Lumps and Bumps: Mastering Eyelid Lesions

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Financial Disclosures

None to disclose

Case: PT TO

Poll Question

What percent of eyelid lesions are malignant?

a) 5%
b) 10%
c) 15%
d) 20%
e) 25%

Eyelid Lesions

- 15% of eyelid lesions are malignant
- Benign vs Malignant
  - Benign: Less inflamed, lack of feeder vessels, appears more superficial/ less invasive, circumscribed
  - Asymmetry: benign are typically symmetrical
  - Blood vessels: feeder vessels typical sign of malignancy
  - Borders: benign have smooth regular borders
  - Bleeding: a sign of malignant
  - Color: benign lesion are uniform in color
  - Change in size: changes in sign or color are concerning for malignancy
  - Diameter: lesions >5 mm tend to be malignant

Common Benign Lid Lesions

- Squamous papillomas (skin tags)-most common
- Verruca
- Seborrheic keratosis
- Pyogenic Granuloma
- Hordeola/chalazia

Benign Eyelid Lesions: Acrochordon- Skin Tag

- Incidence ~46%
  - Risk increases with age
  - Increased frequency during 2nd trimester of pregnancy
  - Seen commonly in obese and diabetic patients
- Outgrowths of normal skin
- Commonly pedunculated and on stalks
- Treatment: cryosurgery, electrodissection, radiofrequency, chemical, excision

Our Patient: TO

- Skin tag (papilloma)
- Elected to have it removed via radio frequency

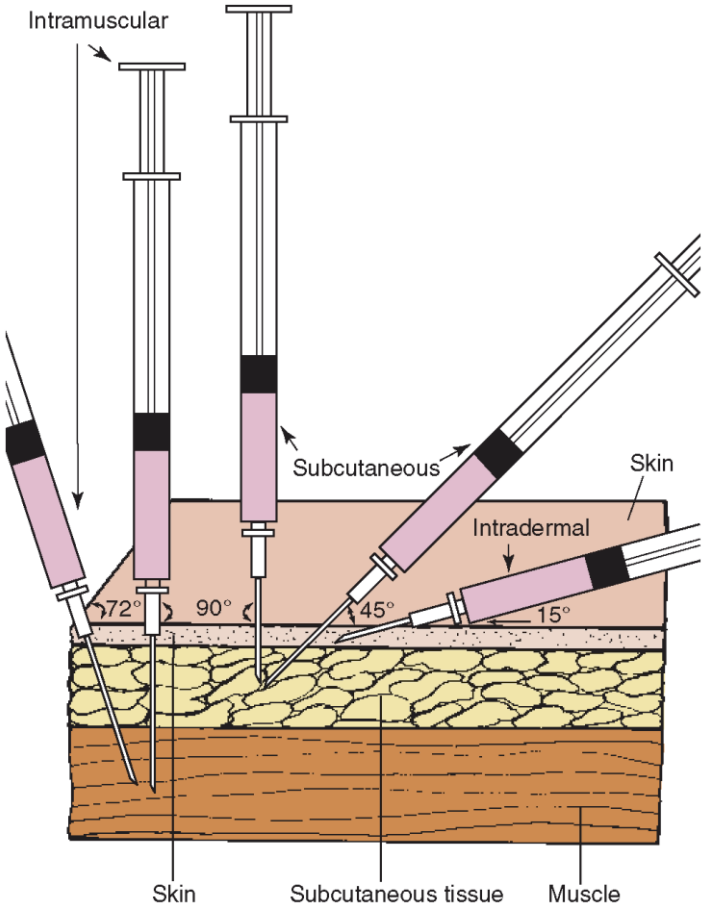
Radiofrequency Surgery

- Passage of high frequency radiowaves through soft tissue to cut, coagulate, and remove tissue
- Cuts and coagulates at the same time
- Nearly bloodless procedure and easy to learn
- Instruments
  - Ellman
  - Dual 120 or 90
  - Surgitron

Radiofrequency Surgery Procedure

- Pre-op
  - Photos, consent, VA, BP, pulse, pacemaker, allergies, blood borne infections
  - Have technician set up instrument, accessories, vacuum
- Procedure
  - Surgical gloves, mask?
  - Tetracaine eye drops
  - Clean surgical site
    - Gold standard iodine- must be in contact with skin for 3 minutes
    - Alcohol wipes- 70%- 15 second wipe
      - Let completely dry- are flammable
  - Local anesthetic- Xylocaine/ Lidocaine (.5% with epinephrine 1:200000)
    - Inject under lesion and create a bolus of 1-2 cc
    - Massage

Lidocaine Injection



Radiofrequency Surgery Procedure

- Procedure
  - Have unit set to correct settings
    - Cut, Cut/Coag, Coag (personally start at cut/coag with 14 cut and 7 coag
  - Select the correct electrode for the job
  - Apply to electrode perpendicular to the tissue
    - Always keep electrode moving when in contact with tissue
    - Keep tissue taut
    - Keep surgical site moist (surgical sponge)
    - Wipe away debris with gauze pad
- Post Op
  - Antibiotic ointment

