Common Oral Pathology for the Physician

John R. Kalmar, DMD, PhD
Division of Oral and Maxillofacial Pathology
The Ohio State University College of Dentistry

Outline

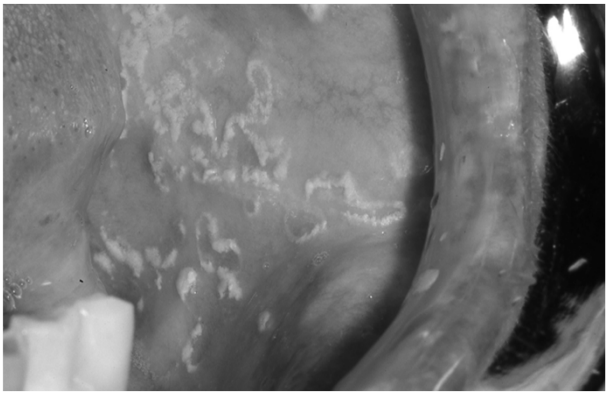
- Oral infections
  - Candidiasis
  - HSV (HHV) I & II
- Oral ulcers
  - Aphthous (canker sores)
  - Traumatic
  - Potentially neoplastic/precancerous

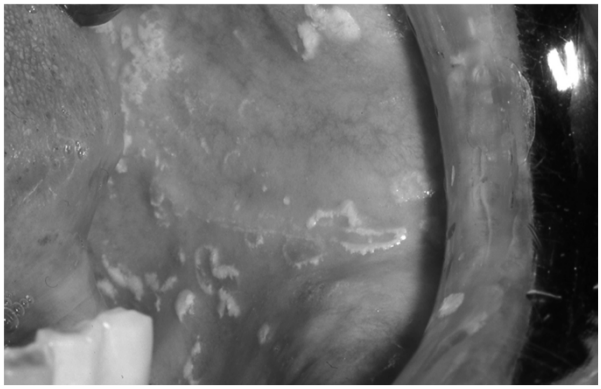
Candida albicans

- Very common oral colonizer, may lead to infection
- Present in 30-50% of asymptomatic adults
- Presence in oral cavity increases with increasing patient age

Acute Pseudomembranous Candidiasis

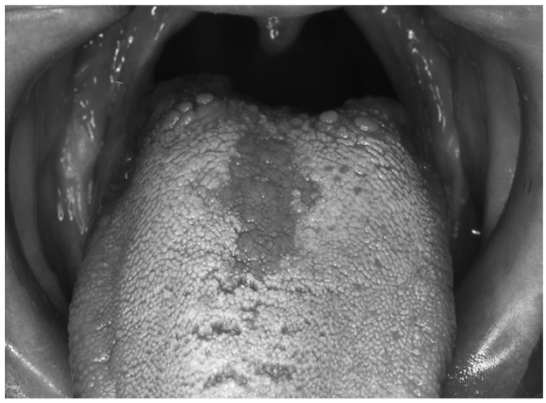
- Also known as “thrush”
- White, cottage cheese-like plaques, readily dislodged or wiped off
- Buccal mucosa, palate or tongue
- Often asymptomatic





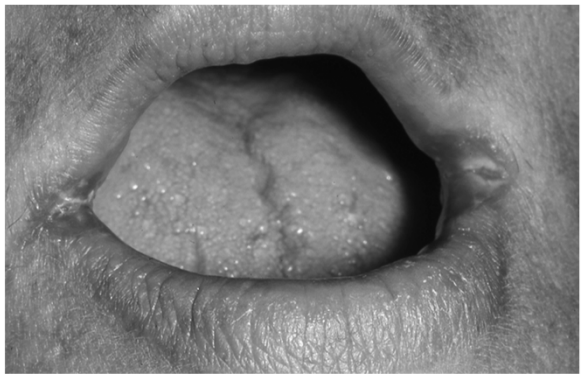
Erythematous Candidiasis

- more common than pseudomembranous candidiasis
- tongue frequently involved with focal or diffuse atrophy of dorsal filiform papillae
- diffuse change may follow use of broad-spectrum antibiotic with soreness/pain



Angular Cheilitis

- Usually mixed infection; oral fungi & skin bacteria
- Often seen in patients with loss of posterior teeth; worn dentures or partials
- Redness, cracking of corners of mouth
- Responds to topical antibiotics, but any intraoral infection must also be treated



