Disorders of the Tongue and Nails

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Disclosure

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None

Off Label Usage
None
Learning Objectives

- Review disorders of the tongue and oral lesions
- Discuss diagnosis and potential treatment options for dermatologic disorders of the tongue and disorders of the oral cavity
- Expand differential diagnosis in regards to tongue/oral lesions
- Review board relevant nail disorders
Introduction

• Diagnosis and treatment of dermatologic lesions of the oral cavity and tongue is challenging

• In a study from 2001, almost all (84%) hospital doctors in general and geriatric medicine felt that it was important to examine the patient’s mouth, however less than one-fifth (19%) routinely performed such examinations [1]
Fissured Tongue

- Congenital disorder with enlarged tongue and plicate superficial or deep grooves
- Seen in Melkersson-Rosenthal syndrome (facial paralysis/lip edema/scrotal tongue) and many patients with Down syndrome
- Occurs with geographic tongue in 50% of patients and both are commonly seen in psoriasis [2]
- No treatment is necessary, however recommending mouthwash to keep the fissures clean is important

http://diseasespictures.com/fissured-tongue/
Herpetic Geometric Glossitis

- May mimic fissured tongue
- Herpetic geometric glossitis is painful and affects predominantly immunocompromised individuals
- Centered on the back of the dorsal tongue
- Treat with antivirals: acyclovir, valacyclovir, famciclovir, etc, or foscarnet for acyclovir resistant HSV

Geographic Tongue

- Sharply demarcated atrophic erythematous patches
- May be isolated finding or manifestation of atopy or psoriasis
- Dorsal tongue
- The appearance changes day to day and there are periods of exacerbation and quiescence
- Two clinical variants
  - Discrete annular “bald” patches of glistening, erythematous mucosa with absent or atrophic filiform papillae
  - Prominent circinate or annular white raised lines that vary in width up to 2 mm
- May be associated with increased severity of psoriasis [5]
- Treatment is not necessary if asymptomatic, but use of 0.1% solution of tretinoin applied topically has shown clearing within 4-6 days [2]

http://medicalpoint.org/geographic-tongue/
Annulus Migrans

- Geographic tongue associated with psoriasis and/or reactive arthritis

Black Hairy Tongue

- On the dorsum of the tongue anterior to the circumvallate papillae
- The “hair” is due to benign hyperplasia of the filiform papillae
- Associated with smoking, use of oral antibiotics, psychotropic drugs, and *Candida*
- Differentiated from oral hairy leukoplakia due to clinical location. Hairy leukoplakia is on the lateral tongue
- Treatment is exfoliation of the tongue with toothbrush alone or with 1-2% hydrogen peroxide. May use urea, tretinoin or papain (meat tenderizer) [2,7]
- Discontinue predisposing factors (smoking) and increase oral hygiene

http://diseasespictures.com/black-hairy-tongue/
Atrophic Glossitis

- Bald tongue/smooth tongue
- Painful
- Results from atrophy of the filiform and fungiform papillae
- Moeller/Hunter glossitis- B12 deficiency
- Iron deficiency, pellagra, malabsorption syndrome, anorexia nervosa, alcoholism
- Treat underlying cause

http://www.hxbenefit.com/glossitis.html
Eruptive Lingual Papillitis

- Acute self limiting inflammatory stomatitis
- Affects children with seasonal distribution (Spring)
- Fever (40%), difficulties in feeding (100%), and intense salivation (60%) are common
- Inflammatory hypertrophy of the fungiform papillae on the tip and dorsolateral sites of the tongue
- Spontaneous involution in a mean of 7 days
- Viral infection with 50% transmission among family members [7]
Median Rhomboid Glossitis

- Shiny oval or diamond-shaped elevation on the dorsum in the midline immediately in front of circumvallate papillae
- No change in size and no link to cancer
- May result from abnormal fusion of the posterior portion of the tongue, but it is nearly always chronically infected with *Candida*
- Histologically there is chronic inflammation with fibrosis
- Eosinophilic ulcer of the oral mucosa may look similar
- Treat with oral antifungals

Granular Cell Tumor

- 1/3 of reported cases of granular cell tumor occur on the tongue (1/3 skin, 1/3 internal organs) [2]
- About 2/3 of patients are black and 2/3 are women [2]
- Well circumscribed, solitary, firm nodule ranging from 5-30 mm
- Histologically distinct with sheets of large polygonal cells with abundant eosinophilic granular cytoplasm with central nucleus [12]
- Pustulo-ovoid bodies of Milian-discrete round eosinophilic giant lysosomal granules
- Overlying PEH [12]
- S100+
- Complete excision is advisable due to potential difficulties distinguishing between malignant granular cell tumor


Granular Cell Tumor

White Sponge Nevus

- Spongy, white plaque
- Most common site is buccal mucosa
- Autosomal dominant disorder with mutations in mucosal keratin pair K4 and K13
- HPV-16 DNA has been identified in some patients [2]
- Treatment with antibiotics may give improvement, including tetracycline 5mL swished in the mouth for 1 minute twice daily

Leukoplakia

- Presents as whitish thickening of the epithelium of the mucous membranes
- White pellicle is adherent to underlying mucosa, attempts to remove result in bleeding
- Benign form is usually in response to irritation
- If progresses to carcinoma, follows a 1 to 20 year lag time, unless patient is immunosuppressed
- Associated with tobacco, alcohol and poorly fitting dentures
- Treatment: surgery or destruction, fulguration, excision, cryosurgery, CO$_2$ laser ablation