Case: Pt TO

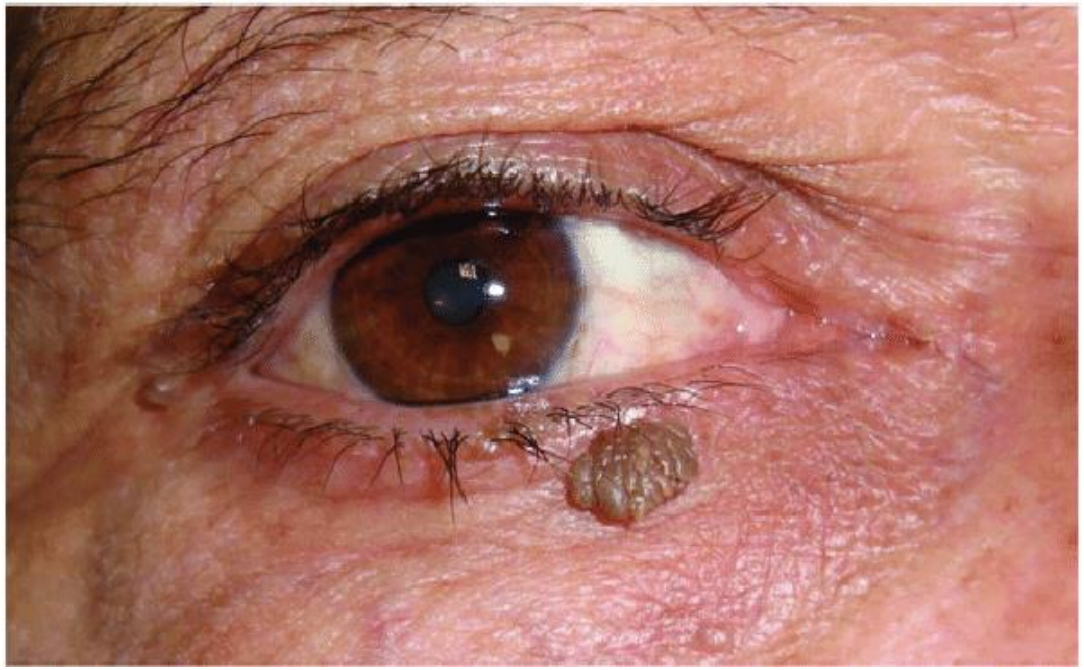
- Consent signed
- Injected .4cc 1% lidocaine
- Started with loop electrode, switched to needle electrode to clean up
- Took 3 minutes
- Applied erythromycin ung with CTA
- RTC 1 week

Benign Eyelid Lesions: Verruca Vulgaris

- Viral warts
- Epidermal infection from HPV spread from direct contact and fomites
- Commonly in young children and adults
- On eyelid margin can shed viral particles and lead to a mild viral conjunctivitis
- Treatment:
  - Observation
  - Excision
  - Cryo

Benign Eyelid Lesions: Seborrheic Keratosis

- Common and slow growing
- Face, Trunk and extremities of older individuals
- Single or multiple, greasy brown plaques with a stuck on appearance
- Varies from tan to dark brown
- Treatment:
  - Excision for biopsy or cosmesis



Case: PT PG

- 30 YO Hispanic Male
- Presents for 6 month pterygium excision f/u
- Cc: Vision hasn’t improved but no irritation or pain
- VA: 20/30 OD, 20/30-1 OS
- IOP Normal OU
- Pannus inferior OS
- Injection nasally
- Pterygium excision scars nasal OU

Pyogenic Granuloma

- Benign vascular proliferation of immature capillaries with granulomatous material
- abnormal wound healing reaction
- Rapid growths over a few weeks, usually following ocular insult
- Most common acquired vascular lesion involving the eyelids
- DDx: Karposi sarcoma, conjunctival lymphoma
- Treatment:
  - Observation, lubrication
  - Surgical excision and cautery, laser ablastion
  - Timolol BID
  - Pred Forte QID 1-2 weeks

Poll Question?

What is the likely causative agent for the following condition?

a) Staphylococcus
b) Streptococcus
c) Haemophilus
d) Pseudomonas

Hordeolum

- Typically caused by Staph and often is associated with blepharitis
- External hordeolum (stye) occurs from infection of the hair follicle or the adjacent glands of moll and zeiss
- Internal occurs from an obstruction of the meibomian glands

Hordeolum

- Painful edema and erythema
- Treat concurrent Ocular Rosacea
- Treatment:
  - Warm compresses (bruder mask)
  - Topical antibiotics ?
  - Oral antibiotics
    - Augmentin 500 mg bid
    - Keflex 500mg BID
    - Doxycycline 100 mg BID
  - Treat blepharitis as well

Case: Pt CS

- 56 yo white male
- Large mobile lesion in upper medial eyelid OS
- Present for 2 months
- Was previously on augmentin 500 mg BID x 7 days

Chalazion

- Local inflammatory lesion resulting from an obstructed MG or gland of zeiss
- Common after a hordeolum
- Is a result of chronic lipogranulomatous inflammation
- Risk factors
  - Rosacea, blepharitis, previous episodes (beware)

Chalazion

- Detailed history of chalazion
  - Onset, growth, bleeding, **previous episodes**, itch, pain, history of cancer
- Photodocument
- Sign informed consent
  - Risks, benefits, alternatives
- Blood pressure/pulse
- Visual acuity
- Allergies?

