


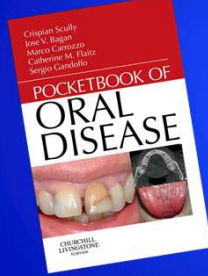


## “Always on My Mind” – A Round-up of Oral Lumps and Bumps and Important Mimickers



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February 24, 2023

<http://a3.files.biography.com/>

## Oral Lesions: Always on My Mind

Willie Nelson Performs at the White House  
(Photo: Jacquelyn Martin, AP)


[www.discogs.com](http://www.discogs.com)

### Common Oral Lesions in US Adults NHANES Survey 1988-1994 (JADA 2004)

<ul style="list-style-type: none"> <li>▪ Denture stomatitis (1,2,5)</li> <li>▪ Amalgam tattoo (2)</li> <li>▪ Cheek/lip bite (3)</li> <li>▪ Frictional keratosis (4)</li> <li>▪ <i>Nevus</i> (6)</li> <li>▪ Herpes labialis (8)</li> <li>▪ Scar (9)</li> <li>▪ Erythema migrans (7)</li> <li>▪ Denture hyperplasia (10)</li> <li>▪ Tumor, NOS (12)</li> <li>▪ Aphthous ulcers (13)</li> <li>▪ Fissured tongue (14)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Angular cheilitis (15)</li> <li>▪ Denture ulcer (16)</li> <li>▪ Smokeless tobacco (18,19,26)</li> <li>▪ Papilloma/oral warts (21)</li> <li>▪ Nicotine stomatitis (22)</li> <li>▪ Leukoplakia (23, 41)</li> <li>▪ Hairy tongue (24)</li> <li>▪ Perio abscess/abscess (25,36)</li> <li>▪ Hemangioma (27)</li> <li>▪ Trauma/burn/ulcer/bite (28)</li> <li>▪ Varix/vascular anomaly (30)</li> <li>▪ Fibroma (31)</li> </ul>
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### Common Oral Lesions in US Adults NHANES Survey 1988-1994 (JADA 2004)

- Median rhomboid glossitis (32)
- Hematoma (35)
- Lichen planus/lichenoid (37,46)
- Actinic cheilitis (38)
- Gingival hyperplasia (38)
- Candidiasis (40,47)
- NUG (43)
- Mucocele (44)
- CL/CP (45)
- Erythroplakia (48)
- Herpetic gingivostomatitis (49)
- Overall Prevalence: 28%



## Soft Tissue Enlargements

- Papillary Surface Enlargements
- Acute Inflammatory Enlargements
- Reactive Hyperplasias
- Benign Cysts & Neoplasms
- Aggressive & Malignant Neoplasms



Oral focal mucinosis

## Papillary Surface Enlargements


- Papillary or stippled surface
- Spongy to firm, rough to palpation
- Usually pink or white in color
- Moderate growth rate (months)
- Limited growth potential
- Many caused by HPV
- May resolve spontaneously
- Common lesions



Squamous papilloma

### Squamous Papilloma


- HPV 6, 11 - Low virulence & infectivity rate
- Sexual, nonsexual transmission
- Comprise 8% of oral growths in children; ranked #21 for adults
- Site: Tongue, lips, palate
- S/S: Solitary, pink, red, or white papillary papule/nodule, fingerlike projections
- Tx: Excise; not precancerous



### Squamous Papilloma

White: hyperkeratotic

Pink: nonkeratinized



This HPV lesion has no malignant potential

### Verruca Vulgaris (Common Wart)

- Cause: HPV 2, 4
- Prevalence: 10-50% of children
- Age/Gender: Usually childhood (12-16 YO); F > M
- Site: Hands, face are common
- Oral Site: Lip, labial mucosa, anterior tongue
- S/S: Nodule with fingerlike projections or rough pebbly surface; pink, brown or white; painless
- TX: Remission – 20% in 6 mos, 65% in 2 yrs; excision, laser, cryotherapy, salicylic acid (skin), cimetidine, duct tape (skin), imiquimod cream, other
- Prognosis: Recurs, no malignant potential

### Verruca Vulgaris




### Verruca Vulgaris




### What Else Should Be on Our Mind?

- Verruca vulgaris
- Squamous papilloma
- Condyloma acuminatum
- Multifocal epithelial hyperplasia
- Giant cell fibroma
- Localized juvenile spongiotic gingival hyperplasia
- Papillary hyperplasia
- Condyloma lata (syphilis)
- Verrucous hyperplasia, carcinoma
- Squamous cell carcinoma



### Fimbriae of the Tongue


- Remember anatomy  
Variation of normal
- Site: Ventral folds of the tongue; bilateral
- S/S: Multiple, slender translucent to pink tissue tags; rarely tender; vary in length
- Mimics oral warts



Dr. Glenda Owen


### Pigmented Fimbriae

Pigmentation developed in adolescent following URI



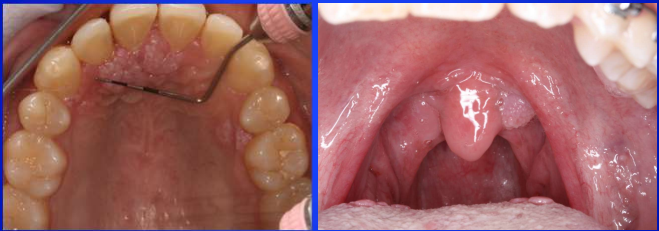
### Condyloma Acuminatum

- Cause: HPV 6, 11 (90%), 16, 18, others
- Transmission: Sexual and nonsexual
- About 1% of sexually active adults have anogenital warts
- Site: Anogenital and oral mucosa
- Oral Site: Palate, tongue, labial mucosa
- S/S: Pink nodules with short, blunted projections; painless; usually multiple
- TX: Surgery, laser ablation, immune modifiers, cytotoxics
- Prog: Recurs, may harbor oncogenic virus



