

1 **Lesions & Lifestyles**

People With Oral Pathology
These Are Their Stories....

2 **If Only Diagnosis
Had been Early...**

- Most cases are self-discovered in stages 3 – 4

3

- Life changes:
- Loss of palate, mandible, tongue
- Eating is difficult
- 45% will die within 2-5 years.

4 **Oral Cancer: routine oral exams are rare**

- Oral CA - only form of CA: morbidity rate not improved in recent decades
- ADA reports: 85% of patients report NEVER having an oral CA exam
- ADHA reports: Only 30% of pts EVER had CA exam from hygienist

5 **Why?**

- Lack of time
- Not compensated/reimbursed
- Lack confidence in ability
- Feel awkward when discussing death, mortality, lifestyle changes with pts
- Uncertain how to document, refer, follow up
- Perceive oral CA to be rare

6

- Oral CA = 3 X more common than cervical CA, with 2 x the # of deaths
- Studies show: DDS's failed to recognize oral CA in 69% of cases that presented with symptoms

- DDS's also missed most of the asymptomatic cases
- How can we improve this?

7 **Early Detection is Essential**

- Over 27,000 Americans will be diagnosed with oropharyngeal cancer this year
- Accounting for 7,200 deaths and at a rate of one American per hour
- 6th most common cancer ~ 3.6% of all cancers diagnosed
- Oral cancer is more prevalent than cervical cancers, melanoma, and Hodgkin lymphoma

8 **Early Detection is Essential**

- Majority of oral cancers occur in people 35 and older
- NOTE: Tongue cancer has increased 60% in people under age 40
- In general, 50% of people with oral cancer will die
- Those at higher risk for oral cancer =
 - Over 40, smokers, drinkers, and those who use alcohol

9 **Early Signs of Oral Cancer**

- Sore, irritation, lump or thickening in the oral soft tissues
- White or red patch in the mouth
- Difficulty in chewing or swallowing
- Ear pain
- Difficulty moving the tongue or jaw
- Hoarseness, sore throat, or feeling that something is caught in the throat
- Numbness of the tongue or other areas of the mouth
- Swelling of the jaw that causes dentures to fit poorly or become uncomfortable

10 **Early Signs of Oral Cancer**

Clinical:

- Small white lesions
- Small red velvety lesions
- Combination red and white lesions
- Indurated nodules or masses

- Ulcers that do not heal or that persist for longer than 2 weeks
- Extraction site that doesn't heal

11 **Melanoma**

- Look for changes in nevi / moles
- Rare intra-orally

12 **Asymmetry: Cancer risk**
Compare ½ of mole to the other

13 **Mole Borders**
Normal vs. Irregular, notched, scalloped

14 **Mole Color: Variations in blue, brown, black or white = suspicious**

15 **Mole Size: > 6mm (pencil eraser) = suspicious**
images of risks (see mole risk paper)

16 **Squamous Cell Carcinoma**

- Malignant tumor of squamous epithelium; usually exophytic ulcerative mass
- Most common oral malignancy
- Can metastasize – lymph nodes of the neck, lungs, and liver

17 **Squamous Cell Carcinoma**

- Common areas – floor of the mouth, ventrolateral tongue, soft palate, tonsillar pillar, and retromolar areas
- Other areas – vermilion border of the lips and the skin of the face; better prognosis than oral mucosa
- Most significant risk factors – tobacco, alcohol consumption & HPV

18 **Squamous Cell Carcinoma**

- Tx ~ surgical excision, radiation, chemotherapy

- Prognosis is related to size and location of the lesion; lymph node involvement and metastasis

- TNM Staging System

19 **Squamous Cell Carcinoma**

- T – Tumor (T_{1-4})
- N – Node (N_{0-3})
- M – Metastasis (M_{0-1})