- What percentage of diagnosed chalazia are malignant?

Chalazion

- Treatment:
  - Hot compresses/ massage/ lid scrubs
  - Combo drops/ ointments
  - Doxycycline 50 mg bid
  - Surgical excision and curettage (87%)
  - Intralesional steroid injection (84%)
  - Latest: IPL

Chalazion- Kenalog Injections

- Triamcinolone injection (60-94% success rate)
  - Rule of thumb: smaller than 6mm, less than 6 month duration, there is at least 60% chance therapy works
  - Pre Op
    - VA, IOP, BP, consent, allergies, Risks and Complications
  - Complications:
    - Depigmentation
    - Infection
    - Bleeding
    - Bruising
    - Allergic reaction to medicine
    - Local fat atrophy
    - Vision loss
  - No resolution of lesion (2 injections?)
  - Recurrence
    - Alters histology
  - Local fat atrophy
  - Vision loss

Injection

- Procedure
  - Consent
  - Proparacaine eye drops (local anesthesia?)
  - Clean lesions (alcohol wipe)
  - Typically inject transdermally but may evert lid and inject transconjuntival
  - May use chalazion forceps
  - Inject .1- .4cc of 10, 20, 40mg/ml Kenalog (personally kenalog 40) with 27 gauge intralesionally
  - Kenalog has 28 day shelf life

Chalazion- Kenalog Injections

- Post op
  - Pressure with gauze to stop bleeding
  - Erythromycin ointment applied with CTA
  - Resume warm compresses in 3 days
  - RTC 2 weeks
  - 20% need second injection at 4 weeks
- Our Case:
  - Injected .2cc Kenalog-40 transconjunctival
  - 2 week follow up showed complete resolution

University of Chicago

Incision and Curratage

- Indications
  - Particularly large chalazions (>6mm)
  - Chronic chalazions (>3-6 months)
  - Failure of injection to resolve lesion
  - Patient and/or surgeon choice

- Contraindications
  - Allergy/Sensitivity to anesthetic
  - Unable to hold still
  - Medial aspect, near punctum

Incision & Curettage

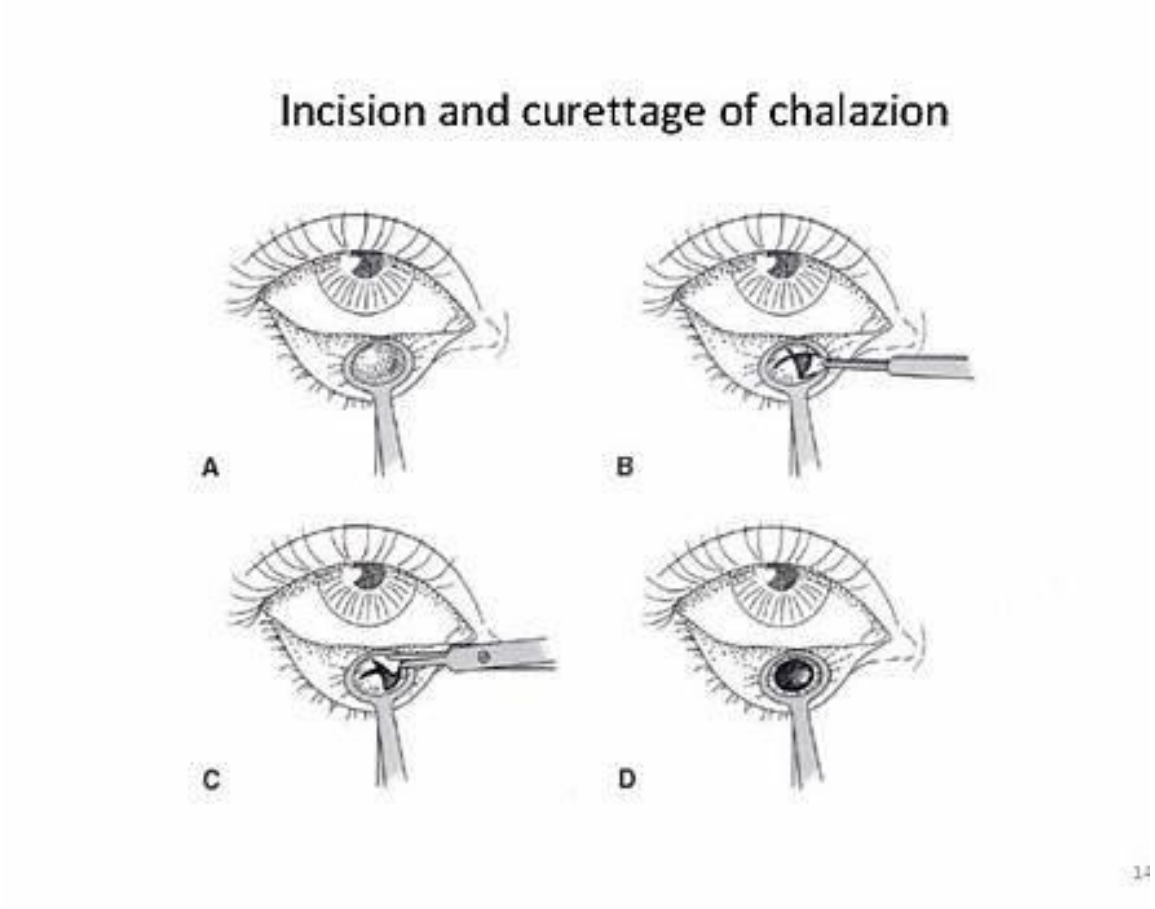
- Risks and Complications
  - Incomplete removal
  - Infection
  - Allergy to anesthetic
  - Recurrence
  - Scarring
  - Lid notching
  - Permanent gland damage

