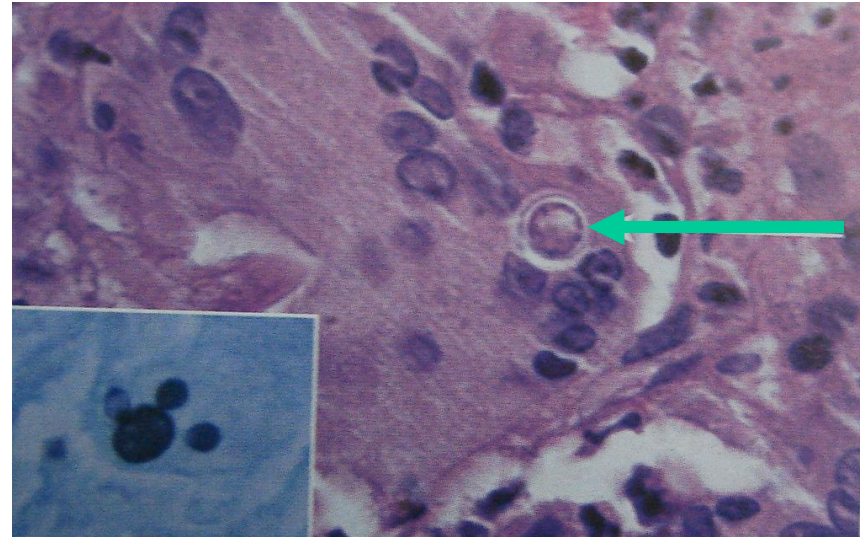
Lutz's disease

- Caused by *Paracoccidioides brasiliensis*
- Systemic lesions similar to those of blastomycosis
- Oral manifestations
 - Sever lymphadenopathy
 - Papillary lesions
 - ulcers



Histopathological features

- Granulomatous inflammation
 - Epithelioid macrophages
 - Giant cells
- Scattered yeast like organisms with multiple buddings (“pilot wheel” or “mickey mouse” appearance)
- Stains
 - PAS
 - Methenamine silver



Histoplasmosis

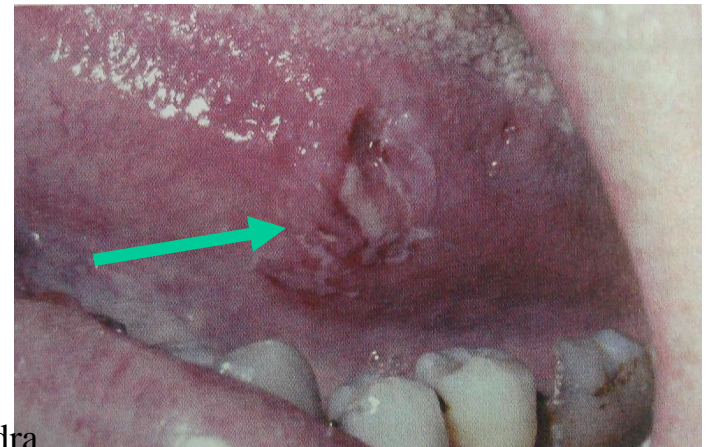
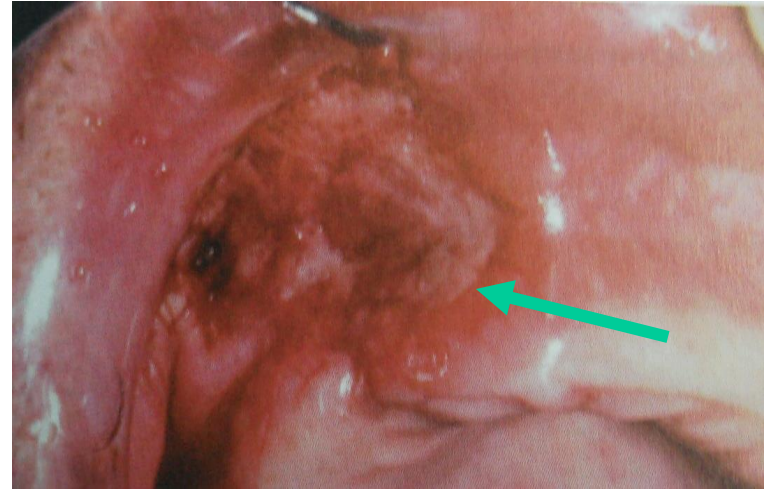
Darling's disease

- Caused by *Histoplasma capsulatum*
- Acquired by inhalation of dust containing spores of fungus