- Stage I – IV

20 **Today's Topics:**

- Noticing / assessing pathology
 - Oral exams
 - Technology helps!
 - Future oral diagnostics (salivary testing)
- Describing lesions
 - Terms, forms
- Differential diagnosis (DD)
- Definitive diagnosis

21 **What assessments do you do?**

- A. Visual exam
- B. Palpation
- C. Interview
- D. Visualization technology (light)
- E. Biopsy

22 **The Possibilities....**

- Variant of normal
- Inherited condition
- Reactive lesion
- Infectious condition
- Feature of systemic condition
- Neoplasm

23 **Today's Lesions**

- Soft tissue enlargements
- Red & white lesions
- Papillary lesions
- Ulcerated lesions
- Odontogenic cysts & tumors

- Appearance
- Differential diagnosis
- Definitive diagnosis

24 **Descriptions**

- Clinical appearance, location
- Color
- Size
- Soft tissue consistency
- Surface texture
- Radiographic appearance
- History
- Symptoms

25 **Clinical Appearance**

- Bulla
- Pustule
- Vesicle (distinct, coalescing)
- Lobule (unilobular, multilobular)
- Mass
- Macule
- Papule

26 **Attachment, Borders, Density**

- Sessile
- Pedunculated
- Well defined, demarcated, diffuse
- Exophytic

- Endophytic
- Indurated
- Firm, soft, fluctuant

27 **Surface Texture**

- Corrugated
- Fissured
- Velvety
- Smooth
- Denuded, ulcerated, sloughing

28 **Differential Diagnosis**

- List of most likely pathologies
- Clinician decides diagnostic method to reach definitive diagnosis

29 **Diagnostic Methods**

- Differential to Definitive Diagnosis
- Clinical
- Radiographic
- Historical
- Laboratory
- Microscopic
- Surgical
- Therapeutic

30 **Neoplasia**

- Neoplasia – “new growth”; uncontrolled and unlimited proliferation of cells that is irreversible
- Neoplasm or tumor – the mass itself

31 **Neoplasia**

- Causes:
 - Chemicals, viruses, and radiation
 - Genetic mutation
- Classification:
 - Benign ~ encapsulated or invades adjacent tissues
 - Malignant ~ invades and destroys surrounding tissues and can spread to distant sites

32 **Neoplasia (terminology)**

- Benign neoplasm – a new growth that grows slowly, remains localized, and does little harm to the patient
- Malignant neoplasm – a growth that usually grows rapidly, invades and destroys tissue, spreads to distant sites, and invariably results in fatal termination if left untreated

33 **Normal Adaptive Cell Changes**

- Atrophy (wasting)
- Hypertrophy
- Hyperplasia

34 **Cells of Malignant Tumors**

- Pleomorphic
- Hyperchromatic
- Mitotic figures

35 **Neoplasms**

- SCC = most common oral cancer
- Skin reacts normally to use & trauma with:
 - Hyperplasia
 - Keratinization

–Melanin

- Neoplastic cells are permanently altered

36 **Dysplasia (term used 2 ways)**

- 1 Fibrous Dysplasia
(non-neoplastic)
- 2 Epithelial Dysplasia

Normal	Dysplastic
	(pre-cancerous)

37

Periapical cemental Dysplasia (PCD)
Progresses from radiolucent to radiopaque

38 **Squamous Cell Carcinoma**

Histological features:

- Tumor cells invade the basement membrane and enter the CT
- Invasive sheets and nests of neoplastic squamous cells
- May show keratin pearls – keratin within cells of the tumor
- Large hyperchromatic nuclei and numerous mitotic figures

39 **Red & White Lesions**

Fungal
Leukoplakia
Erythroplakia
Speckled Leukoplakia
Benign vs. Malignant

40 **Fungal Infections**

Rare
Usually a sign of underlying immunodeficiency

41 **Candidiasis (*Thrush*)**

- Overgrowth of *Candida albicans* ~ otherwise part of normal oral flora
- Etiology