Incision & Curettage

- Topical anesthetic OU
- Dot the external surface
- Inject 0.3-0.5 cc 1% lidocaine/epinephrine 1:200,000 *adjacent* to chalazion
  - Digital massage to spread anesthesia.
- Betadine for 3 minutes or alcohol swab
- Clamp (smallest possible)
  - Tight enough to prevent slippage
  - Ask about discomfort

Incision & Curettage

- Vertical incision
  - Cut away from the globe
  - Stop 2-3 mm from lid margin
  - Feather blade vs Ellman (no tactile feedback)
- Remove capsular contents with curette
- May excise fibrotic capsule with forceps and scissors
  - Cut “X” and snip corners
- +/- intralesional steroid
- Pressure for 3 minutes to achieve hemostasis
- Palpate to make sure you got it all
- Saline rinse and erythromycin on CTA



Incision & Curettage

- Postop instructions:
  - Antibiotic ointment and/or steroid ung x 4-7 days
    - Erythromycin or Tobradex ung BID-TID
  - No warm compresses for 2 days
  - Pressure dressing?
  - RTC 1-4 weeks

IPL for Chalazion

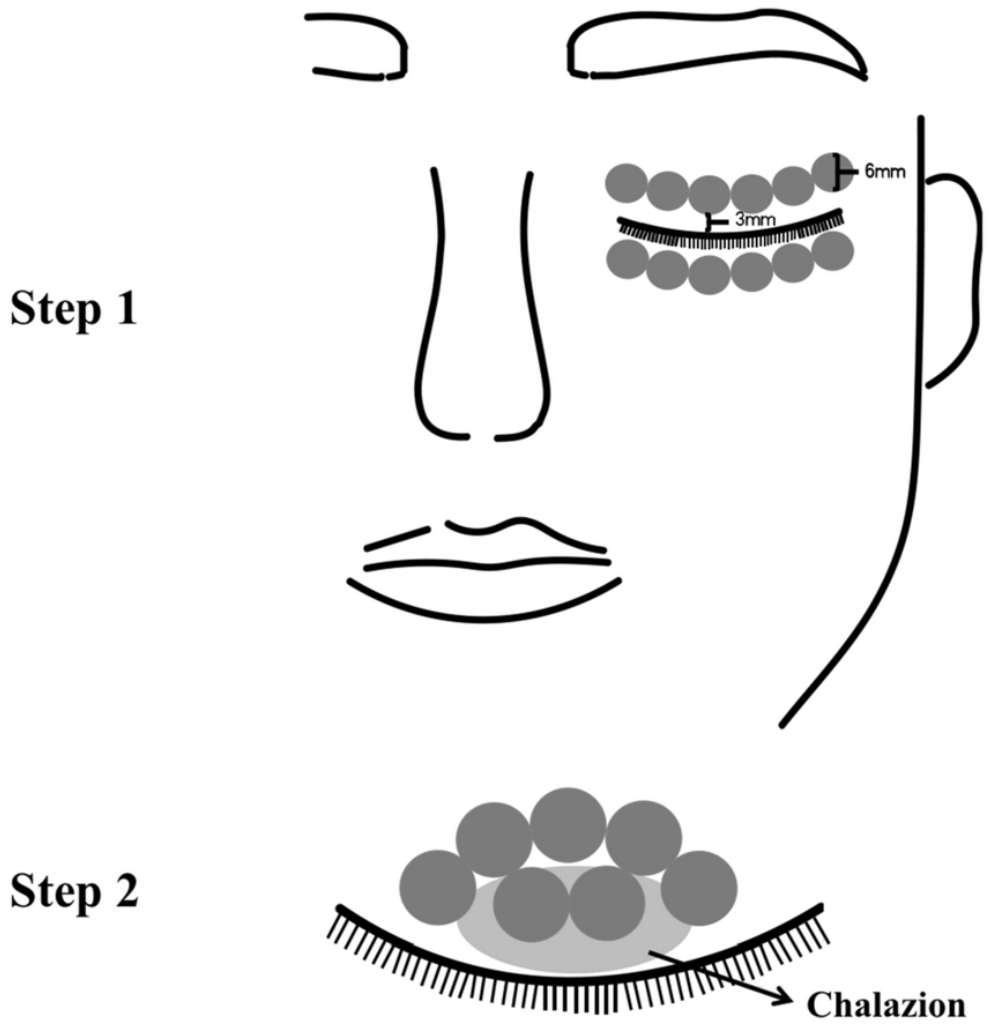
- As an **alternative** to surgery in:
  - Multiple or marginal chalazia where I&C may produce functional/aesthetic lid defects.
  - Patients (children or adults) who are anxious about surgery or poorly tolerant of injections.
- As an adjunct after surgery to reduce recurrence
- For intractable recurrent chalazia:
  - Yoon et al. used combined doxycycline + IPL in 12 adults with chalazia refractory to conservative care, antibiotics, and surgery, and reported improved meibomian function and reduced recurrence in this highly recalcitrant group.
- In pediatric patients:
  - Jiang et al. (149 children) compared IPL vs hot compress + antibiotic drops. IPL showed a **74.7%** overall improvement rate vs 28.4% with hot compress.