Candidiasis: diagnosis

Clinical signs and symptoms often sufficient

- **culture or exfoliative cytology**
- **biopsy – often unnecessary**

Candidiasis: treatment

- **Topical or systemic antifungal therapy**
  - **Clotrimazole troches (Mycelex)**
  - **Fluconazole tabs 100mg (Diflucan)**
  - **Dermazine cream (angular cheilitis, treats both fungi & bacteria)**
- **Removable prostheses (dentures) must also be cleaned and treated**

Herpes Simplex Virus (HSV, HHV)

- DNA virus, human herpesvirus (HHV) family
- Two forms – HSV-1 (predominantly oral) and HSV-2 (predominantly genital)
- Initial contact with the virus produces primary infection; may/may not result in clinical disease
- HSV is neurotropic – transported via nerves to sensory ganglia

Recurrent Herpes Labialis

- Triggered by UV light, trauma, stress
- Affect vermilion zone, perioral skin or both
- Prodromal itching or tingling

Recurrent Herpes Labialis

- Erythema, followed by cluster of vesicles
- With no treatment, vesicles rupture, form a crust, lesions heal in 7-10 days

Recurrent Herpes Labialis

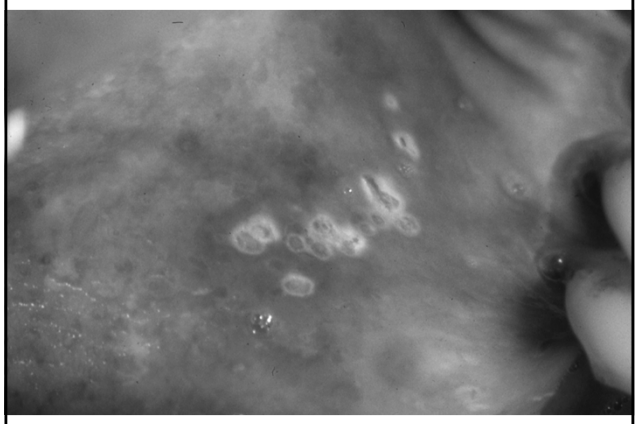
- Avoid excess sun exposure
- Sunblocks may be helpful to prevent lesion development
- Topical antiviral agents - *statistically* significant decrease in healing time

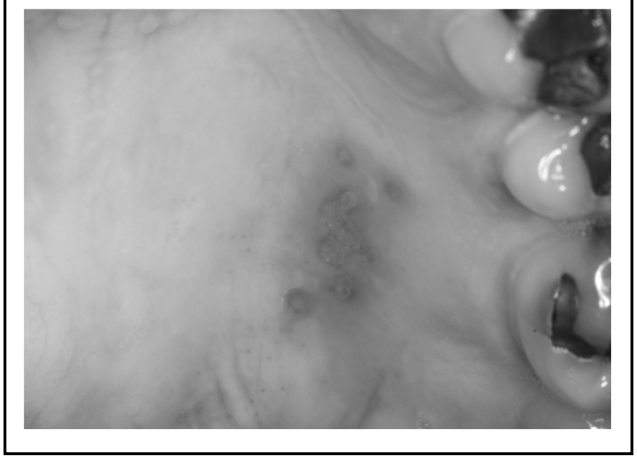
Recurrent Herpes Labialis

- Systemic oral valacyclovir, started at the earliest prodrome, has given most encouraging results
- Combined use with topical antiviral may further improve lesional control

Recurrent Intraoral Herpes

- Relatively uncommon (or rarely noted)
- Usually few symptoms; irritation/roughness
- Cluster of shallow ulcers
- Confined to mucosa bound to periosteum (hard palate and attached gingiva)
- Heal in one week with no treatment





Oral Ulcers

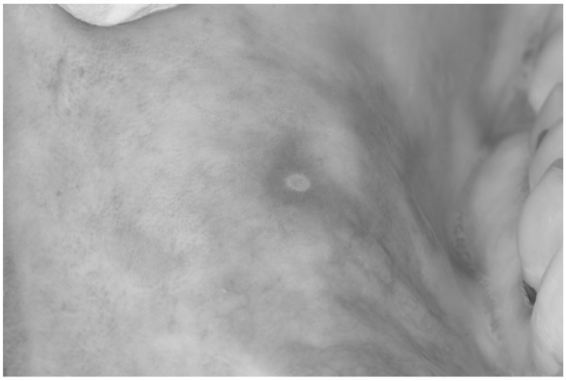
- Immune-mediated (common to rare)
- Traumatic (common)
- Infectious (less common)
- Neoplastic (uncommon)

