Red, White & Ulcerative Lesions of the Oral Cavity

What are they? How to treat?

My Approach to Diagnosing and Treating Oral Mucosal Diseases

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Disclosures

▶ NONE!

Goals

Focus on 5 common benign conditions

Mouth Ulcers including:
- Aphthous Ulcers
- Herpes Simplex Virus 1
- Geographic Tongue
- Candidiasis
- Oral Lichen Planus
- Oral Premalignant Lesions

Discuss clinical presentation, differential diagnosis and treatment of these entities

Goals

Distinguish these benign conditions from potentially malignant oral lesions.
Oral Ulcers
Questions to think about
- Acute vs Chronic
- Multiple vs Single
- Location
- Duration
- Associated pain
- Induration
- Other mucosal lesions
- Cutaneous lesions
- Systemic diseases
- Medications
- Any known triggers

Aphthous Ulcers
Recurrent minor aphthous ulcer
≤ 1 cm; fibrinopurulent membrane surrounded by erythema

Aphthous Ulcers
Triggers
1. Decrease in the mucosal barrier
   - Trauma, pernicious anemia
2. Increase in antigenic exposure
   - Foods, flavoring agents
3. Primary immunodysregulation
   - Behcets, Crohn’s, celiac disease, cyclic neutropenia, AIDS, stress
Not infectious!!
Important to distinguish from intraoral herpes

Recurrent HSV-1
Reactivation of the virus can be triggered by
GI upsets, stress, menses, solar radiation,
extreme cold, or other infections.
Recurrent lesions are less severe than the
primary infection.
Recurrent lesions present with a burning
sensation, erythema of the affected area,
vesiculation, ulceration and crust formation

Recurrent Orolabial HSV1

Prodrome
sometimes
usually
Duration
10-14 days
10-14 days
Location
Nonkeratinized - buccal mucosa, ventral tongue, soft palate
Keratinized – gingiva, lip, hard palate

Aphthous Ulcer vs HSV

Treatment for Aphthae
Topical steroids – either rinse or cream/gel
Systemic steroid – good for multiple lesions or those in the oropharynx
Bloodwork

Aphthae Treatment
Dexamethasone elixir 0.5 mg/5ml
Dispense 500 ml
Sig: 1 tsp QID; hold for 3 mins, spit out, no food or liquid for 30 mins
2X stronger but must be compounded; $$:
Triamcinolone acetonide 0.2% aqueous suspension
**Aphthae Treatment**

For easy to reach spots like lips can use a topical steroid such as Lidex gel or cream or more potent steroid like Clobetasol.

*RX:* fluocinonide 0.05% or Clobetasol 0.05% gel or cream

Disp: 30 gm

Sig: Apply to affected area*** BID – QID (depends on severity)

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**Tacrolimus in distilled water 0.1mg/100mL**

Disp. 500mL

Sig. Rinse with 1 tsp of solution for 2 minutes expectorate rinse qid

Tacrolimus (Protopic) ointment 0.1%

Disp. 30g tube

Sig. Rub into affected area tid.

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**Treatment for Aphthae**

Intralesional steroid injection-about 0.3-0.5 cc of 40mg/cc triamcinolone diacetate

Major aphthous ulcer can last for many weeks and heal with scarring

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Traumatic Ulcerative Granuloma (with stromal eosinophils) TUGSE
Traumatic Granuloma Treatment

First determine if it is traumatic and not SCC

After anesthetizing the area, I inject anywhere from .2-1 cc of 40 mg triamcinolone depending on the ulcer extent

Post Intralesional Steroid Injection
Treatment: Recurrent HSV Infection

Topical
RX: Acyclovir 5% ointment (Zovirax)
Disp: 15 gm
Sig: Apply hourly at onset of symptoms
RX: Pencyclovir 1% cream (Denavir)
Disp: 2 gm
Sig: Apply q2 hrs during waking hrs for 4 days at onset of symptoms

Topical creams much less effective and are $$$

Recurrent HSV Treatment

Systemic
RX: Valacyclovir 1 gm (Valtrex)
Disp: 4 caplets
Sig: Take 2 caps at prodrome and 2 caps 12h later

Warning: Use with caution in patients with renal disease; has not been studied in children <12 years of age
In Children:
Acyclovir 400 mg p.o. 5 times/day × 5 days
Recurrent HSV Treatment

**Systemic**
RX: Famciclovir 500 mg (Famvir)
Disp: 3 tablets
Sig: 3 tablets at first sign of symptoms

Best taken within 48 hours of symptom onset

At sick call appointment in the dental clinic, he was told to “brush his teeth with his finger” since a toothbrush was too painful.