- Antibiotic therapy
- Cancer chemotherapy
- Corticosteroid therapy
- Infancy
- HIV infection
- Primary T-lymphocyte deficiency

42 **Candidiasis (*Thrush*)**

- Overgrowth of *Candida albicans* ~ otherwise part of normal oral flora
- Etiology
 - Hypoparathyroidism
 - Multiple myeloma
 - Xerostomia
 - Dentures
 - Diabetes mellitus

43 **Pseudomembranous Candidiasis**

- White curd-like material present on mucosal surface that WILL wipe off
- Underlying mucosa is erythematous
- May burn
- May have a metallic taste

44 **Erythematous Candidiasis**

- Erythematous mucosa, often painful
- May be localized or generalized

45 **Chronic Atrophic Candidiasis (denture stomatitis)**

- Most common type of candidiasis
- Erythematous mucosa limited to mucosa underlying a full or partial denture (more common on palate)
- Petechiae-like to generalized and granular lesions

- 46  **Chronic Hyperplastic Candidiasis (candidal leukoplakia)**
- White lesion that does NOT wipe off
 - Will respond to antifungal therapy; if no response, refer for biopsy of the leukoplakia
- 47  **Angular Cheilitis Candidiasis**
- Erythema or fissuring at the labial commissures
 - Angular cheilitis is MOST commonly from candida, but may be from a nutritional deficiency
- 48  **Chronic Mucocutaneous Candidiasis**
- Severe form in immunocompromised patients
 - Presents with chronic oral, genital, and skin lesions
 - May have:
 - Pseudomembranous
 - Erythematous
 - Hyperplastic
 - Angular cheilitis
- 49  **Median Rhomboid Glossitis**
- *Candida* has been identified in some lesions
 - Some resolve with antifungal treatment
 - Etiology ~ unclear
- 50  **Diagnosing Candidiasis**
- Clinical, Historical, therapeutic, microscopic
 - (+) culture indicates c. Albicans presence, but = normal flora
- 51  **Treatment for Candidiasis**
- Topical
 - Clotrimazole (Mycelex)
 - Nystatin (Mycostatin)
 - Systemic
 - Ketoconazole (Nizoral)

- Fluconazole (Diflucan)

52 **Deep Fungal Infections**

- Fungal infection of the lungs results in sputum to the oral mucosa
- Chronic, nonhealing ulcers that resemble SCC
- Geographic commonality
- Diagnosis ~ usually related to the primary lung infection; microscopic
- Treatment ~ systemic antifungal medications

53 **Leukoplakia is:**

- A. Carcinoma-in-situ or dysplasia
- B. Hyperkeratosis
- C. Hyperkeratosis or dysplasia
- D. White patch (clinical appearance)

54 **Erythoplakia**

- Speckled leukoplakia – red and white areas
- Epithelial dysplasia – premalignant histological diagnosis (abnormal cells have not gone through the basement membrane); may be a white, red, or mixed in color lesion; frequently precedes squamous cell carcinoma
- Carcinoma in situ – severe dysplasia of the entire epithelium

55 **Squamous Cell Carcinoma**

- Malignant tumor of squamous epithelium; usually exophytic ulcerative mass
- Most common oral malignancy
- Can metastasize – lymph nodes of the neck, lungs, and liver

56 **Verrucous Carcinoma**

- A form of squamous cell carcinoma; slow growing exophytic tumor with a pebbly white and red surface
- Better prognosis because basement membrane is intact; no invasion (metastasis)
- Tx ~ excision

57 **Basal Cell Carcinoma**

- Malignant skin tumor of basal cells; rarely metastasizes
- Associated with sun exposure
- Presents as a non-healing ulcer with rolled borders
- Most common extra-oral CA
- “NOT found” intra-orally
- Tx ~ removal (by a dermatologist)

