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Eyelid Lumps and Bumps

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Disclosures

Paid consultant for:
Maculogix: Honoraria-Advisory Board
Sun: Honoraria: Advisory Board/Speakers Bureau

Agenda

- Benign vs. Malignant lesions
- Benign Eyelid Lesions
  - Various types
  - Diagnostic criteria and differentials
  - Treatment and management options
- Malignant Eyelid Lesions
  - Various types
  - Diagnostic criteria and differentials
  - Treatment and management options
Aussie Patient Story

- Male 59 Anglo Celtic heritage
- Asymptomatic, accidental detection by daughter following island holiday Bali and further sun exposure August 2016
- Hx: surfer and excessive sun exposure - coconut oils etc for first 2 decades of life.
Aussie Patient Story

- Initial dermatologist opinion – BCC (basal cell carcinoma)
  - **BUT** biopsy confirmed aggressive malignant melanoma, 2.2 mm thick, 5 mm cell growth rate

- Initial excision September 14, 2016.
  - Found to have invaded sentinel axillary node –
  - further surgery October 6 - complete axillary dissection right underarm - pathology clear.
  - Final dx - stage 3 malignant melanoma.
Eyelid Lumps and Bumps

• 15-20% of periocular skin lesions are malignant
• Benign vs malignant:
  – Benign lesions are:
    • Well circumscribed and possibly multiple
    • Slow growing
    • Less inflamed
    • Look “stuck on” instead of invasive and deep
Is it Benign?

• H: loss of hair bearing structures?
• A: asymmetrical?
• A: abnormal blood vessels (telangectasia’s)?
• B: borders irregular?
• B: bleeding reported?
• C: multicolored?
• C: change in the size or color of the lesion?
• D: overall diameter > 5 mm?
## Benign Eyelid Lesions

- Most common types of benign eyelid lesions include:
  - Squamous papillomas (skin tags)-most common
  - Hordeola/chalazia
  - Epidermal inclusion cysts
  - Seborrheic keratosis
  - Apocrine hidrocystoma
  - Capillary hemangioma (common vascular lesion of childhood)

## Benign Eyelid Lesions: Squamous Papilloma

- Most common benign lesion of the eyelid
  - Also known as fibroepithelial polyp or skin tag
- Single or multiple and commonly involve eyelid margin
Benign Eyelid Lesions: Squamous Papilloma

- Flesh colored and maybe:
  - sessile (no stalk) or pedunculated (with a stalk)
- Differentials:
  - seborrheic keratosis,
  - verruca vulgaris and
  - intradermal nevus
- Treatment is excision at the base of the lesion.
  - Radiosurgery: Ellman
  - Cryotherapy
  - Chemical removal e.g TCA

Radiofrequency (RF) Surgery

- Radiosurgery is the passage of high frequency radiowaves through soft tissue to cut, coagulate, and/or remove the target tissue
- Cuts and coagulates at the same time
- Nearly bloodless field
- Minimal biopsy artifact damage
- Quick and easy (to do and to learn)
  - Pressureless & bacteria-free incisions
- Minimal lateral heat
- Minimal Post-op pain
- Rapid healing
- Fine control with variety of tips
Benign Eyelid Lesions: Seborrheic Keratosis

- Also known as senile verruca
- Common and may occur on the face, trunk and extremities
- Usually affect middle-aged and older adults, occurring singly or multiple, greasy, stuck on plaques

Benign Eyelid Lesions: Seborrheic Keratosis

- Color varies from tan to brown and are not considered premalignant lesions
- Differentials include skin tags, nevus, verruca vulgaris, actinic keratosis and pigmented BCC
- Simple excision for biopsy or cosmesis or to prevent irritation.

https://www.grepmed.com/images/3892/seborrheic-keratoses-dermatology-photo

Benign Eyelid Lesions: Hordeola

- Acute purulent inflammation
  - Internal occurs due to obstruction of MG
  - External (stye) from infection of the follicle of a cilium and the adjacent glands of Zeiss or Moll
- Painful edema and erythema,
Benign Eyelid Lesions: Hordeola

- Typically caused by Staph and often associated with blepharitis
- Treatment includes:
  - hot compresses (e.g. Bruder)
  - topical antibiotics (?)
  - possibly systemic antibiotics
    - Augmentin 875 mg BID x 7 days
    - Keflex 500 mg TID-QID x 7 days
- Treat concurrent blepharitis
Demodex

- Demodex is a natural part of human microbiome
- *Demodex folliculorum* live in hair follicles, primarily on the face, as well as in the meibomian glands of the eyelids;
- *Demodex brevis* live in the sebaceous glands of the skin.