HSV1 and Genital Herpes: Transmission

- HSV-1 can be transmitted to the genital area through oral-genital contact to cause genital herpes.
- HSV-1 can be transmitted from oral or skin surfaces that appear normal and when there are no symptoms present. However, the greatest risk of transmission is when there are active sores.
- Individuals who already have HSV-1 oral herpes infection are unlikely to be subsequently infected with HSV-1 in the genital area.

Genital herpes caused by HSV-1 can be asymptomatic or can have mild symptoms that go unrecognized. When symptoms do occur, genital herpes is characterized by 1 or more genital or anal blisters or ulcers. After an initial genital herpes episode, which may be severe, symptoms may recur, but genital herpes caused by HSV-1 often does not recur frequently.
Primary Herpetic Gingivostomatitis

1º lesions are highly infectious including the saliva
1º infection lasts up to 2 weeks
After the initial infection the virus goes into latency

In the US, 60-85% of adults by age 60 have antibodies to HSV-1.
Highest incidence of HSV-1 occurs in children aged 6 months to 3 years.
99% of affected individuals undergo a subclinical infection - in children may be confused with eruption gingivitis
1% of individuals develop full-blown primary herpetic gingivostomatitis: "temp, regional lymphadenopathy, difficulty eating"

****Primary HSV1 Can Occur on Both Keratinized and Nonkeratinized Mucosa****

Remember - Adults can get primary HSV1 gingivostomatitis!!!
Treatment for Primary HSV-1

RX: Children
Acyclovir 400 mg
Disp: 32 capsules
Sig: 2 capsules tid for the first 3 days then 1 capsule bid for 7 days

Only effective if started within 72 hours of symptom onset

How to Perform an Oral Exam

RX:
Famvir 500 mg
Disp: 20 tablets
Sig: 1 tablet bid for 10 days

Geographic Tongue

Clinical lesions generally present on the anterior two-thirds of the dorsal tongue as multiple, well-demarcated zones of erythema due to atrophy of the filiform papillae. These zones may be surrounded by a white circinate border.
Treatment of Geographic Tongue

- Usually, no treatment is required.
- Identifying triggers which cause symptoms will help in minimizing discomfort.
- For highly symptomatic patients, topical steroid (rinse or gel) will relieve the pain.

Oral Candidiasis

- An opportunistic organism which tends to proliferate with the use of broad-spectrum antibiotics, corticosteroids, cytotoxic agents and medications that reduce salivary output.

Candidiasis
Hairy Tongue

A coated tongue does not automatically mean the patient has a yeast infection

Angular Cheilitis

Steroid inhalers and/or high arched palate can cause candidiasis

High-arched palate
TREATMENT

**Treatment**

Nystatin Suspension 100,000U/ml
Dispense 280 ml (14 day course)
SIG: 1 tsp QID, hold for 3 mins, spit out, no food, liquid or rinsing for 30 mins

**Treatment**

Clotrimazole (Mycelex) 10 mg Troche
Dispense 70 troche
Sig: Dissolve in mouth 1 troche 5x day
No eating, drinking or rinsing for 30 minutes
If applicable, remove dentures first

**Treatment**

- Fluconazole 100mg daily for 14 days
  - ! Watch for drug interactions: statin drugs (cholesterol meds), warfarin, sulfonylureas, some antihypertensives
  - ! Always check for interactions before prescribing

**Treatment**

- Angular Cheilitis:
  - Nystatin/Triamcinolone ointment/cream
  - Apply to the corner of lips BID

**Erythematous Candidiasis**
Persistent Candidiasis

- Can be caused by a variety of etiologies:
- Need blood work to rule out anemia:
  1. CBC with differential: low iron in a man or post-menopausal F, need to ask why
  2. B12: low B12 is pernicious anemia which increases with age

Check glucose levels: May be undiagnosed diabetic

Poorly controlled diabetic

Check thyroid levels

Is patient on chronic steroid or antibiotic use?

Xerostomia

More than 800 medications cause dry mouth

Antihistamines: Benadryl, Claritin, Zyrtec, etc.

Antidepressants: including Zoloft, Flexaril, Elavil

Antiemetics: prescribed to prevent vomiting & nausea in chemo- and radiation therapy and motion sickness e.g., Anzemet, Domperidone

Antihypertensives: Albuterol aerosol, Norvasc, Prinivil

Antiparkinson: Levodopa, Artane

Antipsychotics: Zoloft, Lexapro

Sedatives: Amytal, Valium, Lunesta
Secondary BMS

- Caused by an underlying medical condition, such as a nutritional deficiency. In these cases, it's called secondary burning mouth syndrome.

