Update on Oral Lichen Planus
Etiology and Pathogenesis
Effective Treatment

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Epidemiology

Lichen planus

• Common mucocutaneous disorder- 2% of population.

• Increasing frequency

• Disease of middle aged and elderly.

• More common in females.
Oral Lichen Planus has distinctive clinical and histomorphological features and classical distribution... or does it??

29% OF DYSPALSTIC AND MALIGNANT ORAL LESIONS HAD 3 OR MORE OF THE FIVE HISTOLOGIC FEATURES OF LICHEN PLANUS
ORAL LICHEN PLANUS???

• **ORAL LICHEN PLANUS**
  • Bilateral, symmetric
  • *Idiopathic*
  • Lace-like/ reticular
  • Erosive, plaque-like or atrophic OK + reticular

• **ORAL LICHENOID LESION**
  • *Asymmetric*
  • Definite trigger-trauma, drug, contact (amalgam, cinnamon), tumor (squamous cell ca, t-cell lymphoma) foreign body reaction
ORAL LICHEN PLANUS

• *ORAL LICHEN PLANUS*
  • Definite band like lymphocytic infiltrate
  • + fibrinogen on direct immuno

• *ORAL LICHENOID LESION*
  • +/- band like infiltrate, not just lymphocytic
  • +/- fibrinogen on direct immuno
Clinical Types of Lichenoid Mucositis

- Reticular/lace like
- Hypertrophic (plaque-like)
- Erosive (ulcerated)/Atrophic (red w/o ulcer)-both painful and premalignant
LICHEN PLANUS

• 90% of patients have bilateral reticular lesions in the posterior buccal mucosa.

• The tongue is the next most commonly involved followed by the gingiva and alveolar ridge.
Reticular Lichen Planus
HYPERTROPHIC LICHEN PLANUS???
HYPERTROPHIC(PLAQUE –LIKE)
EROSIVE LICHEN PLANUS
Erosive Lichen Planus

• 80% of patients on medication.
• Usually painful.
• Invariably have peripheral striae.
DESQUAMATIVE
Atrophic Lichen Planus
Factors in the etiopathogenesis of lichenOID MUCOSITIS

• T-cell lymphoma
• Graft Versus Host Disease
OTHER LICHENOID LESIONS
T-CLELL LYMPHOMA
OTHER LICHENOID LESIONS- GVHD
Factors in the Etiopathogenesis of LichenOID MUCOSITIS

- Foreign body (gingiva) – prophy jet
- Drug induced
- Dental materials
FOREIGN BODY GINGIVITIS
Lichenoid mucositis is often multifactorial in origin.
TRIGGERS of LichenOID MUCOSITIS/Lichen Planus

• ? Stress
• Trauma
• Aspirin (actually NSAID’s /Amalgam
• Yeast
• Idiopathic (true lichen planus)
STAY

• Reduce stress
• Exercise 5x week for 30 minutes
• Must sweat to be effective
TRAUMA

• Triggers the condition in susceptible individuals
KOEBNER PHENOMENON

• Development of isomorphic pathologic lesions in the traumatized uninvolved skin of patients who have cutaneous disease
TRAUMATIC LICHENOID MUCOSITIS
TRAUMATIC LICHENOID MUCOSITIS
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TRAUMATIC LICHENOID MUCOSITIS
TRAUMATIC LICHENOID MUCOSITIS
• Aspirin (actual NSAIDS)
• Amalgam
## Drugs Implicated in Oral Lichenoid Reactions

### Category Drugs

#### Antimicrobials
- Dapsone
- Ketoconazole
- Para-aminosalicylic acid
- Sodium aminosalicylate
- Streptomycin
- Sparfloxacin
- Sulfamethoxazole, Sulfasalazine
- Tetracycline

#### Antiparasitics
- Antimony compounds (stibophen, stibocaptate)
- Organic arsenicals
- Chloroquine
- Pyrimethamine
- Quinacrine

#### Antihypertensives
- ACE inhibitors - Captopril
- Chlorothiazide, Hydrochlorothiazide
- Labetalol, Practolol, Propanolol
- Lasix
- Mercurial diuretics
- Methyldopa
## Drugs Implicated in Oral Lichenoid Reactions

