

CLINICAL STOMATOLOGY CONFERENCE

DNSC D9910.00

September 5, 2007

Instructors

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Reference texts

- *Neville BW, Damm DD, Allen CA, Bouquot JE. Oral & Maxillofacial Pathology, 2nd ed. W.B. Saunders Company: 2002.*
- *Regezi JA, Sciubba JJ, Jordan RC. Oral Pathology: Clinical Pathologic Correlations, 4th ed. Saunders: 2003.*

Objective

- To learn about common lesions and diseases of the oral cavity, with emphasis on clinical and radiographic correlations

Evaluation

- Attendance: 15%
 - Minimum of 11 of 15 classes to obtain full 15% attendance component
 - Sign-in sheet
- CPC online sessions (2): 40%
 - 5-10 cases with clinical histories (Courseworks)
 - Differential diagnosis for each case
- Final examination: 45%
 - Multiple choice and short answer-type questions
- Overall grade of at least **70%**
 - reported as Honors (H), Pass (P), Fail (F)

<https://courseworks.columbia.edu/>

- I. Infections of the oral cavity
- II. How to perform and submit a cytology smear

Overview

Infections

- Candida
- Herpes simplex

Cytology smears

- Smear technique
- How to submit

Candidiasis

- Etiology: *Candida* (mostly *C. albicans*)
 - fungal organism
 - can be part of normal oral flora, with no evidence of infection
 - infection depends on:
 1. Immune status of host
 - ↓ immune status, ↑ risk of infection
 2. Oral environment
 - ↓ xerostomia, ↑ risk of infection
- Candidiasis most common oral fungal infection

Candidiasis

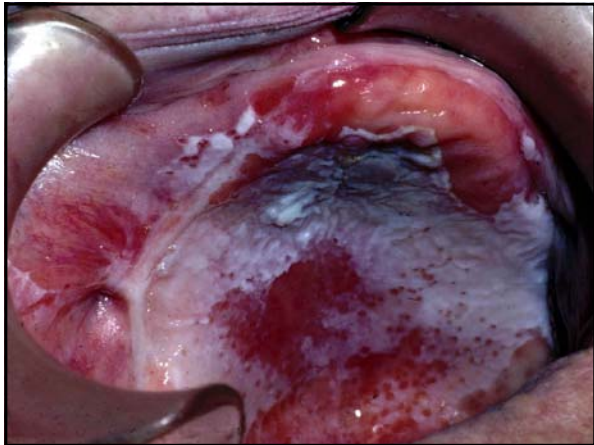
- Age: Elderly
Immunocompromised patients (HIV, AIDS, transplant pt, cancer pt)
- Clinical features:
Variety of clinical presentations
 1. Pseudomembranous candidiasis ("thrush")
 2. Erythematous candidiasis
 3. Chronic hyperplastic candidiasis
 4. Mucocutaneous candidiasis

Candidiasis

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Candidiasis

- Clinical features (cont'd):
 1. Pseudomembranous candidiasis ("thrush")
 - adherent white plaques
 - can be wiped off
 - underlying mucosa mostly erythematous
 - mild burning



Candidiasis

- Clinical features (cont'd):
 2. **Erythematous candidiasis**
 - mucosal erythema; "bald" appearance of tissue
 - no white plaques
 - a) **Acute atrophic candidiasis**
 - pt on antibiotics
 - burning sensations



Candidiasis

- Clinical features (cont'd):
 2. **Erythematous candidiasis**
 - b) **Central papillary atrophy (median rhomboid glossitis)**
 - well-defined, bald area of mid-dorsal tongue
 - mostly asymptomatic



Candidiasis

- Clinical features (cont'd):
 2. Erythematous candidiasis
 - c) Angular cheilitis
 - erythema, fissuring, scaling of corners of lips
 - pt with reduced vertical dimension
 - *Candida* and *Staphylococcus aureus*