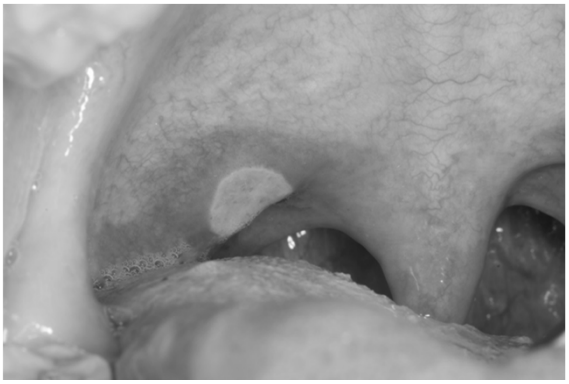
Recurrent Aphthous Ulcerations (canker sores)

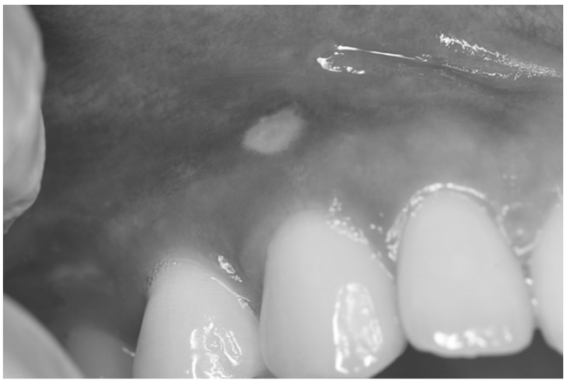
- Common (20% overall); familial relationship
- Most frequent in children and young adults
- Immune-mediated process; uncertain pathogenesis

Recurrent Aphthous Ulcerations (canker sores)

- Prodromal dysthesia/tingling common
- Occur on loose, nonkeratinized mucosa
- Extremely painful, round to oval shallow ulcers
- Early, erythematous halo







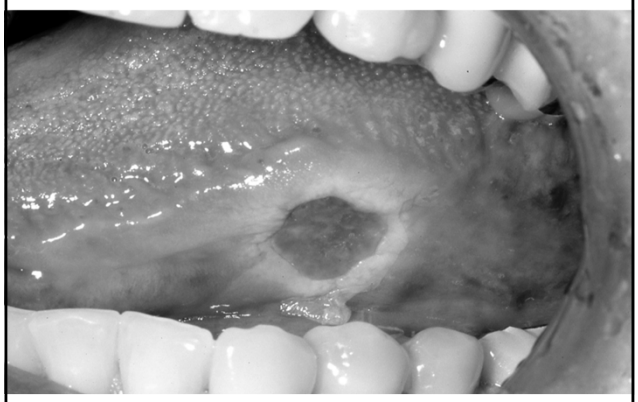
Recurrent Aphthous Ulcerations

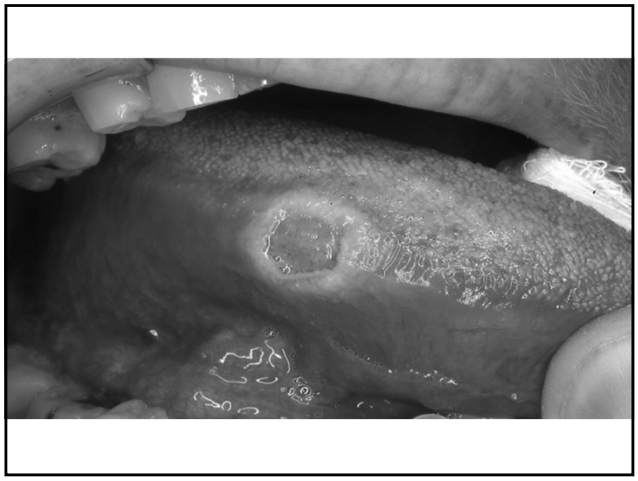
Treatment:

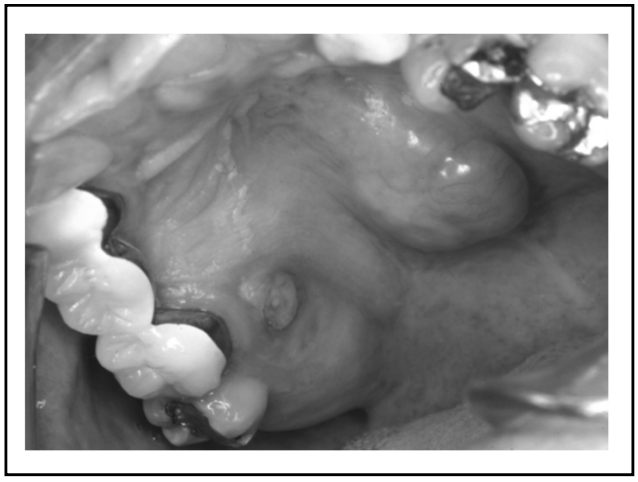
- **Immune-basis responds well to topical high-potency corticosteroid gels**
- **Thin film, applied at earliest prodrome; multiple times (4X) per day**