36 YO WM: Cauliflower nodule is obvious, but evaluate for small papules in the area

### Condyloma Acuminatum




Multifocal papillary nodules of the gingiva in bisexual young adult male

Concurrent mucous patch of syphilis on right  
Condyloma on the left in adolescent female


### Tiny Condylomas on Dorsal Tongue

- 22 YOF with anxiety disorder
- Sudden onset
- Coincided with genital lesions
- Seem to spread by brushing tongue
- Red, pink, white papules or spikey projections with clustered pattern
- Mimics: Hairy tongue, median rhomboid glossitis, lingual papillitis



### Prevalence of Oral HPV



- Prevalence of oral HPV between 14-69 y = 6.9%
- Prevalence of oral HPV in children: 2%
- Men > women (10.1% vs 3.6%)
- Bimodal age in ♂: 30-34 y (7.3%); 60-64 y (11.4%)
- Prevalence for HPV 16 = 1.0%
- Prevalence for all high-risk types = 3.7%
- Prevalence for all low-risk types = 3.1%
- Risk: 20% prevalence rate if smoked > 20 cigarettes daily or had 20+ lifetime sex partners



(Gillison M. JAMA 2012)

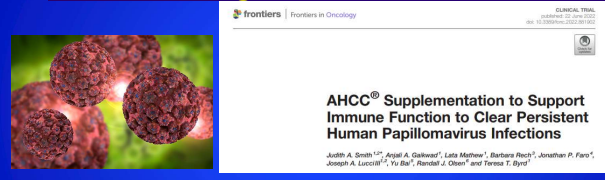
## HPV Vaccine: Always on My Mind

Gardasil© 9 (Merck):  
HPV 6,11,16,18,31,33,45,52,58

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(Photo: Jacquelyn Martin, AP)

## Promising New HPV Treatment



Frontiers | Frontiers in Oncology

**AHCC® Supplementation to Support Immune Function to Clear Persistent Human Papillomavirus Infections**

*Justin A. Smith<sup>1,2\*</sup>, Asjil A. Gakwad<sup>1</sup>, Lata Mathur<sup>1</sup>, Barbara Rich<sup>3</sup>, Jonathan P. Fero<sup>4</sup>, Joseph A. Luccini<sup>1</sup>, Yu Bai<sup>1</sup>, Randall J. Olson<sup>1</sup> and Teresa T. Byrd<sup>1</sup>*

- ✓ AHCC is an extract of cultured *lentinula edodes* mycelia (mushroom extract)
- ✓ (AHCC®, Amino Up, Ltd., Sapporo, Japan)
- ✓ Compound is primarily composed of  $\alpha$ -glucan components
- ✓ Antioxidant, anticancer activities and immune modulation to prevent viral infections


## New Entity: Always on My Mind




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## Focal Gingival Micropapillomatosis

- Fibroepithelial hyperplasia
- Cause: Chronic irritation, smoking, anatomical, lip incompetence, meds
- Site: Gingiva, esp, anterior maxilla
- S/S: Pink-white to light brown pebbly attached gingiva; nontender
- TX: ID cause, if present; no treatment is needed, but mimics gingival warts

- ✓ ID: 15 YO/M with white, rough, adherent nodule of canine fossa that mimics oral wart
- Dx: Hyperkeratotic gingival micropapillomatosis


## Diffuse Gingival Micropapillomatosis



- ✓ Present in all race/ethnicities, but easier to identify against a pigmented background


### Giant Cell Fibroma

- Type: Fibrous hyperplasia
- Age: Children and young adults
- Cause: Unknown - not trauma
- Site: 50% on gingiva; tongue and palate
- Oral: Pink nodule with papillary or smooth surface; nontender
- TX: Excision
- Developmental: Retrocuspid papilla – no treatment for variation of normal




- ✓ 43YOHF with history of orofacial trauma and tooth loss
- ✓ Papule mimics: oral wart or fibrosed parulis

### Giant Cell Fibroma





- ✓ Both examples mimic squamous papillomas
- ✓ When located on gingiva, can displace teeth

### Retrocuspid Papilla



- ✓ Variation of normal anatomy on mandibular lingual gingiva, canine area, usually bilateral
- ✓ Common in children and regresses with age
- ✓ Not treatment is usually needed

### Drugs: Always on My Mind

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(Photo: Jacquelyn Martin, AP)


### Patient History: Oral Wart or What?



- ✓ ID: 69 YOWM who has hypertension and hyperlipidemia
- ✓ Meds: Amlodipine, atorvastatin, aspirin
- ✓ S/S: Papillary, pedunculated nodule of anterior gingiva adjacent to nonvital and carious teeth; blood-filled bulla; no other similar lesions