### Category Drugs – Cont.

<table>
<thead>
<tr>
<th>Category</th>
<th>Drugs</th>
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</table>
| **Antiarthritics**                | • Aurothioglucose  
• Colloidal gold (Europe only)  
• Gold sodium thiomalate and thiosulfate |
| **Anxiolytics**                   | • Lorazepam                                                          |
| **Non-Steroidal Anti-inflammatory Agents** | • Fenclofenac  
• Ibuprofen  
• Naproxen  
• Phenylbutazone |
| **Hypoglycemic agents**           | • Chlorpropamide  
• Tolazamide  
• Tolbutamide |
| **Uricosurics**                   | • Allopurinol                                                        |
## Drugs Implicated in Oral Lichenoid Reactions

### Category Drugs – Cont.

<table>
<thead>
<tr>
<th>Miscellaneous</th>
<th>Dental Materials</th>
<th>Lipid Lowering</th>
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<tbody>
<tr>
<td>• Amitriptyline</td>
<td>• Paraphenylenediamines used in color film developers</td>
<td>• Simvastatin</td>
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<tr>
<td>• Clopidrogel (Plavix)</td>
<td>• Dental composite filling materials</td>
<td>• Gemfibrozil</td>
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<td>• Imipramine</td>
<td>• Dental casting alloys and amalgam restorations</td>
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<tr>
<td>• Iodides Lithium</td>
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<td>• Omeprazole</td>
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<td>• Phenytoin</td>
<td>• Paraphenylenediamines used in color film developers</td>
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<td>• Quinidine Sulfate</td>
<td>• Dental casting alloys and amalgam restorations</td>
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<td>• Sildenafil (Viagra)</td>
<td>• Paraphenylenediamines used in color film developers</td>
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Drug Induced

- Often erosive
- May involve the lips
- Often asymmetric
CASE STUDY

• This 65 year old male has an eight year history of “Lichen Planus”. Lesions are very painful and continuous.
Lichenoid Drug Eruption

• Takes an average 12 months to develop.
• Can develop after 10 years on same drug
• Ebbs and flows while on drug.
• Asymmetric eruption
LICHENOID DRUG ERUPTIONS

• Loves lips/anterior buccal mucosa.
• May take up to 24-months to clear.
• Usually improves in 2-8 weeks.
Oral Lichen Planus and Metal Restorations

• 8-67% oral lichen planus patients react to mercuric salts on skin testing.
• But much higher %(70-79% vs. 2-3%) if lesion definitely (strongly>75%) in contact with amalgam

Koch 99, Skoglund 94, Thornhill 03
Oral Lichenoid mucositis and Metal Restorations

• Removal of **symptomatic lichenoid lesions** in direct contact with amalgam is recommended as well over 90% completely heal or significantly improve

Dunsche 03, Thornhill 03, Koch 99
Lichen Planus and Metals

- **Trauma (irritation) and metal**
- Composites also associated with LM.
- There may also be occasional reactions to gold restorations.
TRAUMA + METAL
Contact Stomatitis vs. Irritant reaction

• Allergic Rx spread out beyond contact area.
• Irritant reactions only contact area.
LICHENOID MUCOSITIS: AMALGAM
LICHENOID MUCOSITIS: AMALGAM
Yeast

- Red, fuzzy lesion
- Exacerbate the condition
Yeast + Lichen Planus
Patient Worsens

• Yeast
• Cancer
Oral Lichenoid Mucositis and Cancer

- Oral lichenoid lesions often have atypia.
- Inter-rater reliability on the features of LP are very poor.
- Premalignant dysplasias have lichenoid appearances.
- Lack of consistent well defined objective criteria of epithelial dysplasia adds to confusion.
Oral Lichenoid Mucositis and Cancer
MY CASE 2012 VS 2013
Oral Lichenoid Mucositis and Cancer

- Oral lichenoid lesions 142 x more likely to become cancer than chance alone
- Malignant transformation rate 2%
- But all lesions are red (atrophic or erosive) and most occur on the tongue...just like oral cancer!!
- *Misdiagnosis* or transformation?
Oral Lichenoid Mucositis and Cancer