IPL for Chalazion

- **Good candidates**
  - Recurrent or multiple chalazia, especially with MGD/rosacea/blepharitis.
  - Pediatric or anxious patients where you want to avoid injection/surgery.
  - Adults with non-acute infectious stages
- **Less ideal / usually still surgical**
  - Very large, infected, or long-standing fibrotic lesions where I&C remains more reliable

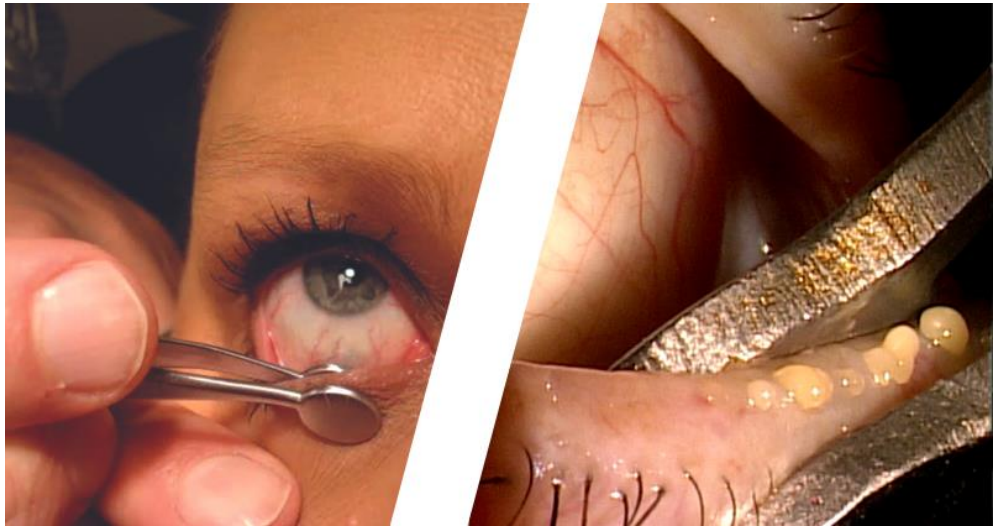
Procedure

- Eye protection
  - Studies applying IPL directly to lids used metal **corneal shields** or appropriate eye protection.
  - This is critical: case reports show cataract, anterior uveitis, iris defects, and retinal damage after peri-ocular IPL performed without adequate shielding.
- Treatment zone
  - Periocular/lower lid IPL extended in some series to also cover the chalazion-bearing lid.
  - Direct eyelid and lesion treatment with a small light-guided tip.



IPL for Chalazion

- **Number and spacing of sessions**
  - mean **2.1 ± 1.0 sessions** for resolution of adult chalazia.
  - recurrent chalaziosis: mean **3.9 ± 0.8 sessions.**
  - light-guided tip: **~4 sessions** in primary + recurrent chalazia,
  - Pediatric study (): course of IPL combined with topical antibiotic; number of sessions not standardized but multiple sessions used as needed.
- **Meibomian gland expression (MGX)**



Procedure (Take Home)

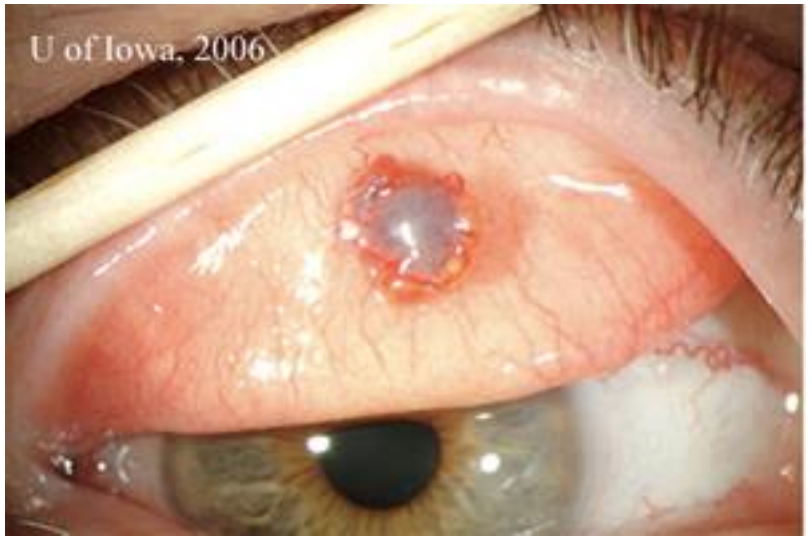
- Device Parameters Skin Types: Fitzpatrick I–IV only
  - Filter: **590 nm OPT**
  - Fluence: **12–14 J/cm²**, usable range 10–16 J/cm²
  - Pulse Mode: OPT multi-pulse (2–4 sub-pulses)
- Treatment Protocol
  - Insert metal corneal shields if treating upper lid
  - Clean skin, apply coupling gel
  - Apply 590 nm OPT pulses over:
    - Affected lid
- Immediate MGX (mandatory in every successful study)
- **Repeat 2–4 sessions** (1–2 weeks apart)