### How About a Calcium-Channel Blocker?

- Dx: Localized pattern of drug-induced gingival overgrowth associated with amlodipine
- Usually diffuse or multifocal, involving interdental papilla
- Some examples mimics oral warts
- Tx: Excisional biopsy, routine periodontal maintenance, and restore dentition
- May consult with PCP about another anti-hypertensive



### Localized Juvenile Spongiotic Gingival Hyperplasia (LJSGH)

- Subtype of gingival hyperplasia
- New name proposed: Spongiotic odontogenic hyperplasia
- Origin: Sulcular/junctional epithelium
- Cause: Unknown – not just biofilm
- Factors: Orthodontics (15%), tooth eruption, lip incompetence, mouth breathing, puberty
- Age/Gender/Race: Ave = 12 YO (range 5-39)/ F>M = 2.3:1 / White



### Juvenile Spongiotic Gingivitis



### LJSGH

- Site: Anterior facial gingiva, esp. maxillary (84%); may be multifocal
- S/S: Papillary, red nodule or velvety granular patch; bleeds easily; +/-tender
- TX & Prog: Biopsy; 6-16% recur in 1 yr; may resolve spontaneously
- Mimics: Pyogenic granuloma, foreign body granuloma, oral wart, erosion lymphangioma

*Chang J et al, OOOOE 2008;106:411-8*  
*Theofilou et al, OOOOE 2021;131:329-338*



Velvety pattern  
Dr. Golnar Jahanmir

### Juvenile Spongiotic Gingivitis


Adult Female      Adult Male



Gingival lesion not just for kids!

### LJSGH: Treatment

- Evaluate and remove surface roughness
- Apply chlorhexidine BID
- +/- topical steroids
- Maintain good oral hygiene
- Re-evaluate in 6 wk
- May resolve without surgery
- Excisional biopsy is most predictable outcome



Mimics:  
 ✓ Early pyogenic granuloma  
 ✓ Foreign body gingivitis  
 ✓ Vascular/lymphatic malformation

### Age Matters for Differential Diagnosis


- ID: 70 YOWF
- Social hx: Tobacco use, social drinker
- Long-term wearing of removable prosthesis
- Duration of lesion: 1.5y
- S/S: Mildly tender, hemorrhagic, red, finely papillary, increasing in size
- Dx: Squamous cell carcinoma



Dr. John Kalmar


### Proliferative Verrucous Leukoplakia

- Aggressive form of leukoplakia
- Lack usual risk factors; HPV role is debatable
- Female predilection
- Slowly growing, persistent, white plaques that slowly spread; smooth to papillary
- Site: Multifocal; usually gingiva, alveolar ridge



- ✓ 55 YOWM with tender gingiva that is growing
- ✓ Healthy, social drinker


### Proliferative Verrucous Hyperplasia



- ✓ Lesions often buccal and lingual
- ✓ Represents a spectrum of disease in the same patient
- ✓ Leukoplakia to invasive squamous cell carcinoma
- ✓ Tx is challenging and unpredictable response to surgery

### Verrucous Hyperplasia

✓ 64 YOWM with a 2X2cm verrucous like lesion in his upper right vestibule. Hx of duration was greater than one year.




Dr. Stephen Davis

### PVL: Systematic Review


- Source: 26 articles; 329 lesions
- Age/Gender: <64 YO> / 67% ♀
- Risk: No tobacco (65%); HPV?
- Site: Gingiva 52%; buccal (51%)
- FU: 7.4y; 9 biopsies/pt
- Tx: Surgery
- Recur: 71%; 3.6 new lesions
- Prognosis: MT – 64%; DOD - 40%

Abadie WM et al, *Otolaryngol Head Neck Surg* 2015




### Acute Inflammatory Enlargements

- Smooth to ulcerated surface
- Red, white, blue color
- Diffuse to localized swelling
- Rapid onset (hours to days)
- Tender or painful to palpation
- Compressible, fluctuate in size
- Fluid, semisolid contents with periodic drainage
- Cause is usually apparent
- Very common lesions



Parulis is a common example

### Source of Infection: Always on My Mind



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(Photo: Jacquelyn Martin, AP)


### What Else Should Be on My Mind?

- Abscess/Pericoronitis
- Lymphoid hyperplasia
- Sialolithiasis
- Tonsillith
- Lymphoepithelial cyst
- Pyogenic granuloma
- Mucocele/Ranula
- Angioedema
- Necrotizing sialometaplasia



- ✓ Healthy, young adult with tender, asymmetric swelling of lower lip
- ✓ Sudden onset and cause unknown

### Staphylococcal Folliculitis



- ✓ Initial impression: Angioedema but cutaneous abscess noted
- ✓ Skin and sinus may be source of orofacial infections
- ✓ Young adult treated with cephalexin for cutaneous infection

Photo: Dr. Stephen Davis


### Tonsils: Always on My Mind





Willie Nelson Performs at the White House  
(Photo: Jacquelyn Martin, AP)

### Hyperplastic Lymphoid Aggregates

- Normal tissue in oral cavity
- Discrete, nontender, swellings that vary from pink, yellow- orange to red; may enlarge or change colors
- Sites: Lateral tongue, floor of mouth, soft palate, tonsillar pillar
- Tender, if oral infection or irritation
- May be concurrent with lymphadenopathy
- Follow-up recommended




