Oral & Maxillofacial Pathology II
DB 3702

Topic: Soft Tissue Tumors

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Thursdays, 10:00 – 11:50 am
Room DB 132
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**Disclaimer:** Dr. Bouquot is Professor & Chair, Department of Diagnostic Sciences, University of Texas Dental Branch at Houston. The information and opinions provided herein are, however, his own and do not represent official opinion or policy of the University of Texas.
For More Information: The Neville Book
Used in almost all U.S. dental schools; one of most popular books in dentistry,
1,100+ pictures (in color), published by W. B. Saunders

Brad Neville (South Carolina), Douglas Damm (Kentucky)
Carl Allen (Ohio), Jerry Bouquot (University of Texas, Houston)
Mars’ Rule:
An expert is anyone from out of town.

Weber’s Definition
An expert is one who knows more and more about less and less until he knows absolutely everything about nothing.
Bouquot at Lilly Pharmaceuticals, with his University of Minnesota class
White Water in West Virginia
The New River

Arrow points to Dr. Bouquot
**Law of Revelation:** The hidden flaw never remains hidden

**Muir’s Law:** When we try to pick out anything by itself, we find it hitched to everything else in the universe

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**Mr. Big Mouth**

**Interpretation of Lumps and Bumps**

**Mario the Mouth Detective**
Peripheral Ossifying Fibroma
Basic Objectives for Individual Lesions

- Identify the cause
  -- Etiology; pathoetiology
  -- Pathogenesis
  -- Cell or tissue of origin
- List the GALP
  -- Gender predilection
  -- Age predilection
  -- Location predilection
  -- Prevalence (frequency)
- Describe the typical clinical appearance
  -- Unusual clinical variants
  -- Look-alike lesions (differential diagnosis)
  -- Systemic associations
  -- Genetic associations
  -- Drug, foreign material, etc.
Basic Objectives for Individual Lesions

- Describe the basic microscopic features
- Describe the biologic behavior (pathophysiology)
  -- Rate and pattern of growth
  -- Prognosis without treatment
- Typical treatment(s) and the prognosis of such treatment(s)
- Describe unique variants or features
  -- Microscopic
  -- Physiologic
  -- Clinical
  -- Biological behavior
Differential Diagnosis of Oral Masses
Mucosal Masses – Look at Base

- Hyperplastic lingual tonsil
- Pedunculated (on a stalk)
- Irritation fibroma

- Duration
- Rate of enlargement
- Constancy of enlargement
- Uniformity of expansion
- Size

- Sessile (broad based), lobulated

- Base
- Surface integrity
- Surface irregularities
- Color/Blanching
- Firmness/Fluctuation
- Moveability
- Pain/Tenderness
Mucosal Masses – Look at Location

Granular Cell Epulis

Location
- Multiplicity
- Skin/Other mucosa lesions
- Patient age
- Gender
- Family history

Anterior maxillary alveolus

Gingiva

Peripheral Giant Cell Granuloma

- Base
- Surface Integrity
- Surface irregularities
- Color
- Firmness
- Moveability
- Pain/Tenderness
Mucosal Masses – Look at Surface Integrity

- **Metastatic Adenocarcinoma**

- **Fungating (ulcerated, lobulated mass)**

- **Ulcerated**

- **Squamous Cell Carcinoma**

- **Duration**
- **Rate of enlargement**
- **Constancy of enlargement**
- **Uniformity of expansion**
- **Size**

- **Base**
- **Surface Integrity**
- **Surface irregularities**
- **Color/Blanching**
- **Firmness/Fluctuation**
- **Moveability**
- **Pain/Tenderness**
Mucosal Masses – Look at Surface Irregularities

- Irritation Fibroma
  - Smooth surface

- Lobulated
  - Torus Palatinus

- Duration
- Rate of enlargement
- Constancy of enlargement
- Uniformity of expansion
- Size

- Base
- Surface Integrity
- Surface irregularities
- Color/Blanching
- Firmness/Fluctuation
- Moveability
- Pain/Tenderness

Mucosal Masses – Look at Surface Irregularities
Mucosal Masses – Look at Surface Irregularities

- Condyloma Acuminatum
- Papillary (finger-like projections)
- Verruciform (pointed projections)
- Verruca Vulgaris (Wart)

- Duration
- Rate of enlargement
- Constancy of enlargement
- Uniformity of expansion
- Size

- Base
- Surface Integrity
- Surface irregularities
- Color/Blanching
- Firmness/Fluctuation
- Moveability
- Pain/Tenderness
Mucosal Masses – Look at Color

- Lipoma: Yellow (fat, keratin, pus, lymphocytes)
- Hemangioma: Red (vascular)