Sebaceous Gland Carcinoma

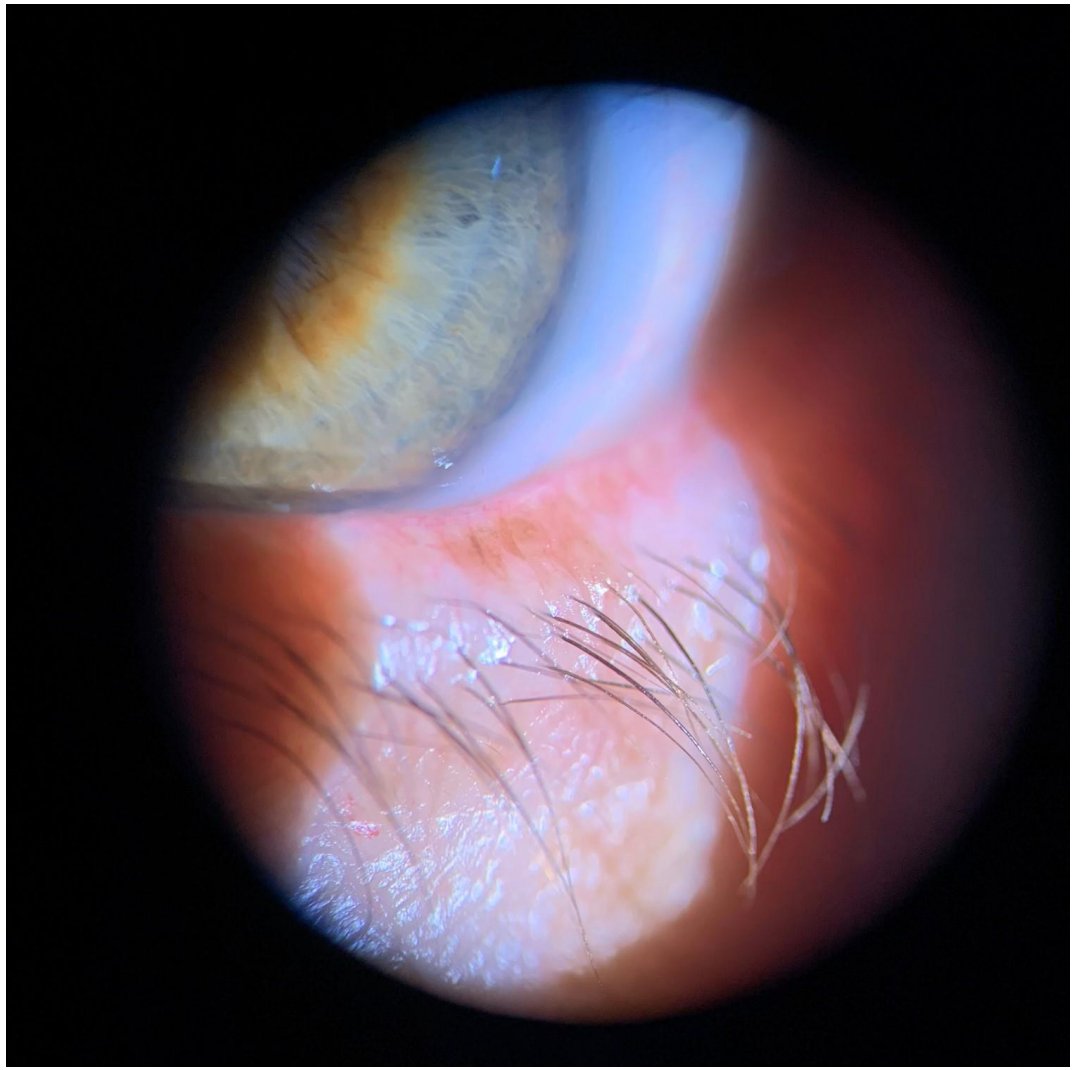
- Malignant neoplasm that arises from meibomian glands, zeiss, and sebaceous glands
- Aggressive with high recurrence rate, significant metastatic potential and mortality rate
  - Misdiagnosis rate as high as 50%
- Rare but 3rd most common eyelid malignancy
- Most common eyelid malignancy in Asian Indian population

Sebaceous Gland Carcinoma

- Located on upper lid in ⅔ of cases
- More common in elderly and women
- Has been reported in younger populations that are immunocompromised or who have received radiation therapy.
- Mimics a chalazion- doesn't respond to standard treatments
- Diagnose with biopsy