### Reactive Lymphoid Hyperplasia



In adult: posterior lateral border of tongue is important oral cancer site

In teen: floor of mouth is common site for lymphoid hyperplasia

### Pharyngeal tonsils



Tonsils are larger in children and symmetrical

Atrophy of pharyngeal tonsils but enlarged accessory lymphoid aggregates in adult male who smokes



### Chronic Lymphoid Hyperplasia



Asymmetrical pattern mimics: Lymphoma, oropharyngeal carcinoma

### Lymphoepithelial Cyst

- Type: Developmental lesion
- Cause: Entrapped epithelium within lymphoid tissue → cystic degeneration
- Site: Floor of mouth, tongue, soft palate, tonsillar region
- S/S: Persistent, yellowish-white nodule; discharge of contents occasionally
- TX: Observe; biopsy, if uncertain



### Sialolithiasis (Salivary Stones)

- Cause: Calcium salts around nidus of debris in duct
- Site: Usually submandibular gland; Wharton's duct
- S/S: Episodic pain or swelling; hard yellowish mass, if close to surface, +/- erythema, purulence
- Radiopacity on occlusal or panoramic radiograph (+/-)
- TX: Gentle massage, saliva stimulants, surgery



### Patient History

- ID: 76 YOWM
- MHx: Gout, HTN, GERD, afib, multiple meds
- HX: Noticed FOM swelling for 4-5 months and is now tender
- S/S: Purulence with palpation, erythema and unilateral enlargement of FOM, frothy saliva.
- Radiograph: No stone detected



### Subacute Sialadenitis

- Referred to ENT for care
- CBCT – no obstruction identified
- Tx: Augmentin for 2 weeks and resolved
- Most common antibiotics for sialadenitis are: dicloxacillin, cephalosporin, and Augmentin
- Factors: Dehydration, poor oral hygiene, poor salivary flow, recent illness and meds – beta-blockers, antihistamines, diuretics



### Obstructive Sialolith




- ✓ 50YOWF with periodic radiating pain X 3 mo
- ✓ White firm submucosal swelling at Wharton's duct papilla

- Patient is concerned because she has swelling of Wharton's duct.
- It has been this way for months. She has dry mouth and was told by her physician that it is a clogged duct and she needs to drink more water.
- She also has trigeminal neuralgia and claims that drinking water "sets it off."


### Tonsillar Crypt Plugs

- Cause: Aggregates of cells, debris, bacteria
- Factors: Anatomy of tonsils, decrease in oral moisture
- Site: Pharyngeal tonsils
- S/S: Creamy white aggregates; soft to firm; may be irritating, halitosis
- TX: Dislodge by gargling or coughing; irrigation with CHX





### Tonsillolith

- Tend to be smaller in adults because of atrophy of crypts
- Source of halitosis
- Fullness sensation
- Actinomycotic colonization
- Mimics an abscess or infectious disease
- Note: Uvulitis and erythema from trauma – patient attempt to dislodge material



Dr. Glenda Owen


### Plugged Tonsillar Crypt

❖ Some reach significant size – see only the tip of the ice berg!




### Mucoceles

- Type: Reactive lesion of salivary glands
- Cause: Trauma to ducts and glands
- Age: Children and young adults
- Site: Lower lip (81%), buccal mucosa (5%), ventral tongue (6%), FOM (6%)
- S/S: Translucent blue, fluid-filled swelling; fluctuates in size; may be tender
- TX: Excisional biopsy with glands; may spontaneously resolve; recur – 6%
- Variant: Ranula – floor of the mouth



45YOM with recurrent lip swelling


### Mucoceles: Do Not Pop Them Like a Balloon

- ✓ In children, vascular or lymphatic malformation should be excluded
- ✓ Rarely, mucoepidermoid carcinoma occurs at this site
- ✓ High recurrence rate at this location
- ✓ Cause: Glands of Blandin-Nuhn
- ✓ Do not shave them off


### Ranula

- Mucous retention in oral floor
- Dome-shaped, soft, painless swelling of translucent to red or blue color, unilateral
- Involves sublingual (90%) or submaxillary glands
- Tx: Excise with gland; marsupialize, laser ablation
- Variant: Plunging ranula
- Mimics: Abscess, vascular/lymphatic malformation, salivary gland tumor

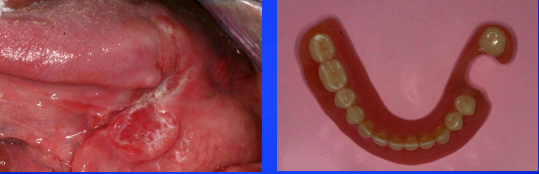


### Plunging Ranula

- ✓ Developed 3 months after marsupialization of ranula
- ✓ Note the linear scar




### Squamous Cell Carcinoma



- ✓ Patient referred for "blocked sublingual salivary gland".
- ✓ 52 YO Asian woman with tenderness in FOM for 4 months. The dentist has adjusted the partial 2 times but the tenderness and sore persists.
- ✓ Risk factor: Long-term use of tobacco

Dr. Anne-Marie Nguyen

### Salivary Gland Hypofunction



### Review of Salivary Dysfunction

- Xerostomia: subjective feeling of dry mouth
- Salivary gland hypofunction: reduced unstimulated or stimulated salivary flow
- Prevalence: F = 20-46% / M = 13-26% (Orellana MF, J Public Health 2006)
- Patient complaints: Film in mouth, mouth never feels clean, bumps on tongue and lower lip, bad taste, bad breath, cheeks are swollen, bite cheeks, sore mouth, grit or sand in mouth, intolerance to certain foods