Traumatic Ulcers

- **Most common form of oral ulcer**
- **Occur in areas susceptible to trauma, especially from the teeth, or thermal injury from food or drink**
- **More common in patients with dry mouths**
- **Often asymptomatic or only mildly symptomatic**

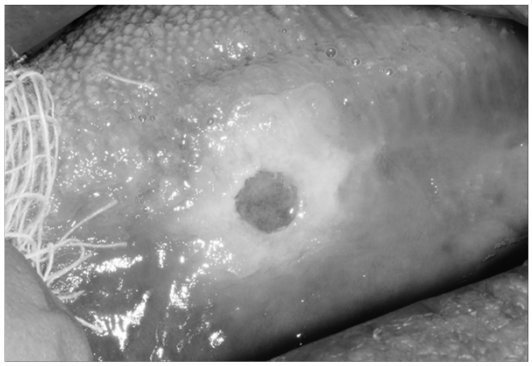


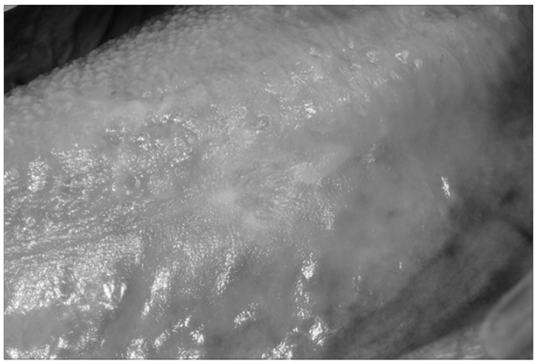




Traumatic Ulcers

- Heal with no treatment (5-10 days) in the absence of additional irritation/trauma
- Topical OTC protective mucoadhesives can provide comfort
- Topical corticosteroids not indicated
  - Retard normal healing mechanisms
  - Can promote fungal infection, further slows healing





Traumatic Ulcers

- Xerostomia can contribute to lesion persistence and also promotes candida infection
- Patient should maintain adequate hydration
- Saliva substitutes or salivary stimulants can be helpful in moderate-severe cases of xerostomia

Traumatic Ulcers

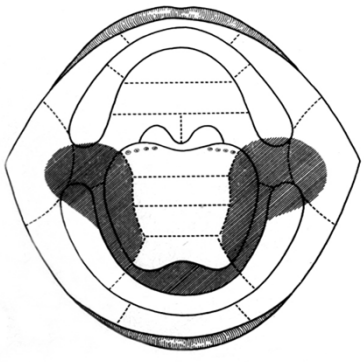
- Follow-up warranted; 2-3 weeks
- If no evidence of healing, +/- conservative treatment measures, biopsy is usually warranted to establish a diagnosis and guide proper therapy

Neoplastic Ulcers

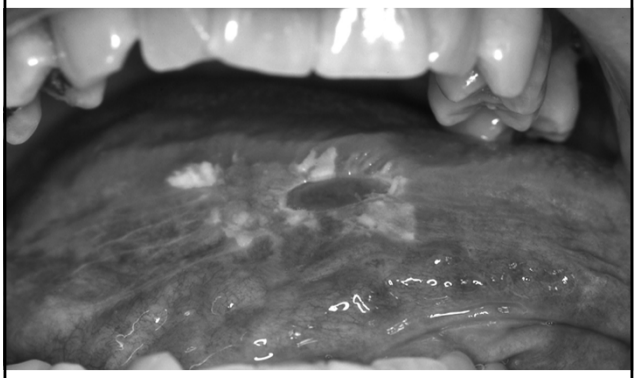
- Much less common than other types of oral ulcers, but more significant
- Majority (>90%) are due to surface precancerous lesions or squamous carcinoma