58 **Oral Submucous Fibrosis**

- Chronic betel quid use
- Firm, may be painful
- May progress to SCC

59 **VELscope**60 **The Identafi Exam**61 62 **Violet light:**

Enhances normal tissue's natural fluorescence.
Suspect tissue appears dark

63 **Green-Amber light (Identifi)**

Inspect dark spots or suspicious tissue ID'd with violet with
Green-Amber and look for a
Reveals increased redness or blood vessels

64 **Early Detection of Oral Cancer**65 **Brush Biopsy**

- Advantages
- Easy, chairside test to evaluate epithelial changes and lesions that may have received only a clinical follow-up before this test became available
- Rapid results ~ usually in 3 days
- Does not require anesthesia (can distort sample)
- Each specimen is evaluated by both computer-assisted analysis

and a pathologist

66 **Brush Biopsy**

- Disadvantages
- Costs are incurred by the patient for both obtaining and analyzing the specimen; possible insurance reimbursement
- Possible false negative results

67 **Brush Biopsy Technique**

- While pressing, rotate the brush over the surface until pink tissue or pinpoint bleeding occurs (*5-10 times*)

68 **Transfer cellular sample to slide by rotating and dragging the brush**

Flood the glass slide with fixative

Allow to dry for 15 minutes

69 **Oral Brush Biopsy Kit**

Package and send to lab

70 **ViziLite**

- Chemiluminescent oral exam device
- Enhances the visual exam
- If there is a positive identification of a lesion, pt should be instructed to return in 14 days for a second evaluation
- <http://www.vizilite.com/training/>

71 **ViziLite Technique**

- Patient rinses for 1 minute with pre-measured, raspberry flavored 1% acetic acid solution
- Activate the Capsule (*break inner vial*) and assemble Retractor
- Dim ambient room lights and repeat exam
- Look for acetowhite lesion(s)
- Document and refer as indicated

72 **What shows up dark?**

- Dysplasia
- Melanin
- Blood (hemoglobin)
 - Vessels
 - Inflammation
- Blanching reveals vascularization

73 **In addition to Dysplasia and Oral Cancer
We can also discover these conditions:**

- Lichen Planus
- Lichenoid mucositis
- Squamous Papillomas
- Candidiasis
- Viral and bacterial infections
- Inflammation from a variety of causes (e.g trauma)
- Salivary gland tumors

74 **What is a biopsy??**

- Biopsy
- The only means that a definitive diagnosis (specific name of the disease) vs. differential diagnosis can be given in a clinical situation
- Surgical removal of living tissue to establish a definitive diagnosis
OR to remove the remainder of a previously biopsied lesion to assure complete removal

75 **What is the purpose of a biopsy?**

- Biopsy should be done to confirm your clinical impression or rule out one or more things on your differential diagnosis list
- Make a definitive diagnosis

76 **Biopsy Misperceptions**

- Biopsy is principally a test for cancer
- Only needed if worried about the possibility of cancer

- If it seems benign, biopsy is not needed
- All my biopsies come back benign, I must be biopsying too much

77 **When should you recommend a biopsy?**

- You observe an abnormality for which you cannot attribute a direct cause
- An abnormality fails to improve or resolve following elimination of the presumptive cause
- Any time pathologic tissue is removed from a patient
- A previously unbiopsied lesion recurs
- You are not 100% sure of the diagnosis

78 **Diagnostic Procedures**

- Conventional Biopsy ~ incisional and excisional
- Punch Biopsy
- Aspiration Biopsy ~ deep lesions
- Oral Brush Biopsy ~ Oral CDx
- Oral Exfoliative Cytology ~ “swab” (*unreliable*)
- Other Tools ~ Toluidine Blue Staining and ViziLite

79 **Scalpel Biopsy**

- Incisional ~ removal of a *representative portion* of a lesion for the purpose of making a diagnosis; done when lesion is large or you are unsure how to handle it
- Excisional ~ removal of an *entire abnormality* for the purposes of making a diagnosis, confirming a previous diagnosis, or entirely removing an abnormality and determining a definitive diagnosis; done when lesion is small or you are sure how to handle it