Possible Causes of a Burning Mouth - Need to rule out before making a diagnosis of BMS

- Allergy
- Mechanical Irritation
- Infection
- Myofascial pain
- Oral habits
- Geographic tongue
- Menopause
- Esophageal reflux
- Acoustic neuroma
- Vitamin deficiency
- Diabetes
- Xerostomia
- Medication
- Psychogenic factors
Primary BMS

Thought to be related to taste and sensory nerves of the peripheral or central nervous system.

Epidemiology of BMS

- Post/peri-menopausal female
- 18-75 yrs (mean 59 yrs)
- Reported prevalence of 5.1% in general dental practice population
- Duration of symptoms 3-6 yrs
- Associated symptoms:
  - Headaches
  - Sleep disturbances
  - Anxiety, depression
  - Neuroses

Epidemiology of BMS

- 92% report more than one site
- 43% taste disturbance
- 59% milder after waking
- 75% worse in the evening
- 61% parafunctional habits

Sites of Discomfort in BMS

- Tongue – most affected site
- Anterior hard palate
- Lips
- Lower denture bearing area
- Throat
- Floor of mouth

Clinical Symptoms of BMS

- “Inside cheeks are swollen”
- “I bite my cheeks often”
- “Mouth is sore constantly”
- “Too much saliva”

Treatment of BMS

Over the counter agents
- Oral balance gel prn
- Sugar-free gum/candy/lozenge prn
Treatment of BMS

**Benzodiazepine:**
- Clonazepam rinse, 0.5 mg (which is 5 ml of a 0.1 mg/ml solution), swish for 5 min and spit out 4 times a day. If this does not work within 2 weeks, patient can swallow the night-time dose.

This medication does not cure the problem but makes the burning more tolerable. Evaluate after 30 days. Depending on the circumstances, then slowly increase to 1 mg. Almost all primary BMS pts have insomnia, and usually mood disorder. You have to be careful about other meds they are on.

Treatment of BMS

**Second Line Therapy:** Tricyclic antidepressant
- Amitriptyline 10 mg at bedtime. Can increase dose as needed, i.e.: 25-50 mg
- Nortriptyline 10 mg at bedtime. Can increase dose as needed, i.e.: 20-40 mg (better tolerated in elderly)

**Oral Lichen Planus**
Common chronic immunologically mediated mucocutaneous disorder
Middle age
Female predilection – 3:2
Prevalence
- Cutaneous 1%
- Oral 0.1% - 2.2%

**Lichen Planus**

Extraoral lesions
- Cutaneous lesions:
  - Purple, pruritic, polygonal papules
  - Flexor surfaces of extremities
- Nails
- Glans penis, vulva
Reticular form
► Most common
► Asymptomatic
► Wickham's striae
► Bilateral BM, tongue, gingiva, palate, vermilion border

Erosive OLP:
► Less common; symptomatic
► Atrophic erythematous areas with central ulceration
► Bordered by fine, white radiating striae

Treatment of Erosive OLP:

Decadron elixir:
0.5 mg/5ml
Disp 500 ml
1 tsp qid, hold
3 mins, spit out, no food/liquid for
30 mins

Compounded rinse:
Triamcinolone rinse
4mg/ml
Severe – systemic prednisone

Post-treatment:
Prednisone 10 mg
Disp: depends on dosing
Sig: 30 mg to 60 mg PO q AM. Sequence depends on disease severity. I often do 60 mg day 1, 50 mg day 2, 40 mg day 3, 30 mg day 4, 20 mg day 5-7, 10 mg day 8-12, then one every other day for 2 or 3 more doses.

Prednisone should be taken within 1½ hours after waking time to minimize side-effects
Candidiasis can be a side-effect of any steroid or antibiotic therapy, either topical or systemic.
Diabetic patients need to monitor glucose levels carefully since prednisone increases blood glucose concentrations.
**Gingival Lichen Planus Treatment**

- In addition to the steroid mouthrinse:
- Doxycycline 100mg QD for 90 days then re-evaluate

**Oral Lichen Planus Differential Diagnosis**

- Oral lichenoid drug reactions to systemic drugs
- Oral lichenoid contact-sensitivity
- **Oral leukoplakia**

**Oral Leukoplakia**

- Leukoplakia is the most common oral precancer (potentially malignant oral lesion)
- 2.6% worldwide prevalence
- 70-95% of oral leukoplakias will not progress to malignancy
- Lesions of long duration have a greater risk of malignant transformation than those of short duration