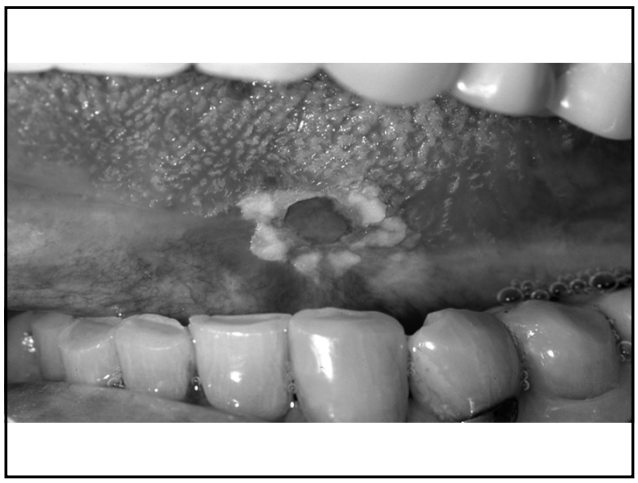
Neoplastic Ulcers

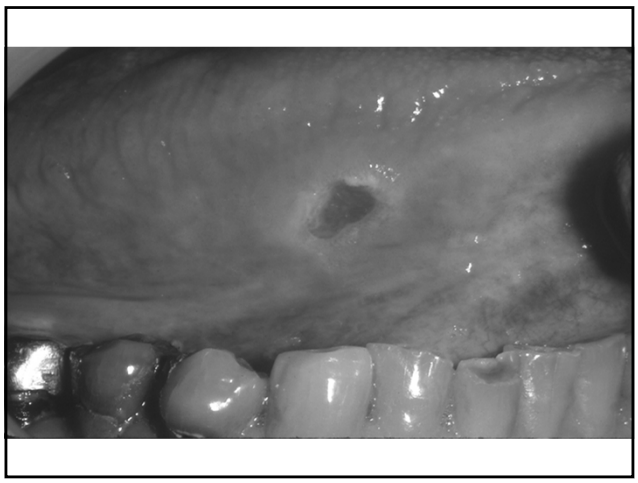
- High-risk sites for oral squamous cell carcinoma include the ventrolateral tongue, lateral soft palate and floor of the mouth
- Tend to be chronic, often arise within pre-invasive lesions (leukoplakia/erythroplakia)
- Symptoms are variable, often asymptomatic

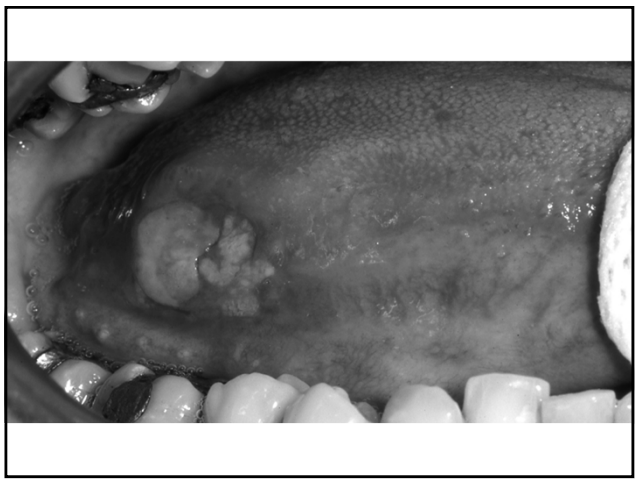


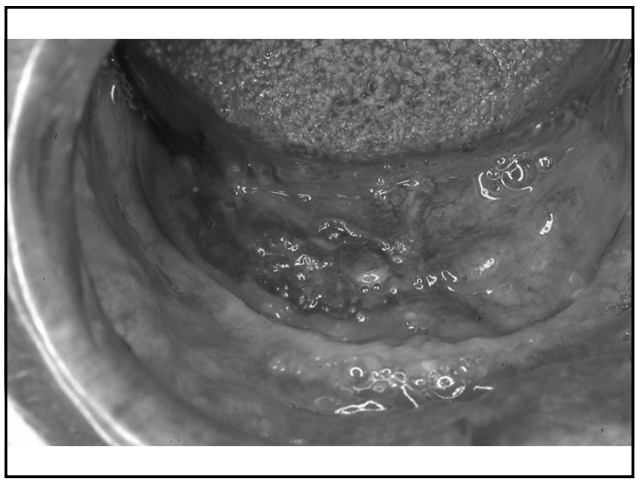
Moore C, Catlin D *Am J Surg* 1967;114:510-3











Neoplastic Ulcers

- **"Take home" message:**
  - **If an ulcer persists for more than 2-3 weeks despite therapy/removal of potential irritants, biopsy should be recommended to establish a diagnosis and direct proper treatment**

- Special thanks for select clinical images to:
  - **Kristin McNamara; The Ohio State University**
  - **Carl Allen, Columbus, Ohio**
  - **Brad Neville, University of South Carolina**
  - **Doug Damm, Lexington, Kentucky**
  - **Philip Hawkins, Wauwatosa, Wisconsin**