Acne Rosacea and Demodex

- *Demodex folliculorum* frequently occur in greater numbers in those with rosacea and this overabundance is thought to trigger an immune response or possibly certain bacteria associated with the Demodex.
Treatments for Demodex

<table>
<thead>
<tr>
<th>Cleanser</th>
<th>Manufacturer</th>
<th>Active ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cliradex® and Cliradex® Light (towelettes and foam)</td>
<td>Bio-Tissue, Inc.</td>
<td>4-Terpineol (T40)</td>
</tr>
<tr>
<td>OUST™ Demodex® Swabstick™ and OUST™ Demodex®</td>
<td>OCuSOFT®</td>
<td>50% tea tree oil, 40% sea buckthorn oil, and 10% caprylic acid</td>
</tr>
<tr>
<td>Cleanser (premoistened pads)</td>
<td>OCuSOFT®</td>
<td>1,2-Octanol and detergents</td>
</tr>
<tr>
<td>OCuSOFT® Lid Scrub Plus (premoistened pads, Swabstick)</td>
<td>NovaBay® Pharmaceuticals</td>
<td>Pure 0.01% hypochlorous acid</td>
</tr>
</tbody>
</table>


Benign Eyelid Lesions: Chalazia

- Focal inflammatory lesion resulting from obstruction of a meibomian or Zeis gland
- Results in a chronic lipogranulomatous inflammation
Benign Eyelid Lesions: Chalazia

- May drain spontaneously or persist as a chronic nodule
- Recurrent lesions need to exclude a sebaceous gland carcinoma
- Treatment varies from:
  - hot compresses/massage,
  - intralesional steroid injection (triamcinolone (Kenalog®) or
  - surgical drainage
  - **Latest**: IPL (Intense Pulsed Light)

Benign Eyelid Lesions: Pyogenic Granuloma

- Most common acquired vascular lesion to involve the eyelids
- Usually occurs after trauma or surgery as a fast growing, fleshy, red-to-pink mass which readily bleeds with minor contact
Benign Eyelid Lesions: Pyogenic Granuloma

- Differential include Kaposi’s sarcoma
- Treatment can include use of steroid to reduce the inflammation or surgical excision at the base of the lesion.

https://webeye.ophth.uiowa.edu/eyeforum/atlas/pages/pyogenic-granuloma/index.htm
Benign Eyelid Lesions: Epidermal Inclusion Cyst

- Appear as slow-growing, round, firm lesions of dermis or subcutaneous tissue
- Eyelid lesions are usually solitary, mobile and less than 1 cm
- Maybe congenital or may arise from trauma

Benign Eyelid Lesions: Epidermal Inclusion Cyst

- May become infected or may rupture
- Differentials include:
  - dermoid cyst,
  - pillar cyst or
  - neurofibroma
- Treatment is complete excision to prevent recurrence.
Benign Eyelid Lesions: Capillary Hemangioma

- Most common vascular lesion in childhood (5-10% of infants)
- Females 3:2
- Periorbital may appear as a superficial cutaneous lesion, subcutaneous, deep orbital or combination
- 1/3 visible at birth, remainder manifest by 6 months
- 75% regress to some extent by 7 years
Benign Eyelid Lesions: Capillary Hemangioma

- **Classic superficial lesion**
  - strawberry lesion, appears as a red, raised, nodular mass which blanches with pressure
- **Most common ocular complication is amblyopia**
- regression is common, treatment is reserved for patients who have specific ocular, dermatologic or systemic indications for intervention.

Benign Eyelid Lesions: Capillary Hemangioma

- Mainstay treatment includes the use of oral propanolol
- Recent protocols include use of topical timolol 0.25 or 0.50% Gel Forming Solution (GFS) BID for 3-4 months for superficial hemangiomas
- The exact mechanism of action of β-blockers for the treatment is not yet completely understood, however, it is postulated to inhibit growth by at least four distinct mechanisms: vasoconstriction, inhibition of angiogenesis or vasculogenesis, induction of apoptosis, and recruitment of endothelial progenitor cells (EPCs) to the site of the hemangioma
UPNEEQ™ (oxymetazoline hydrochloride ophthalmic solution 0.1%)

• an alpha adrenoceptor agonist targeting a subset of adrenoreceptors in Müller’s muscle of the eyelid.
• UPNEEQ is a first-in-class pharmacologic treatment for acquired blepharoptosis.
• Osmotica Pharmaceuticals

Blepharoptosis

• Blepharoptosis is characterized by unilateral or bilateral drooping of the upper eyelid and ranges in severity.
• Acquired blepharoptosis is often caused by stretching of or reduced nervous input to the muscles that raise the upper eyelid.
• Left untreated, acquired blepharoptosis can impact a patient’s visual function.
• The current standard of care in the U.S. consists of surgery, often reserved for severe cases (MRD1 <1 mm).

MRD and palpebral fissure measurements.
Mean Change in LPFT from Baseline

LPFT: Leicester Peripheral Field Test
Number of points seen on the top 4 rows of the LPFT
UNEEQ™ (oxymetazoline hydrochloride ophthalmic solution 0.1%)
- Dosing is 1 drop per day in affected eye
  • Adverse reactions that occurred in 1-5% of subjects treated with UPNEEQ were punctate keratitis, conjunctival hyperemia, dry eye, blurred vision, instillation site pain, eye irritation and headache.
  • Use with caution in patients with cerebral or coronary insufficiency or Sjögren’s syndrome.
  • may increase the risk of angle closure glaucoma in patients with untreated narrow-angle glaucoma

Which of the following lid nevi have the greatest chance to convert to a malignant melanoma?
Lid Nevi