Candidiasis

- Clinical features (cont'd):
 2. Erythematous candidiasis
 - d) Denture stomatitis
 - erythema corresponding to area of denture placement



Differential diagnosis

White lesions

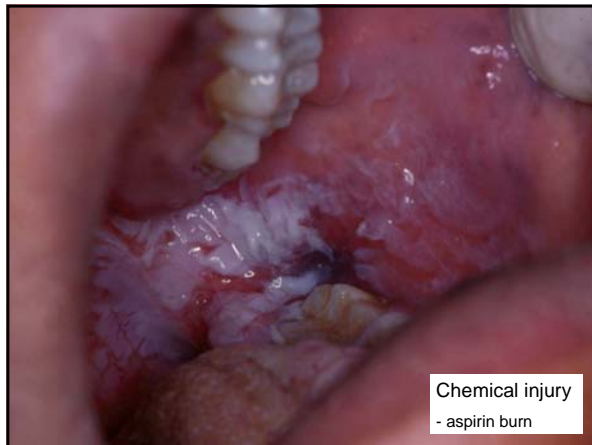
- 1) Leukoplakia
- 2) Frictional hyperkeratosis

Red lesions

- 1) Erythroplakia

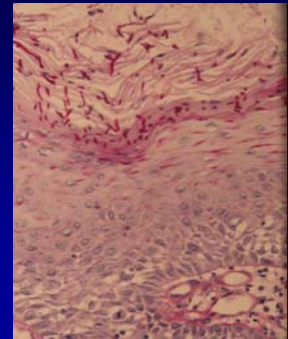
Mixed white-red lesions

- 1) Chemical injury
- 2) Contact reactions (e.g. cinnamon)
- 3) Traumatic ulcer
- 4) Lichen planus



Candidiasis

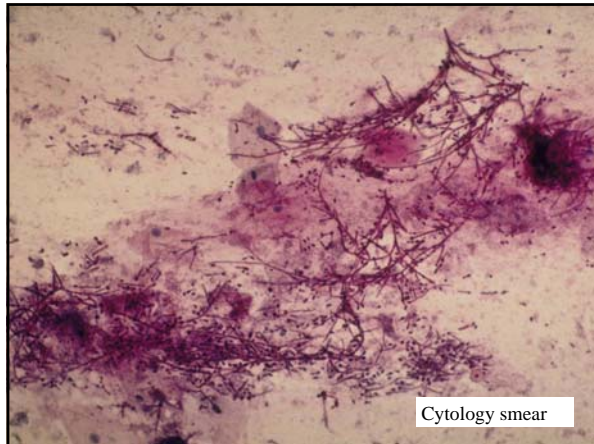
- Histology:
 - hyphae (elongated structures) in superficial parakeratin layer
 - epithelial acanthosis
 - elongation of rete ridges
 - neutrophils in epithelium
 - chronic inflammation in connective tissues



Candidiasis

- Diagnosis:
 1. Fungal culture
 - 2 weeks for results
 2. Cytology smear
 3. Tissue biopsy





Candidiasis

- Treatment:

Pseudomembranous candidiasis

Acute atrophic candidiasis (Ab use)

Topical or oral antifungals

Rx: clotrimazole (Mycelex) troches

Let 1 tab dissolve in mouth TID-QID x 14d

Rx: Nystatin suspension

Rinse and spit/swallow 1 tsp QID x 14d

Rx: fluconazole (Diflucan)

Take 1 tab PO once daily x 14d

* Drug interactions with Dilantin, warfarin, and sulfonylureas *

Candidiasis

- Treatment:

Angular cheilitis

- topical antifungal and steroid preparation

Rx: Lotrisone cream

Apply to corners of mouth BID x 10d

Rx: Mycolog II cream

Apply to corners of mouth TID-QID x 10d

Denture stomatitis

- take dentures out before bed

- wash/soak dentures at night



Herpes simplex virus infections

- Etiology: Herpes simplex virus
 - DNA virus
 - part of human herpesvirus (HHV) family
 - 2 types: 1) Type 1 (HSV-1, HHV-1)
 - 2) Type 2 (HSV-2, HHV-2)
- HSV-1: Generally affects skin above waist
- HSV-2: Generally affects skin below waist

Herpes simplex virus infections

- Infection occurs in *primary* and *secondary forms*
After 1° infection → virus taken up by ganglia,
remains latent until reactivated → 2° infection
- Reactivation triggered by UV light exposure,
?Associated with stress, pregnancy, trauma, etc.

Herpes simplex virus infections

- **Primary infection**

1. **Primary herpetic gingivostomatitis**

Age: 6 mo-5 y; can occur in older pt

General features:

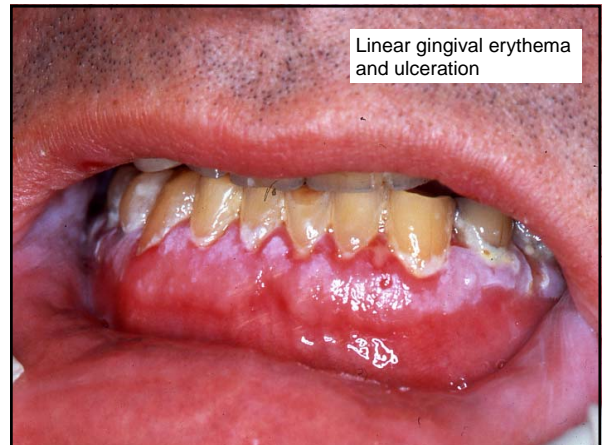
Most cases asymptomatic
Chills, fever, anorexia, irritability
Swollen cervical lymph nodes

Oral features:

Vesicles → punctate ulcers on K and NK mucosa

** Linear gingival erythema with punched-out ulcers

Clinical course: Resolves in 5 d - 2 w



Herpes simplex virus infections

- **Primary infection (cont'd)**

2. **Pharyngotonsillitis**

Age: Adults

General features:

Sore throat, fever, malaise, headache

Oral features:

Vesicles → punctate, shallow ulcers
Tonsils and posterior pharynx

** Symptoms can mimic *strep throat*, *infectious mononucleosis*

Herpes simplex virus infections

- **Secondary infection**

1. **Herpes labialis**

Trigger: UV light exposure, trauma

Age: Young adults; throughout life

Site: Vermilion border, adjacent skin

Clinical features:

Prodrome – pain, burning, itching, tingling
– 6-24 hours before eruption

Clusters of vesicles → crusts

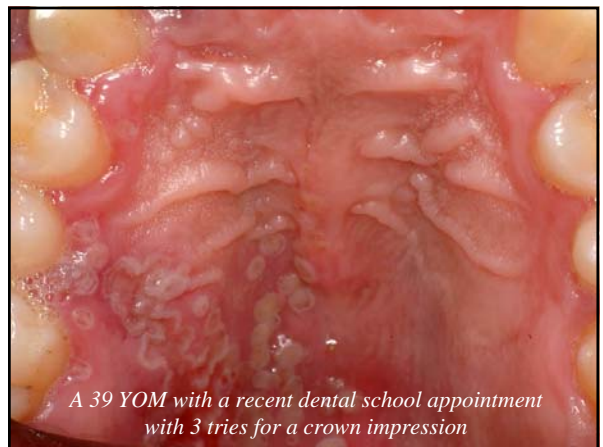
Heals in 7-10 days

During vesicular stage → active, can spread



Herpes simplex virus infections

- **Secondary infection**
- 2. **Intraoral recurrent herpes**
 - Age: Young adults, adults; throughout life
 - Site: Keratinized mucosa
 - Clinical features:
 - Vesicles → red macules → ulcerations
 - Heals in 7-10 days