### Salivary Dysfunction and Xerostomia

- Dehydration
- Stress/Psychogenic
- Cigarette smoking
- Medications
- Caffeine, alcohol
- Sjogren's disease
- Diabetes mellitus
- Autoimmune diseases
- Radiation
- Mouth-breathing



### Main Medications Associated with Xerostomia

- Anticholinergic drugs
- Antihistamines
- Antihypertensives
- Opioids, narcotics
- Psychotropic agents: antidepressants, antipsychotics
- Skeletal muscle relaxants
- Over 500 drugs cause dry mouth  
(in review, JADA 2014;145(8):867-73)



## 100 Drugs with Strong or Moderate Evidence of Salivary Gland Dysfunction

Drugs R D (2017) 17:1–28  
DOI 10.1007/s40268-016-0153-9



SYSTEMATIC REVIEW

### A Guide to Medications Inducing Salivary Gland Dysfunction, Xerostomia, and Subjective Sialorrhea: A Systematic Review Sponsored by the World Workshop on Oral Medicine VI

Andy Wolff<sup>1,2</sup> · Revan Kumar Joshi<sup>3</sup> · Jürgen Ekström<sup>4</sup> · Doron Aframian<sup>5</sup> · Anne Marie Lyngge Pedersen<sup>6</sup> · Gordon Proctor<sup>7</sup> · Nagamani Narayana<sup>8</sup> · Alessandro Villa<sup>9</sup> · Ying Wai Sia<sup>10</sup> · Ardita Alko<sup>11,12</sup> · Richard McGowan<sup>13</sup> · Alexander Ross Kerr<sup>14</sup> · Siri Beier Jensen<sup>6,15</sup> · Arjan Visink<sup>15</sup> · Colin Dawes<sup>16</sup>

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## Important Questions to Ask Patients?

- Does the amount of saliva in your mouth seem to be too little?
- Does your mouth feel dry when eating a meal?
- Do you sip liquids to aid in swallowing dry food?
- Do you have difficulty swallowing?



NB: A positive response to any of these questions has been associated with reduced saliva, even when the patient has not expressed a concern (Fox PC. JADA 1987;115(4):581-4.)

## Quantity & Quality of Saliva Matters

- Patients often complain about having too much saliva when it is very viscous, frothy and bubbly



## Complications: Salivary Gland Hypofunction

- Increased caries risk and tooth erosion
- Intolerance to wearing a removable prosthesis
- Causes variety of soft tissue problems: periodontitis, oral ulcers, sloughing, burning sensation, candidiasis, chapped lips, dysphagia, superficial mucocelles, and purpura, prominent linea alba on lip and buccal mucosa
- Comorbid conditions: autoimmune diseases, lichen planus, recurrent aphthous ulcers

## Management of Salivary Gland Hypofunction

- Patient education
- Management of systemic conditions and medication use
- Preventive measures to reduce oral disease
- Caries prevention and control
- Candidiasis prevention and control
- Pharmacological treatment with salivary stimulants
- Palliative measures to improve salivary output and comfort



## Saliva Substitutes

- 3M Xerostomia Relief Spray (3M): glycerol triester
- All Day Dry Mouth Spray (Elevate): xylitol, glycerin
- Basic Bites Neutralizing Chews (Ortek): maltitol, Ca, xylitol
- GC America Dry Mouth Relief (GC): glycerol, multiple flavors
- Lubricity Dry Mouth Spray (Lubricity): water, xylitol
- Mouthkote (Parnell): xylitol, sorbitol, saccharin, ascorbic acid
- Oasis Rinse & Spray (Emerson Healthcare): water, glycerin, sorbitol
- Oral Balance Gel (GSK): glycerin, water, sorbitol, xylitol
- Xyligel (OraCoat): xylitol 17%, glyceride, citrus flavor, nonacidic
- Salivea Rinse and Spray (Laclede): glycol, xylitol, Ca, aloe vera
- ACT dry mouth rinses, gum and lozenges: xylitol +/- flupride

## Saliva Stimulants

*Topical OTC*


- Dentiva, ProMoist, Sal-Ese, Smart Mouth Mints, Xylimelts, Biotene Dry Mouth Lozenges, SalivaSure

*Mechanical therapy*


- Acupuncture and Electrostimulation devices
- Topical with Supersaturated Calcium Phosphate
- Caphosal solution and dispersible tablets
- SalivaMAX dissolving powder

*Systemic RX*

- Pilocarpine (Salagen, g) 5mg, 7.5 mg tabs, 1 tab TID
- Cevimeline (Evoxac) 30mg caps, 1 cap BID-TID (More selective; safer from cardiac standpoint)



## Summary: Topical Dry Mouth Treatments



**Cochrane Library**  
Cochrane Database of Systematic Reviews


Interventions for the management of dry mouth: topical therapies (Review)

Furness S, Worthington HV, Bryan G, Birchenough S, McMillan R 2011

No strong evidence that any topical treatments are effective  
Glycerol-based is better than aqueous-based spray products  
Chewing gum is no better or worse than saliva substitutes

## Reactive Hyperplasias


- Smooth to undulating surface
- Pale to red +/- ulcerated
- Nodular in shape
- Moderate growth rate
- Nontender
- Soft to firm to palpation
- Limited growth potential
- Recur, if cause not removed
- Very common lesions