• Dysplasia, early carcinoma, oral lichenoid mucositis can look-alike clinically AND histologically (i.e. atypia).
• Classical lichen planus (bilateral, reticular, buccal mucosal lesions) has 0% risk for transformation
LICHENOID MUCOSITIS OR CANCER??
CLINICAL CORRELATION REQUIRED EROSIVE LICHEN PLANUS??
ADA Article “Lichenoid Dysplasia”
Differentiate Lichenoid Mucositis from Dysplasia

- **Biopsy** not always conclusive!!!
- **Short term** topical steroid Tx.
  - **Pre-cancerous** lesions worsen, become more defined erythro-, or leukoplakic
  - **OLM** lesions improve/disappear
- **Asymmetry** of lesions is key for dysplasia
OLM vs. Dysplasia
+ Topical steroids for 2 weeks
OLM vs. Cancer

?Pre-steroid
OLM vs. Cancer
Post-steroid
ERYTHROLEUKOPLAKIA TRANSFORMING INTO LICHENOID MUCOSITIS !!
68 Y/O radiologist. H/O of Lichen planus +/- atypia since 2006. Now notices white lesion in previously biopsy confirmed lichen planus. He was a pipe smoker & held pipe stem in this area.
Treatment

• Not entirely satisfactory
• No cure available
• Immune suppression is the key
• Only 1 out of 15 resolve spontaneously.
Treatment

- 0.05% clobetasol GEL apply SPARINGLY 2x/day
- Discontinue the use of any NSAID
- Use chlorhexidine rinse or swab before applying gel to prevent potential candidal infections.
- Daily sulca brush use and OHI
- For severe gingival involvement use carrier trays
- Apply steroid to gingiva 2x/day and cover with tray for 15 minutes b.i.d. **for no more than 2 weeks**
Topical steroids are the mainstay of therapy.
TREATMENT 2 WEEKS TOPICAL CLOBETASOL

• BEFORE

• AFTER
Follow up after 2 weeks
2 WEEKS
Lichen Planus Treatment

- Clobetasol gel 0.05%
- Dsp. 15 or 30 gm.
- Sig. apply sparingly b.i.d.
- Very strong use for Tx initiation
Lichen Planus Treatment

- **Lidex gel 0.05%**
- **Dsp. 15 or 30 gm.**
- **Sig. Apply sparingly 3-4 times a day.**
- **Good for long term treatment**
Lichen Planus Treatment

• Stringent oral hygiene and prophylaxis procedures Q 3-6 months.
Sulcabras once a day every day
Follow-up

- Patients must be seen 1-2 times a year.
- Return if condition worsens.
- Erosive / atrophic types much more risky.
- Biopsy IF lesions change clinical appearance or resist Tx.
LP OR CANCER?

52 y/o female with irregular white and red lesion on right buccal mucosa for 3 years

5/10/2011
FIVE HISTOLOGIC FEATURES OF LICHEN PLANUS
*BAND LIKE INFL INFILTRATE
SAW TOOTH RETE RIDGES
INTERFACE STOMATITIS
FORMATION OF CIVATTE BODIES
DEGENERATION OF BMZ
LP OR CANCER?

5/10/2011

8/12/2013
Patient I have been seeing for some time. Presented with localized erythematous lesion of palate. Biopsy prior to my evaluation lichen planus. Did another biopsy and immunoflourescence confirmed diagnosis. Treated with clobetasol ointment and diflucan to no avail. Not sure I'm actually dealing with 'run of the mill' lichen planus and would like you to take a look. I've attached a few pictures.
2 WEEKS LOTRISONE TREATMENT
POSTTEST LP OR CANCER?

- 48 y/o female with biopsy proven lichen planus. Biopsied 4x over the last few years 1 biopsy showed LP with atypia. Has been using topical steroid in area every day for 1 year.
MU

MUCOUS MEMBRANE PEMPHIGOID
CASE 1

76 year old female presents with a one year history of sore “gums” which bleed easily.
Mucous Membrane Pemphigoid

• Chronic, blistering, mucocutaneous autoimmune disease (cicatrical pemphigoid)
• Tissue-bound autoantibodies against components of basement membrane.
• “Cicatricial” from word cicatrix, meaning "scar."
Mucous Membrane Pemphigoid