Clinical features

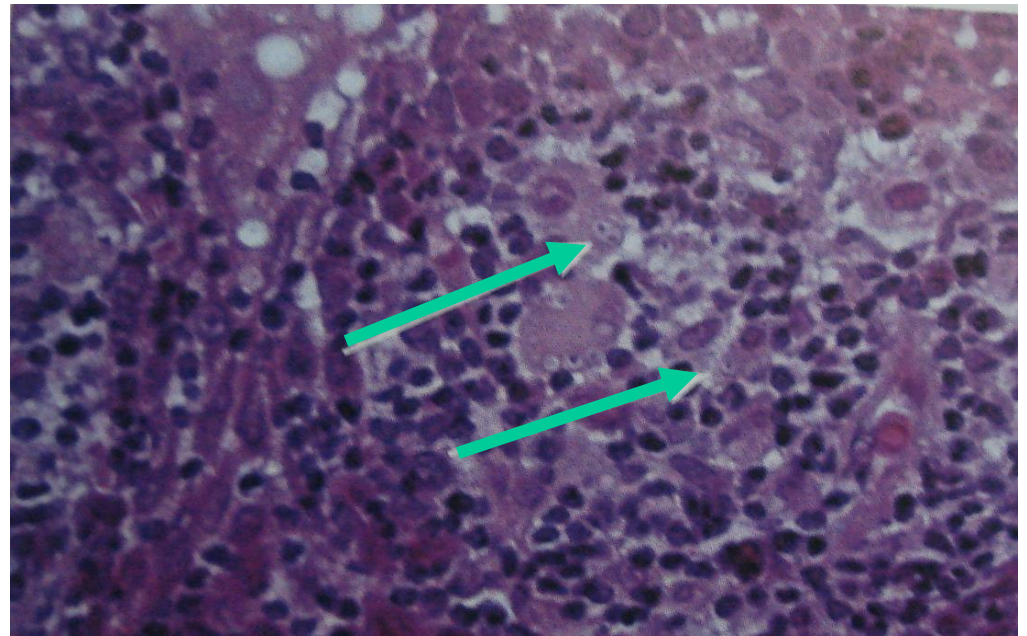
- Chronic low grade fever
- Productive cough
- Hepatosplenomegaly
- Lymphadenopathy
- Subcutaneous nodules
- Histoplasmin skin reaction

- Oral manifestations
 - Nodular, ulcerative, or vegetative lesions
 - Usually covered by nonspecific gray membrane
 - Indurated



Histopathological features

- Granulomatous inflammation
- Organisms are found in large numbers in phagocytic cells



Mucormycosis

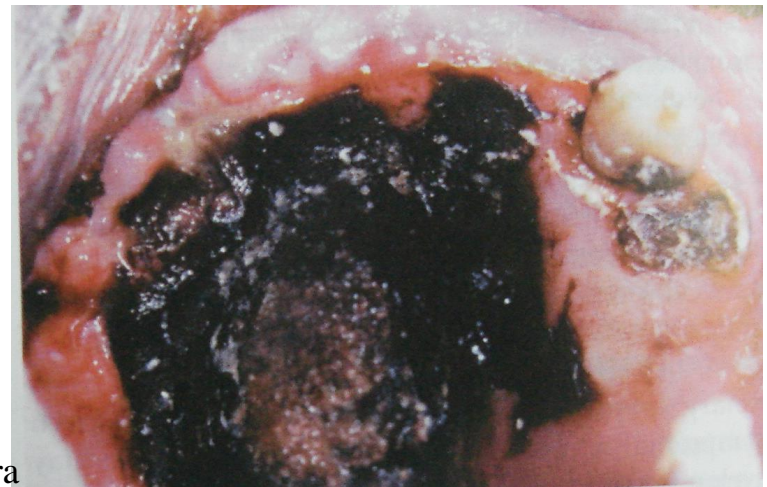
Phycomycosis

Zygomycosis

- Opportunistic infection caused by organisms of class *Zygomycetes*
 - *Mucor*
 - *Rhizomucor*
 - *Rhizopus*
 - *Absidia*
- Present in oral and nasal cavity of normal individuals

Clinical features

- 2 types
 - Superficial
 - External ear
 - Finger nails
 - Skin
 - Visceral
 - Pulmonary
 - Gastrointestinal
 - Rhinocerebral



- May cause extensive necrosis and sloughing

- May resemble carcinoma

Histopathological features

- Extensive necrosis of the involved tissue
- Organisms are large, non septate hyphae, branching at obtuse angle