<http://www.odont.ku.dk/tmk/lipbiopsy.htm>

80 **Incisional v.s. Excisional Biopsy**

- 1 Incisional biopsy:
Cut (incise) INTO lesion
- 2 Excisional biopsy:
Cut out (excise) lesion

81 **Punch Biopsy**

- Punch biopsy is an incisional biopsy with a disposable biopsy punch (4mm is preferred)
- Procedure includes:
 - LA
 - Circular incision with punch
 - Grasp specimen with forceps and use a scalpel
 - Control hemostasis
 - Fix specimen
 - Post op instructions to patient

82 **Biopsy Mistakes**

- Insufficient tissue ~ too superficial
- Inappropriate tissue ~ poor site selection, failure to identify the margins, ulcers, sloughed mucosa, fluids
- Artifacts ~ can be from instrument crush; cautery, laser, Electro surgery; inadequate fixation

83 **Toluidine Blue Vital Staining**

- Reveals obscure tissue – adjunct to your eye – NOT a diagnosis
- Identifies the best location to biopsy
- Best for red / speckled lesions (cells have DNA that stains)
- Not as effective on leukoplakia
- Vital dye stains concentrated DNA & (-) charged mitochondria
(*found in most malignant, dysplastic cells*)

84 **Toluidine Blue Vital Staining****TEST:**

- Select abnormal area
- Remove debris from surface
- Paint area & adjacent “normal area” with 1% Toluidine blue solution
- After 1 minute, rinse with water or decolorize with 1% active

Acetic Acid

85 ☐ **Toluidine Blue Vital Staining**

INTERPRETATION:

- Negative Reaction
 - Minimal stain retention
- Positive Reaction
 - Deep royal blue stain retention
- Ulcers give a false (+) due to inflammatory cells (concentrate DNA)
- Leukoplakias: negative reaction (little or no DNA)

86 ☐ **Soft Tissue Enlargements**

87 ☐ **Granulomas**

88 ☐ **Fibroma**

89 ☐ **Mucocele**

90 ☐ **Ranula**

91 ☐ **Parulis**

92 ☐ **Epulis Fissuratum**

93 ☐ **Eruption Cyst**

94 ☐ **Dentigerous Cyst**

95 ☐ **Ameloblastoma**

96 ☐ **Papillary Lesions**

97 ☐ **Human Papillomavirus (HPV)**

- >100 types, “benign” virus
- Infects epithelium
- 20 mil infected in U.S., 6 mil / yr
- May be associated w/ CA of mouth, tongue, tonsils, throat
- HPV = separate CA risk from tobacco, alcohol
- Species-specific (infects rabbits, cattle)

98 **HPV- Related Lesions**

- ~50% of males = HPV (+)
- Most infections = cleared fm body ~ 1 yr w/t causing cell changes
- Some remain ~ 20 mos (no clinical signs)
- Some appear cleared but return
- May progress, alter cells DNA, cause dysplasia / CA

99 **HPV Vaccinations**

-  • Gardasil approved for males & females
- Cervarex for females
- Early detection of high risk HPV types = important

100 **Verruca Vulgaris (wart)**

- Common skin lesion; less common in oral mucosa
- Etiology ~ human papillomavirus
- Autoinoculation from hands or fingers to lips (most common location) or mouth
- Lesion appears as a white, papillary, exophytic lesion

101 **Verruca Vulgaris (wart)**

- Diagnosis ~ microscopic
(finger-like projections of keratotic squamous epithelium with vascular CT)
- Treatment ~ surgical excision, may recur

102 **Squamous Papilloma**

- Most common epi papillary lesion
- Assoc. w/ HPV 6,11,16
- Often solitary
- Asymptomatic

103 **Squamous Papilloma**

104 **Papilloma**

- Benign tumor of squamous epithelium; usually in soft palate
- Small exophytic pedunculated or sessile growth with numerous projections – cauliflower-like
- White (increased keratin) or pink in color
- Differential diagnosis ~ verruca vulgaris or condyloma acuminatum
- Tx ~ surgical excision to the base; usually does not recur

