Neoplasms of the Conjunctiva

Carlindo Pereira, MD
April 16, 2015
Benign Neoplasms of the Conjunctiva
Conjunctival squamous papilloma

- Central vascular core, covered squamous epithelium
- Pedunculated (stalk) vs sessile (flat)
- Multiple lesions suggests HPV (subtypes 6,11,16,18)
- ± keratinization
- Transparent glistening surface, multiple underlying capillaries (appearance of red dots)
• Difficult management due to recurrences

• α-interferon or MMC

• Most effective treatment excision with cryo

• Oral cimetidine (Tagamet) may act as an immunomodulator, provide systemic treatment
Conjunctival Inclusion Cyst

- Mostly asymptomatic
- Cysts reform
- Complete excision
Malignant Neoplasms of the Conjunctiva
Conjunctival Epithelial Neoplasia (CIN)

- Neoplastic proliferation of dysplastic squamous epithelium, noninvasive (intact basement membrane)
- 95% occur at mitotically active limbal area (sun exposed interpupillary fissure)
- Pathogenic factors:
  - UV radiation
  - Heavy smoking
  - Light skin pigmentation
  - Exposure to petroleum derivatives
  - HIV
  - HPV (subtypes 16 and 18)
• Slow growing (often unaware)
• Only 10% are leukoplakic (surface hyperkeratinization)
• Most are translucent or gelatenous
• Fine vascular pattern with hairpin configuration
• Varying degrees of corneal involvement (fluorescein or Rose Bengal stain) – dysplastic epithelium has diffuse fine stippling
• BM remains intact, rarely progress to invasive SCC
• However difficult to cure
• Newly diagnosed lesions excised w/ 1-2mm (4mm) clinically uninvolved conj margins
  – Sclera left bare
  – Corneal epithelium component removed (all frosted epithelium)
  – Cryo to limbus, cut conj edges and bare sclera (double or triple freeze-thaw)
- >90% tumor control with double freeze-thaw
- Incomplete excision 50% recurrence
- Recurrence tends to be widespread
  - concern for conversion to invasive SCC
  - Treat with identical widespread excision (4mm), more aggressive cryo
    - If lesion adherent, sclerotomy
- Lesions >50% limbal involvement – poor visual outcome
• Topical MMC for incompletely or recurrent lesions.
  – Iatrogenic punctal stenosis
  – LSC deficiency
Topical Rx for primary or recurrent CIN

- Interferon (IFN), 5 fluorouracil (5FU) or mitomycin (MMC).

- MMC short term toxicity (Epitheliopathy, LSCD)
  - .002%, .02% or .04%
  - Cycled 4-10 days QID (7 days)
  - Often 3-4 cycles
Topical IFN

- First choice for primary or recurrent CIN
- IFN (α2β Interferon 1MIU/ml QID until lesion resolves – STRONG PREFERENCE
- Duration 3-4 months (avg 3-6mo)
- Empirically treat for 1-2 months after clinical resolution
- Costly $225/mo
- Also consider injection 3MIU/0.5cc weekly
75 y/o male

1 month
Resolved after 3 months  

7 months later
76 y/o male

1 month
62 y/o female

5 weeks
• 5FU 1%
• Cycles 4-7 days, then off for 3 weeks
• Or continuously for 4-21 days
• Better tolerated than MMC
• 3-4 cycles needed
• Cheaper $75 / bottle
Invasive SCC

- Rare
- Possible HPV role
- Dysplastic cells penetrate BM
- Resembles CIN; more elevated
- Most frequently at limbus – gelatenuous, translucent, leukoplakic
- Palpebral conj SCC mimic chalazion
- ± Feeder vessel, immobile
- High frequency US
- Cutaneous Ca (BCC) and visceral malignancies (SCC of lung, CIS of cervix, Ca of colon or prostate, hepatocellular Ca, Hodgkin’s lymphoma) known associated with conj SCC
• Histologically resemble severe CIN
• BM evidence of penetration
• Aggressive growth pattern
• Particularly aggressive in HIV+ pt’s
• Rx wide local excision, aggressive cryo, lamellar sclerotomy/keratectomy
• Preop and postop adjunctive topical MMC
• Enucleation for intraocular invasion
Sebaceous cell Ca

- Spreads in pagetoid (intraepithelial) manner
- Originates in meibomian glands, also other sebaceous glands: Zeis
- May arise de novo in conj, especially superior tarsus without a discrete tumor
- Unilateral inflamed eye, masquerade as conjunctivitis, superior limbic keratitis, blepharitis, chalazia
Conjunctival Melanosis
(Primary acquired melanosis)

• Most often unilateral, middle-aged Caucasian
• PAM has neoplastic proliferation potential
• Initially flat
• Natural history varies, may wax and wane
• 35% lesions will progress over 10 yr, 12% undergo malignant transformation (Shields)
58 y/o female

6 months

PAM, severe atypia. Cannot rule out micro-invasion
70 y/o female, 6 months after cataract surgery

PAM w/ severe atypia, evidence of micro-invasion
• Degree of atypia

• Extent of involvement of epithelium
  – Basal layer only (20% progression to MM)
  – Pagetoid invasion (90%)
Malignant Melanoma

- Arise from PAM (2/3), pre-existing nevi, de novo
- White male – incidence increased
- Metastasize to liver
- 8-26% mortality rate
- Surgical excision, cryo
- Lymph node dissection, chemo, radiation and immunotherapy for metastatic lesions
Lymphoid lesions
(Ocular adnexal lymphoma)

- 78% have no prior h/o lymphoma
- 12% bilateral
- 20-30% arise within conj
  - 38% bilateral
  - Systemic lymphoma usually not present at presentation
    (20-37% have extraocular lymphoma)
• Asymptomatic

• Sharply demarcated, salmon-pink colored mass

• Non-tender, lack feeder vessel

• Freely mobile (fixed to sclera consider uveal lymphoid hyperplasia w/ extraocular extension)
• Excellent prognosis
• 37% develop systemic disease
  – 10-15% at 5 yr, 28% at 10 yr
• Initial biopsy
• Eval for systemic disease (lymph node eval, CXR, whole body CT, CBC, ESR, serum protein electrophoresis, bilateral bone marrow biopsy, bone scan, liver-spleen scan.)
• Confined to conj:
  – Gold standard treatment of radiotherapy
  – Cryo is a less costly alternative
50 y/o female, red eye for 2.5 months
Thank You