**What is NOT Oral Leukoplakia?**

- A clinical diagnosis dependent on the exclusion of other lesions that present as white plaques:
  - cheek/tongue biting
  - lichen planus
  - drug reaction
  - aspirin burn
  - cinnamon reaction
  - candidiasis
  - leukoedema
  - tobacco pouch keratosis
  - amalgam reaction
  - geographic tongue
Cheek Biting
Chronic cheek chewing show thickened, shredded areas with zones or erythema or superficial ulcerations

Lip Biting

Aspirin Burn
Smokeless tobacco keratosis has a much smaller risk of developing cancer than oral leukoplakia that develops in tobacco smokers.
Smokeless tobacco keratosis, after habit cessation, is routinely reversible.
Contact reaction to cinnamon flavoring found in gum, candy, toothpaste, mouthwash, dental floss, soft drinks. Can see thickened white areas as well as red, sore areas.
Lichenoid Reaction to Brackets or Bands

Lichenoid Reaction to Amalgam

Uses Listerine 2-3 times a day and always holds it in the mouth for 2-3 minutes for the past 5 years

Chapped Lips

55 F

Blistex

Neutrogena

Lansinol

Purelan 100
Rashes: Perioral Dermatitis

- Often looks like small, red, acne-like breakouts
- Can itch
- Can also appear around mouth and nose
- NOT CONTAGIOUS

Also possible that there is no itching or burning but dry and flaky skin.

Causes of Perioral Dermatitis

- Not entirely clear and is most likely different for each individual
- Irritant: soaps, moisturizers, other skin care products, toothpaste that is touching your skin
- Overuse of corticosteroid medicine on the skin

Treatment of Perioral Dermatitis:

- Stop applying corticosteroids
- Antibiotic such as tetracycline or erythromycin
- Change skin care routine

2 months of doxycycline 100mg BID
Factitial Perioral Dermatitis (Licking)

Superficial Sloughing Due to Dentifrice

Oral Dysplasia

- Sites where leukoplakia are most likely to be associated with pre-cancer/cancer: tongue, lip vermilion and floor of mouth

Final Words of Wisdom

- A >1 month hx of a sore lateral tongue – BIOPSY!! not more abx, magic mouthwash, etc.
- If a path report is too good to be true - it probably is – rebiopsy or call pathologist.
- A coated tongue ≠ candidiasis
- An ulcer on the buccal, labial, FOM, soft palate mucosa is not HERPES!

OH, NO! Pete is that you???

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Therapeutic Agents
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A. Candidiasis

Mouthrinse

RX: Nystatin oral suspension 100,000 units/ml
Disp: 280 ml
Sig: 1 tsp, qid, hold for 3 mins, expectorate, no food/liquid/rinsing for 30 mins

Note: If the patients wear dentures, these must be removed before rinsing

Ointments/Creams

RX: Nystatin ointment 100,000 units/gram (Mycostatin)
Disp: 30 gm
Sig: Apply thin film to inner surfaces of dentures and angles of mouth 2-4 times a day

RX: Ketoconazole 2% cream (Nizoral) or Clotrimazole 1% cream (Lotrimin-Rx)
Disp: 30 gm
Sig: same as for ointment

**RX: Nystatin and triamcinolone acetonide (Ointment or cream)
Disp: 30 gm
Sig: Apply to corner of mouth bid

**Note: This is good for angular cheilitis, particularly when there is an inflammatory component. The steroid quickly reduces the inflammation

Atrophic Candidiasis (Denture Stomatitis)

RX: Nystatin ointment 100,000 units/gram
Disp. 30g. tube
Sig. apply to denture base and insert denture, BID.
Lozenges
RX: Clotrimazole 10 mg (Mycelex oral troches)
Disp: 70 troches
Sig: Dissolve in mouth 5 tabs per day. NPO 30 mins

Note: Patients need to remove dentures before using the troche to ensure the medication reaches the mucosa underneath the denture

Systemic Treatment
RX: Fluconazole 100mg (Diflucan)
Disp: 14
Sig: 1 tab qd
Note: Be aware of possible drug interactions with: warfarin, statins, oral hypoglycemic; may need a 4 week course

B. Recurrent Oral Herpes Infection
Systemic
RX: Acyclovir 400mg (Zovirax) **
Disp 12 capsules
Sig: 2 capsules tid at onset of symptoms for 2 days.