- Duration
- Rate of enlargement
- Constancy of enlargement
- Uniformity of expansion
- Size

- Base
- Surface Integrity
- Surface irregularities
- Color/Blanching
- Firmness/Fluctuation
- Moveability
- Pain/Tenderness
Mucosal Masses – Feel (Palpate) It

- **Hemangioma**
  - Soft, nonfluctuant

- **Lipoma**
  - Soft, blanching

- **Soft, blanching**

- **Soft, nonfluctuant**

- **Duration**
- **Rate of enlargement**
- **Constancy of enlargement**
- **Uniformity of expansion**
- **Size**

- **Base**
- **Surface Integrity**
- **Surface irregularities**
- **Color/Blanching**
- **Firmness/Fluctuation**
- **Moveability**
- **Pain/Tenderness**
Mucosal Masses – Look at Moveability

- Freely movable
  - Base
  - Surface Integrity
  - Surface irregularities
  - Color/Blanching
  - Firmness/Fluctuation
  - Moveability
  - Pain/Tenderness

- Immovable
  - Duration
  - Rate of enlargement
  - Constancy of enlargement
  - Uniformity of expansion
  - Size

Thyroglossal Duct Cyst

Squamous Cell Carcinoma
Mucosal Masses – Look at Pain

- Sharp pain on palpation

- Aching, tender to palpation

- Pericoronitis

- Masseter Hypertrophy

- Duration, Rate of enlargement, Constancy of enlargement, Uniformity of expansion, Size

- Base, Surface Integrity, Surface irregularities, Color/Blanching, Firmness/Fluctuation, Moveability, Pain/Tenderness
Mucosal Masses – Look at Underlying Bone

Metastatic Esophageal Carcinoma

- Location
- Multiplicity
- Skin/Other mucosa lesions
- Patient age
- Gender
- Family history
- Underlying bone change
Mucosal Masses – Look at it All!

- Location
- Multiplicity
- Skin/Other mucosa lesions
- Patient age
- Gender
- Family history
- Underlying bone change

- Base
- Surface Integrity
- Surface irregularities
- Color/Blanching
- Firmness/Fluctuation
- Moveability
- Pain/Tenderness

Crohn’s Disease

Multiple Mucosal Neuroma Syndrome
Irritation Fibroma
Irritation Fibroma
Reactive Fibrous Hyperplasia; Traumatic Fibroma

From acute or repeated trauma
-- Poor healing
-- “Exuberant scar tissue”
– May develop from pyogenic granuloma
-- Similar skin lesion: keloid

GALP:
– None (but 2x females for biopsied cases)
– 4th-6th decades = usual age
– Buccal > lip > tongue > gingiva
-- Most common soft tissue mass
-- 3rd most common mucosal lesion in adults
-- 3rd most common oral lesion
– Prevalence: 12/1,000 adults
Irritation Fibroma
Reactive Fibrous Hyperplasia;
Traumatic Fibroma

- Smooth-surface
- Normal color
- Painless nodule
- May be pigmented
  -- Melanosis of epithelium
- Maybe: frictional keratosis
- May be ulcerated (trauma)
- Usually sessile
  -- May be pedunculated
- Usually <1 cm.
  – May become 3-4 cm.
- Full size within 6 months
  -- Minimal increase after
  -- Does not go away
  – No malignancy risk
Irritation Fibroma
Histopathology & Treatment

- Pedunculated or sessile
- Dense, avascular fibrous stroma
- No capsule
- Epithelium often atrophic
- Small numbers of lymphocytes in fibrous stroma, maybe
- Treat: conservative excision, otherwise lasts forever
Fibrolipoma
Rule out herniated buccal fat pad (Is it moveable?)
Look-alike Lesion: Scar Tissue
Prevalence (# Lesions/1,000) = 2.4 for Males, 1.9 for Females, 2.1 Total

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Leaf-Shaped Fibroma
Variant of Irritation Fibroma

- Grows under a denture base
- Flat, often with small papules along edges
- 6th most common mucosal lesion
  -- Prevalence = 7/1,000, with strong female predilection
- Problems: Cortical erosion; infarction (stalk gets twisted)
- Treat same as for regular irritation fibroma
Epulis Fissuratum
Epulis Fissuratum
Variant of Irritation Fibroma?

Reactive fibrous hyperplasia; inflammatory fibrous hyperplasia; denture injury tumor; denture epulis; redundant tissue

- Etiology: repeating trauma from denture flange
- **GALP:**
  - None (but strong female in biopsied cases)
  - Middle-aged and older
  - Anterior vestibule > posterior vestibule > anterior oral floor
- 11th most common oral lesion
- Prevalence = 4/1,000 adults
Epulis Fissuratum
Variant of Irritation Fibroma?