105 **Condyloma Acuminatum**

- Benign, papillary lesion
- Transmitted by sexual contact; oral-genital contact or self-inoculation
- Common in anogenital area
- Oral lesions are pink, papillary, bulbous masses; less keratinized than the verruca vulgaris
- Diagnosis ~ microscopic
- Treatment ~ surgical excision, may recur

106

Condyloma acuminatum - generally transmitted by sexual contact
 Most commonly found in the anogenital region;
 Intraorally - frequently on labial mucosa.
 Benign, papillary lesion (human papillomavirus)
 Oral lesions are generally a result of oral-genital contact.
 The identification of condyloma acuminatum in a child would require reporting of possible child abuse.

107

108 **Focal Epithelial Hyperplasia**

- Multiple white to pale-pink nodules throughout the oral cavity
- HPV
- Most common in children

- Diagnosis ~ clinical and microscopic
- Treatment; may resolve, or excision

109 **Focal Epithelial Hyperplasia**

- Multiple white to pale-pink nodules throughout the oral cavity
- Most common in children
- Diagnosis ~ clinical and microscopic
- Treatment ~ none

110 **HPV: Who Should Be Tested?**

- “Traditional risks”:
 - tobacco users
 - Alcohol drinkers
 - Betel nut users
- Sexually active (males & females)
- Family history of cancer
- How? Oral DNA test
- (+) test ID’s HPV & risk, not cancer

111 **Oral Pathology / Cancer
Diagnostics, Prevention**

- 2 vaccines prevent CA:
 - HBV – liver CA
 - HPV – SCC
- Coming (5 years)
 - Oral fluid diagnostics
 - Point-of-care nanosensor tests - oral salivary biomarkers for oral CA

112 **Ulcerated Lesions**

- Infectious conditions
 - Herpes
 - Varicella Zoster

- Coxsackievirus
- Measles
- Syphilis
- Oral Tuberculosis

113 **Ulcerations**

- Injuries
- Aphthous
- Autoimmune disorders
- Allergies
- Neoplasms

114 **Viral Infections**

115 **Viral Infections**

- Papillomavirus infection
 - Verruca vulgaris (common wart)
 - Condyloma acuminatum
 - Focal epithelial hyperplasia
- Herpes simplex infection (type 1)
 - Primary herpetic gingivostomatitis
 - Recurrent herpes simplex infection
- Varicella-Zoster virus
 - Chickenpox
 - Herpes zoster
- Epstein-Barr virus
- Coxsackievirus
 - Herpangina
 - Hand-foot-and-mouth disease
- Other
 - Measles
 - Mumps
- Human immunodeficiency virus

116 **Other Viral Infections**

- Measles

–Oral lesions (Koplik's spots) precede dermal rash

117 **Mumps**

- Salivary gland swelling, pain, fever

118 **HIV and AIDS**

- Hairy leukoplakia and many other oral lesions are present due to immunodeficiency; opportunistic infections

- See Table 4-4

- Will study again with Oral Manifestations of Systemic Diseases

119 **Primary Herpetic Gingivostomatitis**

- Herpes simplex virus
- Multiple tiny vesicles progress & form painful ulcers
- Painful erythematous swollen gingiva
- Fever, malaise, lymphadenopathy

120 **Primary Herpetic Gingivostomatitis**

- Diagnosis ~ clinical and microscopic
- Treatment ~ self-limiting (1 – 2 weeks); may use Acyclovir (Zovirax), Penciclovir (Denavir), Docosanol (Abreva)

121 **Recurrent Herpes Simplex Infection**

- Virus persists - latent in nerve (trigeminal) ganglion
- Most common lesion is herpes labialis/cold sore/fever blister
- DD: location, appearance, history:
- herpes is on keratinized mucosa fixed to bone – palate and gingiva