70 YOWM with irritation fibroma due to missing teeth and dry mouth

## Irritation Fibroma

- Focal reactive fibrous hyperplasia due to trauma
- Most common oral enlargement
- Site: Labial, buccal mucosa, tongue, gingiva
- S/S: Pink, white nodule, smooth surface, soft to firm, nontender, unless traumatized
- Tx: Excisional biopsy




## Irritation Fibroma



- ✓ Bilobed due to tooth malalignment
- ✓ Sessile, firm and pink nodule
- ✓ History of long duration; static growth
- ✓ Larger and firmer over time

## Fibrous Hyperplasia with Chronic Sialadenitis




- Reactive hyperplastic lesion
- Chronic habit of sucking or biting lower lip
- May develop superficial mucoceles
- Site: along occlusal plane
- May be tender; minimal fluctuation in size
- Tx: Observe, adjust teeth or occlusion; occlusal splint, excise redundant tissue

### Tongue Piercing




Acrylic caps mimic fibroma  
Photo: Dr. C.D. Johnson

### Traumatic Neuroma




- Reactive proliferation of neural tissue
- Cause: Trauma, tooth extraction, surgery; pressure from denture
- Site: Mandibular vestibule, tongue, lip
- S/S: Pink nodule; pain, dysesthesia; intermittent to constant; burning or radiating
- TX: Excisional biopsy




Note the white linear scar in vestibule, adjacent to mental foramen


### Patient History



- ID: 60 Y/O WF
- MHx: Atypical facial pain; Vicodin, NSAIDs
- CC: Radiating pain to side of face for 2 y
- Site: Trigger point - posterior buccal mucosa
- S/S: Pink, firm nodule; painful to palpation; note scar on lingual side




### Traumatic Neuroma




Using local anesthesia to assist in the diagnosis of this erythematous nodule

### Pyogenic Granuloma

- Cause: Exuberant response to local irritation
- Age/Gender: Children, F > M
- Site: Gingiva > lips > tongue > buccal mucosa
- S/S: Red soft nodule with ulcerated surface; bleeds; often nontender
- TX: Excisional biopsy; removal of local irritation
- Variants: Pulp polyp, epulis granulomatousum, pregnancy tumor





### Pyogenic Granuloma



Dr. John Lovas

### Pyogenic Granuloma






Pregnancy tumor with rapid growth rate

Tongue is common site – may have a foreign body entrapped

Dr. Kenneth Horwitz

### Epulis Granulomatosa

- Pyogenic granuloma at extraction site
- Need to take radiograph
- Mimics metastatic disease



Photo(s): Dr. C.D. Johnson

### Foreign Body Granuloma



- Entrapped foreign body
- Site: Usually anterior maxillary gingiva
- S/S: Red and firm nodule that is a cosmetic concern; may be tender; nonresponsive to topical steroids
- Tx: Gingival recontouring
- Mimics a flat pyogenic granuloma




### Squamous Cell Carcinoma

❖ Important: Malignancies can mimic a pyogenic granuloma. This lesion has "fallen off, bled, and re-grew" repeatedly for the past 2 years.

Dr. John Lovas

### Blood-filled Bulla due to Coumadin






- ✓ Mimics pyogenic granuloma
- ✓ Resolved 5 days after adjusting Coumadin

Dr. Stephen Davis

### What Else Should Be on My Mind?

- Pyogenic granuloma
- Irritation fibroma
- Giant cell fibroma
- Peripheral ossifying fibroma
- Peripheral giant cell fibroma
- Soft tissue abscess
- Vascular malformation
- Metastatic disease



### Peripheral Ossifying Fibroma

- Reactive hyperplasia – PDL, periosteum
- Sex: F>M
- Site: Attached gingiva
- S/S: Nontender, firm nodule; pink, red and ulcerated, +/- resorb bone, displace teeth
- TX: Excision; 16% recur



Some develop from a fibrosing pyogenic granuloma


### Peripheral Ossifying Fibroma




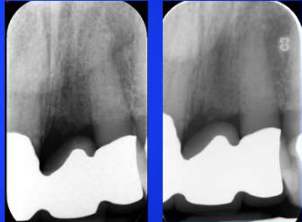

- May develop from pyogenic granuloma
- Note alveolar bone loss, tooth displacement and mobility

### Patient History

- ID: 83 YOWM with rheumatoid arthritis, HTN, severe hearing loss
- CC: Tenderness and swelling of palatal gingivae adjacent to fixed prosthesis
- Onset about 6 months ago
- S/S: Diffuse erythema and swelling of anterior gingiva; BOP, no purulence or mobility



### Subpontic Hyperostosis






Sometimes bone overgrowth is the problem

2 years between periapical images


### Gingival Fibromatosis

- Cause: Hereditary, idiopathic
- Autosomal dominant
- Gene mutation in some: SOS-1
- Age: Starts in childhood
- S/S: Generalized pink, firm gingival enlargements, displace teeth
- TX & Prog: Oral hygiene, periodontal surgery, orthodontics; high recurrence rate
- May be part of a syndrome

### Drug-induced Gingival Overgrowth

- Phenytoin (Dilantin)
  - Prevalence: 50%
  - Age: <25 y
- Cyclosporine
  - Prevalence: 25%
  - Age: adolescents
- Calcium channel blockers (Nifedipine)
  - Prevalence: 25%
  - Age: Older adults