RX: Famciclovir 500 mg (Famvir)
Disp: 3
Sig: 3 tablets at first sign of symptoms

RX: Valacyclovir 1 gm (Valtrex)
Disp: 20
Sig: Take 1 tablet bid for 3 days

Note: Use all systemic HSV medications with caution when prescribing to patients with impaired renal function and hepatic disease. For use in pre-pubescent children use acyclovir

C. Primary Herpes Simplex Infection
RX: Famciclovir 500mg (Famvir)
Disp: 20 tablets
Sig: 1 BID for 10 days **Adults only

RX: Acyclovir 400 mg (Zovirax)
Disp: 32 capsules
Sig: 2 capsules TID for the first 3 days, then 1 capsule bid for 7 days
**D. Ulcers, including Erosive Lichen Planus, Mucous Membrane Pemphigoid, Aphthous Stomatitis, and Traumatic Ulcers.**

**Topical Agents**

RX: Fluocinonide 0.05% (Lidex) or Clobetasol 0.05% (Temovate) (depending on where you use it prescribe gel or cream)
Disp: 30 gm
Sig: Apply to affected area BID-TID – depending on severity

*Note: Please let patients know that the packaging says that the product cannot be used in the mouth, but that it is okay to use*

Tacrolimus (Protopic) ointment 0.1%
Disp. 30g tube
Sig. apply thin layer to affected area tid. No food/liquid/rinsing for 30 mins

**Mouthrinse**

RX: Dexamethasone elixir 0.5mg/5ml
Disp: 500 ml
Sig: 1 tsp qid, hold for 3 mins, expectorate, no food/liquid or rinsing for 30 mins

*Note: A low alcohol formulation (5%) is available as well, and may be better tolerated by some. You need to specify on prescription: Roxane Laboratories NDC # 00054-3177-63 NO SUBSTITUTIONS, PLEASE SPECIAL ORDER IF IT IS NOT AVAILABLE*

RX: Triamcinolone rinse
Directions to pharmacist:
.96 grams triamcinolone powder with purified water and .24 g saccharin sodium QS to 240 ml to final concentration of 4mg/ml
Sig: 1 tsp qid, hold for 3 mins, expectorate, no food/liquid or rinsing for 30 mins

RX: Tacrolimus rinse (compounded)
Tacrolimus in distilled water 0.1mg/100mL
Disp. 500mL
Sig. Rinse with 1 tsp of solution for 2 minutes expectorate rinse qid.

**Systemic**

Prednisone 10 mg
Disp: Sig: 30 mg to 60 mg PO q AM. Sequence depends on disease severity. I often do 60 mg day 1, 50 mg day 2, 40 mg day 3, 30 mg day 4, 20 mg day 5-7, 10 mg day 8-12, then one every other day for 2 or 3 more doses.

*Note: a. Prednisone should be taken within 1½ hours after normal waking time to minimize side-effects*
b. Candidasis can be a side-effect of any steroid or antibiotic therapy, either topical or systemic.

c. Diabetic patients need to monitor glucose levels carefully since prednisone increases blood glucose concentrations.

**Intralesional Steroids**

RX: Triamcinolone acetonide injectable 40 mg/ml  
Area should be anesthetized before injection  
Inject 10-40 mg (I use a 1 cc TB syringe and inject generally .5 cc or 20 mg)  
Useful in solitary major aphthous ulcers and traumatic ulcers

**Anticollagenase Agents for Desquamative Gingivitis**

RX: Doxycycline 50mg or 100mg  
Disp: 60  
Sig: Take one tablet QD

*Note: Usually the doxycycline medication is used for the initial 2-6 months of treatment and then topical steroids are used for maintenance.*

*Important:* Remember that doxycycline may decrease the effectiveness of birth control pills, so those patients will need supplemental birth control. Also, remember to warn about possible photosensitivity.

**E. Symptomatic Geographic Tongue**

RX: Dexamethasone elixir 0.5mg/5mL  
Disp. 500mL  
Sig. 1 tsp, qid, hold for 3 mins, expectorate, no food/liquid/rinsing for 30 mins

**F. Burning Mouth Syndrome**

*Over the counter agents*  
Oral balance gel prn  
Sugar-free gum/candy/lozenge prn

*Systemic agents*  
RX: Clonazepam 0.5 mg (which is 5 ml of a 0.1 mg/ml solution)  
Swish for 5 minutes and spit out 3-4 times a day. If no improvement within 2 weeks, patient can swallow the night time dose.

This medication does not cure the problem but makes the burning more tolerable. Evaluate after 30 days. Depending on the circumstances, then slowly increase to 1 mg.