Lid Melanoma Case

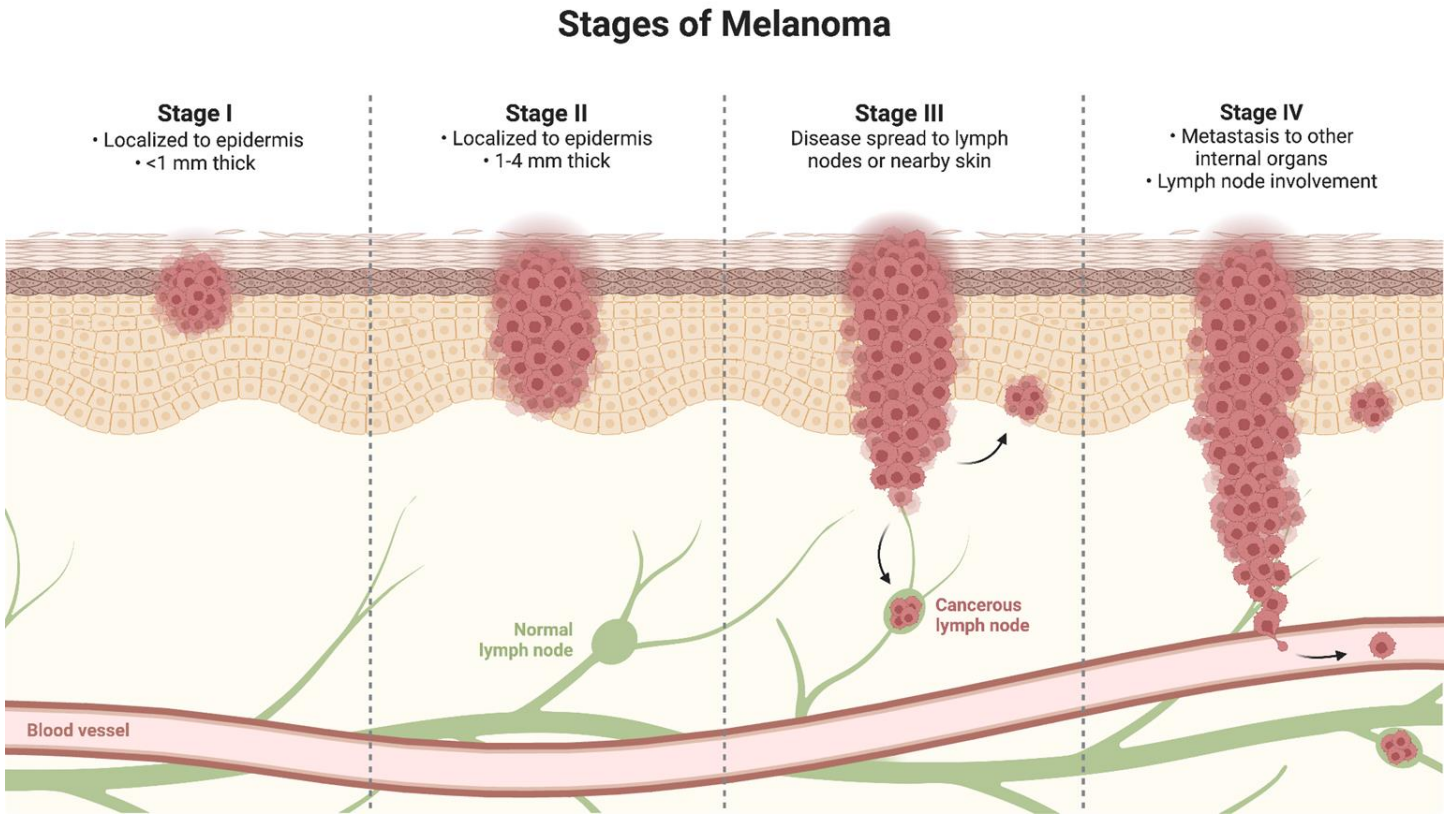


Melanoma

- Melanoma accounts for 2% of all cutaneous melanomas and 1% of all eyelid malignancies
- Eyelid melanoma is associated with ⅔ of all eyelid malignancy related deaths
- Males > Female
- Lower eyelid> upper eyelid > eyebrow > lateral canthus > medial canthus

Melanoma

- Margin involvement, depth of invasion, skin ulceration, and lymph node involvement are prognostic factors.
- Survival rate determined by tumor depth
  - Stage 1: ~93%
  - Stage 2: ~80%
  - Stage 3: ~60%
  - Stage 4: ~15-25%



Melanoma

Lymph Node Invasion

- 21.4 % of patients with eyelid melanoma had positive sentinel lymph node biopsy (SLNB)
- Most commonly: preauricular, intraparotid, and submandibular
- With lymph node involvement, the 5-year survival rate is 62%