TX:

- Plaque control
- Folic acid (phenytoin)
- Amoxicillin +/- Metronidazole
- Gingivectomy or other perio surgery



### Benign Cysts & Neoplasms

- Dome-shaped enlargement
- Smooth surface of variable color
- Solitary lesion with well-defined margins
- Nontender, movable to palpation
- Slow growth rate
- Unlimited but localized growth
- Distortion of anatomic contours
- Uncommon lesions




Neurofibroma

### Congenital Hemangioma

- Type: Vascular neoplasm/hamartoma
- Age/Gender: 5-10% of age 1 YO; F:M::3:1-5:1
- Site: Head & neck = 60%; lips, tongue
- Growth period: 6-10 months
- S/S: Red or blue, flat or nodular lesion; minimal blanching; 20% are multiple
- TX: Involution, steroids, sclerosing agents, laser, excision, propranolol (Hemangeal, PO)
- Complication: Ulcer, bleeding, infection, scar (40%)

### Hemangioma

Child





Involving

Young adult



Non-involving

### Acquired Traumatic Hemangioma

Mimics: mucocele, vascular malformation, varix

Photo: Dr. Stephen Davis


### New Drugs: Always on My Mind




Willie Nelson Performs at the White House  
(Photo: Jacquelyn Martin, AP)

### New Treatment for Hemangioma


- Hemangeal (propranolol) oral solution 4.48 mg/mL
- FDA-approved for infantile proliferating type
- Beta-adrenergic blocker
- Mechanism:
  - Vasoconstriction
  - Inhibits angiogenesis
  - Induces apoptosis
- Results: 60% resolution in 6 mo



http://www.hemangeol.com/hcp/origin-discovery-pierre-fabre/

### Caliber-Persistent Labial Artery

- Lesion: Vascular anomaly
- Cause: Abnormally dilated artery
- Site: Upper lip : Lower lip :: 2 :1
- S/S: Tubular to nodular elevation; pink to blue; pulsatile; disappears when stretched
- TX: None required, unless symptomatic
- Complication: Brisk bleeding, if traumatized



Resemble Eagle's wings

### Caliber-Persistent Labial Artery



CC: Annoying vibration of the lower lip

Dr. Stephen Davis

### Varices are Common with Age



- ✓ No treatment is necessary
- ✓ Fade with direct pressure
- ✓ Laser treatment can be very effective with cosmetic results

### What Else Should Be on My Mind?

- *Soft & Compressible Neoplasms*
  - Lipoma
  - Hemangioma
  - Lymphangioma
  - Incisive papilla cyst
  - Gingival cyst of adults
  - Plexiform neurofibroma
    - Neurofibromatosis
  - Mucoepidermoid carcinoma




Gingival cyst of adult


Dr. Gary Blum

### Lymphangioma

- Congenital malformation of lymphatics
- Age: 50% at birth; 90% by 2
- Site: 75% in head & neck; tongue
- S/S: Pebbly, pink, white, red, purple vesicles; diffuse swelling; "frog eggs", +/- painful; leukopenia
- Size varies with infection, trauma, hemorrhage, inflammation
- Complications: Airway obstruction, dysphagia, disfigurement




### Lymphangioma



Mimics transient lingual papillitis and vesicles


### Lymphangioma



Mimics squamous papilloma, pyogenic granuloma, vascular malformation, depending on the history

### Lipoma


- Benign neoplasm of fat
- Site: Buccal mucosa and vestibule
- May represent a herniated buccal fat pad
- S/S: Yellow-pink, soft nodule with smooth surface; slow-growing
- Tx: Excisional biopsy



Mimics an irritation fibroma

### Enlargement of Buccal Fat Pads

- Cause: Congenital, obesity, lipodystrophy
- Site: Buccal mucosa
- S/S: Diffuse swelling; surface is pinkish-yellow; nontender
- Problem: Cosmetic, trauma, interferes with adapting to dental prosthetics
- May herniate, if ulcerated
- TX: None; surgical removal



### What Else Should Be on My Mind?


- Firm Enlargements
  - Granular cell tumor
  - Schwannoma & Neurofibroma
  - Rhabdomyoma & Leiomyoma
  - Myofibroma
  - Salivary gland tumor
- Hard Enlargements
  - Exostosis, Torus
  - Peripheral osteoma



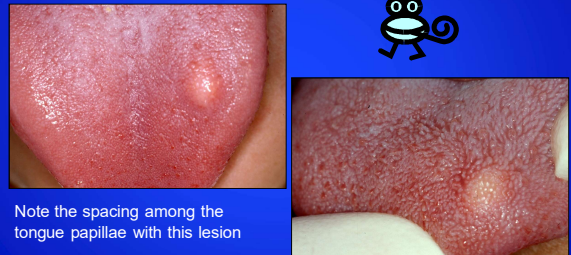
Schwannoma

### Granular Cell Tumor

- Uncommon benign tumor of neural (Schwann cell) origin
- Age/Gender: Any age; F>M
- Site: Any site; usually tongue
- S/S: Asymptomatic, firm mass, 1-2 cm in size, lighter than surrounding mucosa, infiltrative
- TX: Excision; no recurrence
- Mimics a scar, oral cancer

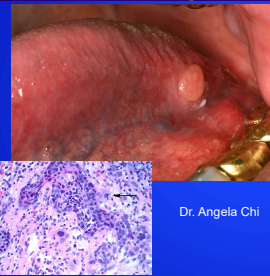


### Granular Cell Tumor



Note the spacing among the tongue papillae with this lesion

### Nodular Squamous Cell Carcinoma




- ID: 71 YOM presented for routine oral examination.
- Hx: He reported the recent development of a small growth on left posterior lateral border of his tongue.
- S/S: The lesion was not painful, but had slowly increased in size over the past two to three months.