122 **Recurrent Herpes Simplex Infection**

- Lesions heal in 1 to 2 weeks
- Herpetic whitlow ~ herpes virus in the finger

- Ocular herpes ~ virus is in the eye
- Diagnosis ~ clinical
- Treatment ~ Acyclovir (Zovirax), Lysine (Enisyl), Penciclovir (Denavir), Docosanol (Abreva)

123 **Varicella-Zoster Virus**

- Chickenpox (varicella)
 - Usually in children; contagious; may have oral lesions

124 **Varicella-Zoster Virus**

- Shingles (herpes zoster)
 - Adults; contagious; unilateral, painful vesicles
- Transmitted by contaminated droplets
- Incubation period is 2 weeks
- Diagnosis ~ clinical
- Treatment ~ palliative; antiviral drugs; or corticosteroids

125 **Shingles**

-  Lesions are hidden
- Should you see this patient?

126 **Infectious Mononucleosis**

- Epstein-Barr Virus
- Common in adolescents; transmission via saliva/kissing
- Petechiae, sore throat, fever, lymphadenopathy, malaise, fatigue
- Diagnosis ~ laboratory
- Resolves clinically in 4-6 weeks
- May shed virus for 4 months

127 **Coxsackievirus**

- Herpangina
 - Soft palate and tonsillar vesicles, fever, malaise, sore throat, difficulty swallowing (dysphagia)
 - Diagnosis ~ clinical
 - Resolves in less than 1 week without tx

- Hand-foot-and-mouth disease
 - Occurs in epidemics in children less than 5 years old
 - Painful vesicles and ulcers anywhere in mouth, skin lesions on hands and feet

128 **Coxsackievirus**

- Common childhood enterovirus
- Oral/fecal
- Contact
- Droplet
- Remains in stool several months after blisters heal

129 **Bacterial Infections**

130 **Acute Necrotizing
Ulcerative Gingivitis**

- ANUG ~ a painful erythematous gingivitis in which there is necrosis of the interdental papillae (cratered); foul odor and metallic taste; sloughing of tissues
- Etiology ~ likely from fusiform bacillus, a spirochete, and a decreased immunity

131 **Acute Necrotizing
Ulcerative Gingivitis**

- Diagnosis ~ clinical
- Treatment
 - Antibiotic agents
 - Debridement
 - OHI

132 **Tuberculosis**

- Chronic granulomatous disease from *Mycobacterium tuberculosis*
- Primary infection is to the lungs
- Oral lesions are rare – tongue and palate most common locations due to sputum – painful, nonhealing, slowly enlarging ulcers

133 **Tuberculosis**

- Diagnosis
- Biopsy, microscopic, skin test
- Treatment
- TB cocktail – oral lesions will usually resolve

134 **Actinomyces**

- Bacteria form abscesses that tend to drain (sulfur granules) by the formation of sinus tracts
- Diagnosis ~ clinical and microscopic
- Treatment ~ long-term high doses of antibiotics

135 **Pericoronitis**

- Inflammation of the mucosa around the crown of a partially erupted, impacted tooth
- Diagnosis ~ clinical
- Treatment
 - Debridement
 - Irrigation
 - Systemic antibiotics

136 **Non-viral, Non-bacterial Oral Vessicular Lesions**137 138 **Immune-related Oral Ulcerative Pathologies**139

#8 A. hairy leukoplakia

- caused by the Epstein-Barr virus.
- almost always found on the lateral tongue - usually asymptomatic.
- The most reliable method of diagnosis is identification of the

Epstein-Barr virus in the epithelial cells of the lesion.

- Lesions may respond to antiviral medication but recur when treatment is discontinued.
- most common in patients with HIV infection
- also been reported in other immunocompromised patients (i.e., organ transplant patients on cyclosporin).

140 **Lesions & Lifestyles**

People With Oral Pathology

These Are Their Stories....