- Linear, often lobulated
- Painless fibrous mass
- Base parallels alveolus
- May have traumatic ulcer in depth of a fissure
- May have multiple parallel masses ("redundant tissue")
- May have areas of papillary hyperplasia along edges
Epulis Fissuratum
Histopathology

- Like irritation fibroma
- More chronic inflammatory cells
- Acanthosis/degeneration
- May have surface ulcer (traumatic ulcer)
- May have inflammatory papillary hyperplasia of surface
Epulis Fissuratum

Maybe: pseudoepitheliomatous Hyperplasia
-- “Islands” of epithelium if cut tangentially or in cross section
-- Can look like:
   Squamous cell carcinoma
Epulis Fissuratum
Pathophysiology & Treatment

- Continues to elongate over time (and continued trauma)
  - New parallel masses develop, may ulcerated
  - No malignant transformation
  -- Although it was once thought to be premalignant

- Dual treatment:
  -- Surgical excision
  -- Replace/repair denture
  -- Low recurrence
Inflammatory Papillary Hyperplasia
Inflammatory Papillary Hyperplasia
Papillary Hyperplasia of the Palate
Denture Papillomatosis

- Repeated trauma from denture base
  - Especially in persons who sleep with denture in place
  - Edema of connective tissue papillae
- May be seen in non-denture patients with:
  - High arched palate
  - Immune deficiency (e.g. AIDS)
- **GALP:**
  - 2x female
  - Middle-age and older
  - Hard palate, under denture
  - 15th most common mucosal lesion
  - Prevalence = 3/1,000 adults
Inflammatory Papillary Hyperplasia

Clinical Features

- Multiple painless fibrous papules
  -- Scattered across hard palate
  -- Concentrated in the midline
  -- Burning? Candidiasis

- Early lesions are:
  -- Edematous
  -- Erythematous
Inflammatory Papillary Hyperplasia

**Histopathology**

- Old papules: like small irritation fibroma
- Early: edematous granulation tissue
  -- With chronic inflammatory cells
- Pseudoepitheliomatosus hyperplasia:
  -- Can look like squamous cell carcinoma
Inflammatory Papillary Hyperplasia
Pathophysiology & Treatment

- Continues indefinitely
  -- Even with new denture
  -- Edematous lesions may disappear
- No malignant potential
  -- Although once considered premalignant

- Dual treatment:
  -- Conservative surgical excision or laser/electrosurgical removal
  -- And replace or repair denture
  -- Take denture out overnight
- Treat early (edematous) case: Keep denture out (2+ weeks)
- Antifungals, if burning
- Antibiotics, maybe?
Giant Cell Fibroma
Giant Cell Fibroma
Variant of Irritation Fibroma

- Etiology: unknown
  -- Not related to trauma

- **GALP:**
  - Slight female
  - Younger persons
  -- 2-5% of fibrous oral masses
  -- 50% on gingiva

- Small, often lobulated
- Smooth or pebbled
- Painless nodule
- < 5 mm in size
Giant Cell Fibroma
Histopathology, Pathophysiology, Treatment

- Like irritation fibroma
- Large, stellate, subepithelial fibroblasts
- Sometimes multiple nuclei
- Remains indefinitely
- Treat: conservative surgical excision
Retrocuspid Papilla
Variant of Giant Cell Fibroma?

- Small fibrous gingival nodule
- More frequent in children (25%)
  -- 6% of adults
- Behind mandibular cuspid
- Often bilateral
- Same giant fibroblasts as giant cell fibroma
Fibromatosis
Fibromatosis
Juvenile Aggressive Fibromatosis
Extraabdominal Desmoid

- **Etiology:** unknown (neoplasm?)

- **GALP:**
  - None
  - Children and young adults
  - Mandibular gingiva
    -- Rare in mouth

- Painless, firm mass
  -- Often lobulated

- May destroy underlying bone

- May be ulcerated
Fibromatosis
Histopathology, Pathophysiology, Treatment

- Fibrous stroma many spindle cells
  -- Streaming fascicles
  – Not encapsulated
  – Cells are mature
  -- Cells more numerous than normal
- Can grow to considerable size
- May destroy underlying bone
- Maybe great local disfigurement
- No metastasis
- **Aggressive fibromatosis**

- Treat: wide excision
  -- Including affected bone
  – 1/4 recur with this treatment
Gingival Fibrous Hyperplasia

Prevalence (# Lesions/1,000) = 0.1 for Males, 0.1 for Females, 0.1 Total

This is NOT an aggressive fibromatosis!

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