Dr. Angela Chi

### Minor Salivary Gland Tumors

- Uncommon to rare tumors
- Higher proportion are malignant: 46% - 55%
- Site: Hard palate – most common site
- S/S: Slowly growing nodule; nontender
- Common benign lesion: Pleomorphic adenoma
- Common malignancy: Mucoepidermoid carcinoma
- TX: Surgery +/- radiation and chemotherapy
- 5-year survival rate: depends on type

### Canalicular Adenoma



Upper lip is most common site for this benign salivary gland tumor

Dr. Stephen Davis

### Salivary Gland Tumor


◆ Nothing good grows on the palate



Pleomorphic Adenoma
Adenoid Cystic Carcinoma

### When is it not a fibroma?

- Unlikely place for trauma
- More submucosal swelling
- Increasing in size
- Surface changes
- Increased vascularity without irritation
- Uncertain about duration



ID: 66YOBM with HTN and serious mental health disease


### Pigmented Lesions: Always on My Mind



Willie Nelson Performs at the White House  
(Photo: Jacquelyn Martin, AP)


### Melanocytic Nevus

- Benign growth of nevus cells
- Age/Gender: Adults; may be congenital (10%); F > M
- Site: Palate, buccal mucosa, gingiva, lip
- S/S: Pink, brown, blue or black macule or nodule; 85% pigmented; 70% elevated
- Most common: Intramucosal, blue
- TX: Excise; rare malignant transformation



### What Else Should be on My Mind?

- Melanocytic nevus
- Melanotic macule
- Amalgam or lead tattoo
- Drug-induced pigmentation
- Physiologic pigmentation
- Post-inflammatory pigmentation
- Smoker's melanosis
- Late petechiae and purpura




Blue nevus

Dr. Karisha Madden

### Oral Melanotic Macule

- Focal increase in melanin
- Most common oral pigmentation in Caucasians
- Skin: Ephelis (freckle)
- Age/Sex: All ages; F>M
- Site: Lip, buccal mucosa, gingiva, palate
- S/S: Solitary, oval brown, gray, black macule
- TX: None required; no malignant potential



May represent smoker's melanosis



### Amalgam Tattoo and Scar




Some tattoos look scary!  
Mimics a melanoma


### Patient History

- ID: 55YOHM with diabetes
- CC: Dark, rough, itchy spot on cheek for 3 weeks
- S/S Brown-black patch (2 X 1.5 cm) on buccal mucosa with velvety surface; pruritic when palpated
- Not present 6 months ago
- Is this serious?

### Oral Melanoacanthoma

- Reactive pigmentation (melanosis)
- Cause: Inflammation, irritation
- Gender/Race: F>M; Black
- Site: Buccal mucosa, gingiva, palate; may be bilateral
- S/S: Rapidly growing, brown, black flat to slightly raised patch with smooth to rough surface; large; may burn or itch
- TX: Eliminate cause; biopsy; may fade or resolve



- ✓ 38 YOBM concerned about new pigmentation that feels rough
- ✓ Recent back spasms treated with muscle relaxants

### Oral Melanoma

- Type: Aggressive malignancy of melanocytes
- Risk: Fair complexion, UV light, blistering sunburns
- 33% of melanomas arise from pre-existing pigmented lesion
- Site: 25% arise in head & neck; <1% occur in mouth
- 80% on palate, maxillary gingiva or alveolar mucosa
- S/S: Brown, black, blue macule with irregular borders; nodule with irregular surface; lobulated mass; +/- ulcer
- TX: Excision; poor prognosis with oral involvement; 13-22% 5-year survival rate


### Oral Melanoma



Remember the ABCDEs of Melanoma  
Photo: WEISTOP, Dr. James Kratochvil

### Aggressive & Malignant Neoplasms

- Asymmetric enlargement
- Usually red and ulcerated
- Firm, indurated and fixed
- Poorly defined, infiltrative margins
- Pain, paresthesia, lymphadenopathy
- Moderate to rapid growth (weeks to months)
- Tissue destruction
- Potential for metastasis



Kaposi's sarcoma

Dr. Mark Nichols

### Oral Squamous Cell Carcinoma

- Epidemiology: 53,000 new cases/y; 3% of all cancers
- Risks: Tobacco, alcohol, betel nut, HPV, UV light, genetics
- Age/Gender: > 40Y / M > F
- Trends: ↑ in females, young age & no classic risk factors
- High risk sites: Posterior lateral tongue, floor of mouth, soft palate, tonsillar region
- Average lesion duration: 3 - 5 months
- S/S: Red & white plaques; papillary nodule; persistent ulcer; fungating mass

### Oral Squamous Cell Carcinoma



➤ Serious disease that can masquerade as many common oral diseases

### Oral Lesions: Always on My Mind




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(Photo: Jacquelyn Martin, AP)