Differential diagnosis

Primary herpetic gingivostomatitis

- 1) Erythema multiforme
 - hemorrhagic crusting of lips
 - no linear gingival erythema

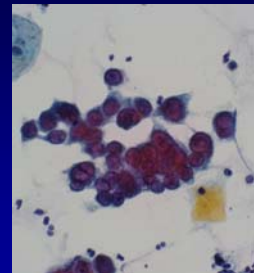
Intraoral recurrent herpes

- 1) Aphthous ulcers
 - on non-keratinized mucosa
- 2) Chemical injury
- 3) Immune-mediated vesiculobullous diseases
 - e.g. erosive lichen planus, pemphigus vulgaris



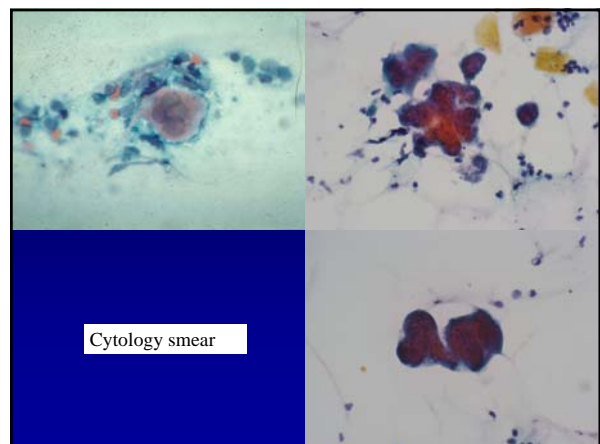
Herpes simplex virus infections

- Histology:
 - intraepithelial vesicle formation
 - 3 M's of herpes-infected cells:
 1. **M**ultinucleation
 2. Nuclear **m**argination
 3. Nuclear **m**olding
 - Nuclear enlargement = "Ballooning degeneration"
- ** *These features can also be seen with varicella zoster, herpes zoster infections*



Herpes simplex virus infections

- Diagnosis:
 1. Viral culture
 - need intact vesicles
 - 2 weeks for results
 2. Serologic tests
 3. Cytology smear
 4. Tissue biopsy



Herpes simplex virus infections

- Treatment:
 - Primary herpetic gingivostomatitis**
 - resolves on its own
 - if detected earlier, can rx oral antivirals or acyclovir suspension
 - analgesics, antipyretics
 - chlorhexidine rinses
 - frequent hydration
 - avoid contact with eyes

Herpes simplex virus infections

Oral antivirals

- Rx: acyclovir (Zovirax), 200mg
5 times/day x 10 d
- Rx: acyclovir suspension
Swish and swallow 1tsp x 10d
- Rx: valacyclovir (Valtrex), 500mg
TID x 7d
- Rx: famcyclovir (Famvir), 500mg
TID x 7d

Herpes simplex virus infections

- Treatment:
 - Herpes labialis**
 - oral or topical antivirals → variable success

Topical antivirals

- Rx: penciclovir (Denavir), 1%
Apply to affected area q2h x 4d

Cytology smears

How to submit a smear

- Rationale:** Rule in/rule out *candida* infection
- Rule in/rule out *herpes* infection
- Rule in/rule out *dysplasia*

Materials:

- Where? Oral path office
- What? Smear kit
 - glass slide
 - brush
 - alcohol packet
- Requisition slip



How to submit a smear

Requisition slip

- * **Patient info**
- * **Submitting Dr.**
- * **DOB**
- * **Location**
- * **Clinical dx**
 - candida
 - herpes
 - dysplasia
- * **Clinical description**

How to submit a smear

How:

- 1) Brush lesion firmly, smear on slide
- 2) Pour on alcohol
- 3) Let dry

* Please be sure to indicate that the smear is to rule out *candida* OR *herpes* OR *dysplasia* *

Submit to: Oral path office (PH 1562, 15th floor)