- Scarring of conjunctiva invariably results in blindness unless the condition is recognized and treated.
- Oral lesions do not scar
- “Pemphigoid”- similar to pemphigus but differs in prognosis and microscopic features.
CLINICAL FEATURES

• **Older adults** average age 60
• **Females** > males by a 2:1 ratio.
• Oral lesions in most patients, but conjunctival, nasal, esophageal, laryngeal, vagina and skin involved.
• Oral lesions begin as vesicles or bullae that may be identified clinically.
MUCOUS MEMBRANE PEMPHIGOID

BLOODY BLISTERS

BLOODY BLISTERS
CLINICAL FEATURES

• Blister forms in subepithelial location, thicker, stronger roof than pemphigus.
• Blisters rupture- large, superficial, ulcerated, mucosa
• Ulcers painful, persist for weeks to months
CLINICAL FEATURES

• Can be diffuse, but often limited to gingiva 2/3 of the time.

• Gingival involvement produces pattern termed desquamative gingivitis.

• This pattern seen in other conditions, erosive lichen planus, pemphigus vulgaris.
DESQUAMATIVE GINGIVITIS
DESQUAMATIVE GINGIVITIS
MUCOUS MEMBRANE PEMPHIGOID

- 50-75% of desquamative gingivitis patients
- Bloody blisters pathognomonic
- Difficult to diagnose - perilesional Bx, DIF
- 14% eye affects (symblepharon), can cause blindness
Positive Nikolsky sign

Lateral movement of the upper layers of the epidermis or mucosa with slight pressure.
CLINICAL FEATURES

• Most significant complication is **ocular involvement**.
• Occurs in 14-25% of patients with oral lesions.
• One eye may be affected before the other.
CLINICAL FEATURES

• Conjunctiva becomes inflamed and eroded.
• Scarring between bulbar (lining globe of eye) and palpebral (lining inner surface of eyelid) conjunctiva.
• Adhesions called *symblepharons* result.
• Blindness occurs if not treated.
HISTOPATHOLOGIC FEATURES

- Biopsy of **perilesional mucosa** - split between epithelium and connective tissue.
- **Direct immunofluorescence testing** is done to confirm diagnosis.
- Immunoglobulins seen at basement membrane zone
- Indirect immunofluorescence not helpful
HISTOLOGY
IMMUNO-HISTOCHEMISTRY
TREATMENT AND PROGNOSIS

• Once diagnosed patient should be referred to an ophthalmologist

• If only oral lesions present, disease can be controlled with potent topical corticosteroids (initially in trays).

• Gingival lesions respond to oral hygiene measures frequent prophys

• Sulca brush daily
TREATMENT AND PROGNOSIS

• SYSTEMIC AGENTS
• If topical steroids fail, systemic steroids or other immunosuppressive agents used if no medical contraindications.
• This aggressive therapy especially indicated with advancing ocular disease.
MUCOUS MEMBRANE PEMPHIGOID

• Trauma will exacerbate condition
• Eye lesions with extensive disease
• Skin lesions rare but do occur- face, other mucous membranes
Treatment

• Dapsone is effective but decreases level of hemoglobin
• MMP inhibitors (periostat), peridex, topical clobetasol (in trays bid x 2 weeks)
• Must get eyes checked
TREATMENT MMP

- Peridex rinse b.i.d.
- Doxycycline 20 mg b.i.d. (for six months)
- Clobetasol gel 0.05%, use sparingly – place over lesions and cover with tray for 15 minutes b.i.d. for two weeks only.
TREATMENT MMP

• After two weeks use Clobetasol without tray.
• Apply B.I.D. to areas still present/painful.
2009

- Dermatology follow-up: severe flare-up
  - Prednisone increased to 5 mg
  - Cellcept increased to 3 g
January 2010

• OM clinic visit update: MMP still symptomatic
  – Diagnosed with ulcerative colitis (added Asacol and Kapidex)
  – up to prednisone 7.5 mg per day, process of tapering
  – discontinued Cellcept
May 2010

- OM clinic visit update: IMPROVEMENT!
  - started Imuran 50 mg (derm) and showed dramatic improvement
  - Still using prednisone 7.5 mg
  - Still taking doxycycline 20 mg