- Lid nevi:
  - congenital or acquired
  - occur in the anterior lamella of the eyelid and can be visualized at the eyelid margin.
- The **congenital eyelid nevus** is a special category with implications for malignant transformation.
- With time, slow increased pigmentation and slight enlargement can occur.
- An **acquired nevus** generally becomes apparent between the ages of 5 and 10 years as a small, flat, lightly pigmented lesion.
Congenital Nevus

• The nevus is generally well circumscribed and not associated with ulceration.
• The congenital nevus of the eyelids may present as a "kissing nevus" in which the melanocytes are present symmetrically on the upper and lower eyelids.
  – Presumably this nevus was present prior to eyelid separation

Congenital Nevus

• Most nevi of the skin are not considered to be at increased risk of malignancy.
  – However, the large congenital melanocytic nevus appears to have an increased risk of malignant transformation of 4.6% during a 30 year period
Acquired Lid Nevi

- Acquired nevi are classified as:
  - **junctional** (involving the basal epidermis/dermis junction), typically flat in appearance
  - **intradermal** (involving only the dermis), tend to be dome shaped or pedunculated
  - **compound** (involving both dermis and epidermis) tend to be dome shaped
Pre-Malignant Eyelid Lesions: Keratoacanthoma

- Appears as a solitary, rapidly growing nodule on sun exposed areas of middle-aged and older individuals
- Nodule is usually umbilicated with a distinctive crater filled with keratin
- Lesion develops over weeks and undergoes spontaneous involution within 6 mo to leave an atrophic scar
- Complete excision is recommended as there are invasive variants
Pre-Malignant Eyelid Lesions: Actinic Keratosis

• Also known as solar or senile keratosis
• Most common pre-malignant skin lesion
• Develops on sun-exposed areas and commonly affect the face, hands and scalp (less commonly the eyelids)
  – Predominately white males

Pre-Malignant Eyelid Lesions: Actinic Keratosis

• Appear as multiple, flat-topped papules with an adherent white scale.
• Development of SCC in untreated lesions as high as 20%
• Management is surgical excision or cryotherapy (following biopsy)
Malignant Eyelid Lesions: Basal Cell Carcinoma (BCC)

- Most common malignant lesion of the lids (85-90% of all malignant epi eyelid tumors)
- 50-60% of BCC affect the lower lid followed by medial canthus 25-30% and upper lid 15%
- Metastases is rare but local invasion is common and can be very destructive

Malignant Eyelid Lesions: Basal Cell Carcinoma

- Diagnosis is initially made from its clinical appearance, especially with the noduloulcerative type with its raised pearly borders and central ulcerated crater
  - categorized into two basic types: noduloulcerative and morpheaform
  - The morpheaform variant is typically diffuse, relatively flat with indistinct borders. This variant is more aggressive and can be invasive despite showing less obvious features.
Malignant Eyelid Lesions: Basal Cell Carcinoma

- Definitive diagnosis made on histopathological examination of biopsy specimens
  - Loss of adjacent cilia is strongly suggestive of malignancy and occurs commonly with basal cell carcinoma of the eyelid
- Surgery is generally accepted as treatment of choice
  - Mohs’ surgery technique

https://entokey.com/tumors-of-the-eyelids/
Malignant Eyelid Lesions: Squamous Cell Carcinoma (SCC)

- Much less common than BCC on the eyelid but has much higher potential for metastatic spread
- Typically affects elderly, fair-skinned and usually found on the lower lid

Malignant Eyelid Lesions: Squamous Cell Carcinoma (SCC)

- Presents as an erythematous, indurated, hyperkeratotic plaque or nodule with irregular margins
- Lesions have a high tendency towards ulceration and tend to affect lid margin and medial canthus
Malignant Eyelid Lesions: Sebaceous Gland Carcinoma

• Highly malignant neoplasm that arises from the meibomian glands, Zeis and the sebaceous glands of the caruncle and eyebrow
• Aggressive tumor with a high recurrence rate, significant metastatic potential and notable mortality rate
  • rates of misdiagnosis have been reported as high as 50%

Malignant Eyelid Lesions: Sebaceous Gland Carcinoma

• Relatively rare, 3rd most common eyelid malignancy
• Uncommon in the Caucasian population and represents only 3% of eyelid malignancies,
  – most common eyelid malignancy in Asian Indian population, where it represents approximately 40% or more of eyelid malignancies
Malignant Eyelid Lesions: Malignant Melanoma

- MM of the eyelid accounts for about 1% of all eyelid malignancies
- Risk factors include congenital and dysplastic nevi, changing cutaneous moles, excessive sun exposure and sun sensitivity, family history, age greater than 20 and white.
- History of severe sunburns rather than cumulative actinic exposure thought to be a major risk factor

Malignant Eyelid Lesions: Malignant Melanoma

<table>
<thead>
<tr>
<th>The ABCDEs of Detecting Melanoma</th>
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<tbody>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td>Asymmetry</td>
</tr>
<tr>
<td>Normal: Symmetrical</td>
</tr>
<tr>
<td>Melanoma: Asymmetrical</td>
</tr>
</tbody>
</table>