Oral Hairy Leukoplakia

• Distinctive condition strongly associated with HIV/immunosuppression
• HHV4/Epstein-Barr virus
• In immunosuppressed patients there is continuous shedding of EBV virus in oral secretions
• If noted, a workup for immunosuppression is recommended

Squamous Cell Carcinoma

- Presents as an ulcer or mass that does not heal, often with associated pain
- Most common oral malignancy
- The majority of cases develop from leukoplakia or erythroplakia
- Up to 2/3 of patients with primary tongue lesions have nodal disease
- Biopsy any persistent papule, plaque, erosion or ulcer
- It is estimated that the use of alcohol and tobacco account for up to 80% of SCC of head/neck [1] However, alcohol alone has not been shown to be an independent risk factor [2]
- A subset of oropharyngeal SCC is associated with HPV-16 (Proliferative Verrucous Leukoplakia)
- Survival rate is 50% due to late diagnosis and metastasis

Lichen Planus of Nails

• The reported incidence of nail involvement varies from less than 1% to 10% [2]
• Twenty nail dystrophy may be the sole manifestation
• This is characterized by nail coarseness affecting all fingernails and toenails because of excessive longitudinal ridging
• Dorsal pterygium is one of the characteristic findings and may be present in the classic form [16, 17]
• Treatment is unsatisfactory. Intralesional steroids may be of some benefit

Koilonychia

• Thin and concave, with everted edges.
• May be due to faulty iron metabolism
• Defect in plate/matrix
• May be seen in: LEOPARD, ectodermal dysplasia, trichothiodystrophy, nail-patella syndrome
• May be acquired in Plummer-Vinson syndrome, hemochromatosis and neonatal (physiologic)
Beau’s Lines

• Transverse furrows that begin in the matrix and progress distally as the nail grows
• Temporary arrest of function of the nail matrix
• Specific associations may include childbirth, measles, paronychia, acute febrile illnesses, high altitude exposure and drug reaction
Nail Patella Syndrome

- Absence or hypoplasia of the patella and congenital nail dystrophy
- Hyperpigmentation of the pupillary margin of the iris (“Lester iris”) is characteristic
- 60% of patients have renal abnormalities and 20% suffer from renal failure [2]
- Mutations in LMX1B gene
Darier’s Disease

• V-shaped distal nicking
• Alternating red and white longitudinal bands with subungual hyperkeratosis
• AD inheritance
• Mutation in ATP2A2 gene encoding SERCA2, calcium ATPase

http://dermatologyoasis.net/nails-in-dariers-disease/
http://creativecommons.org/licenses/by-nc-nd/3.0/nz/
http://www.dermnetnz.org/topics/darier-disease/
Pachyonychia Congenita Type 1

- AD
- Defect in K6a, K16
- Focal PPK
- Benign oral leukokeratosis
- Nail dystrophy with significant subungual hyperkeratosis

http://drugline.org/medic/term/pachyonychia-congenita-type-1/
Pachyonychia Congenita Type II

- AD
- Defect in K6b, K17
- Nail dystrophy
- Steatocystomas
- Eruptive vellus hair cyst
- Natal teeth
- Pili torti

http://www.huidziekten.nl/zakboek/dermatosen/ptxt/pachyonychia-congenita.htm
Half and Half Nails

• Proximal ½ with white zone
• Distal ½ with red/brown zone
• Due to chronic renal disease and nail bed edema

https://www.dermquest.com/image-library/image/5044bfd0c97267166cd6569f
Meuhrcke’s bands

- Transverse white bands parallel to lunula
- Disappear with squeezing of nail
- Due to hypoalbuminemia, nephrotic syndrome, liver disease, malnutrition and chemotherapy

http://imgarcade.com/1/muehrckes-lines-causes/
Terry’s nails

- Proximal 2/3 white nail color
- Distal 1/3 brown-pink band
- Cirrhosis, hypoalbuminemia, diabetes, cardiac disease
Mee’s Lines

- Transverse lines of entire nail breadth in all nails
- Grows out with nail growth
- Due to parakeratosis of the ventral nail plate
- Arsenic poisoning, trauma, medications, severe illness

http://imgarcade.com/1/mees-lines/
Tumors Affecting the Nail

• Myxoid Cyst:
  – Smooth, soft nodule most commonly adjacent to the DIP joint
  – May cause longitudinal grooving in the nail plate
  – Contains clear yellow viscous fluid

• Glomus Tumor:
  – Small reddish-blue tender subungual tumor

https://www.dermquest.com/image-library/image/5044bfd0c97267166cd63334

http://www.suggest-keywords.com/Z2xvbXVzICB0dW1vcg/
Tumors Affecting the Nail

• Acquired Digital Fibrokeratoma:
  – Firm excrescence on the finger or toe
  – Pathology: collagen with no prominent nerves

• Accessory digit:
  – Firm excrescence on the finger or toe, most commonly at proximal portion of 5th digit
  – Pathology: Collagen with prominent nerve fascicles


https://ozmedgirl.wordpress.com/support-pages/
Tumors Affecting the Nail

- **Bowen’s disease:**
  - Hyperkeratotic plaques often with spread under nail plate

- **Wart:**
  - Well defined hyperkeratotic plaques around nail plate
Resources

Thank You

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