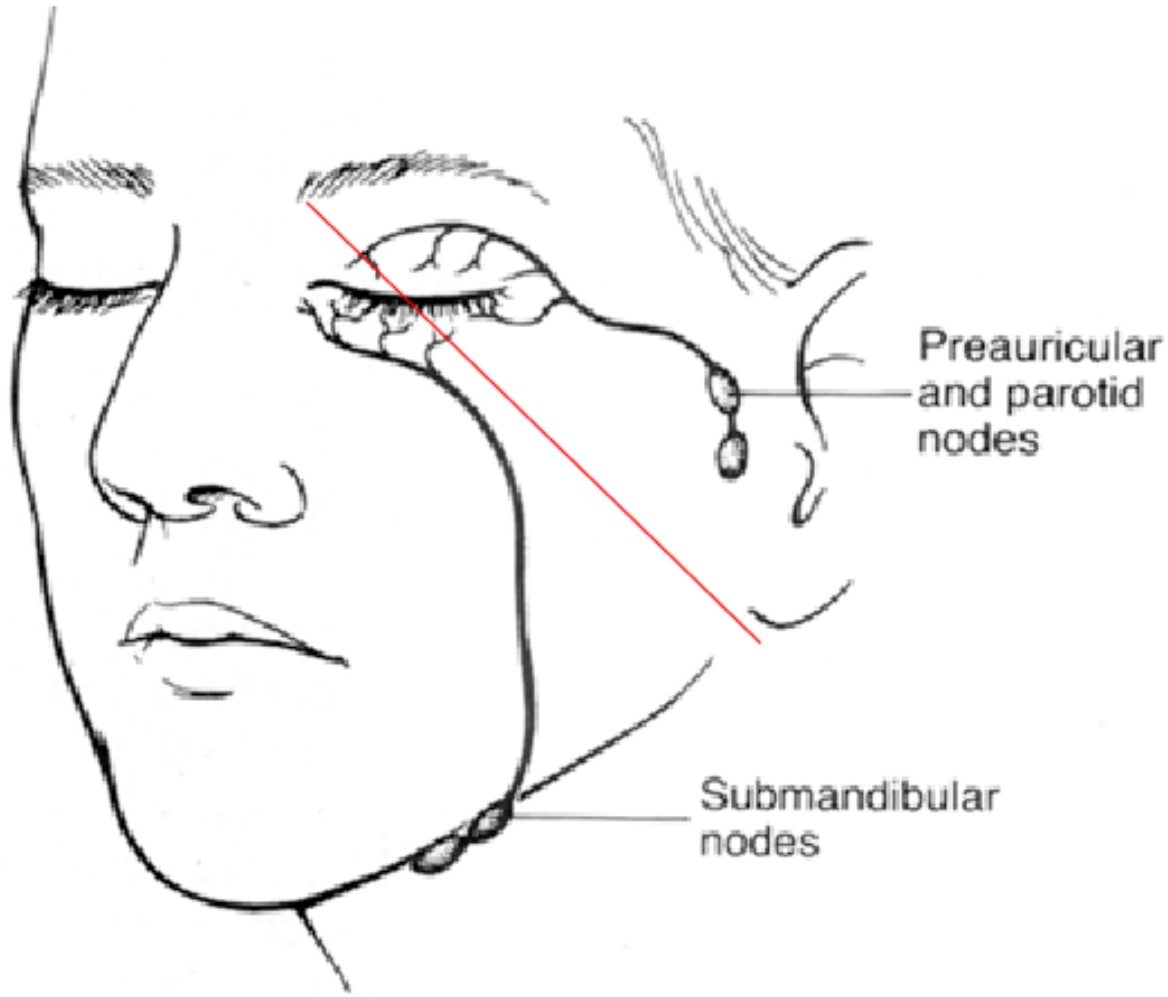


Figure 1: *Lymphatic drainage of the eyelids*

Melanoma

- 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

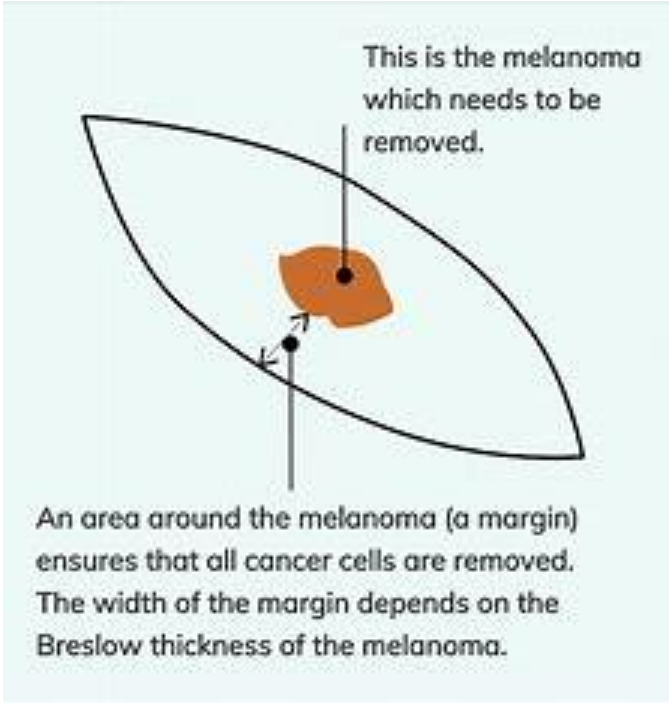
Diagnosis of melanoma

- Color of the lesion(s)
- Size, measured in millimeters with vertical and horizontal dimensions and depth as applicable
- The appearance of telangiectasia or atypical vasculature
- Distortion of eyelid architecture
- Lesions involving the palpebral conjunctiva- eversion of upper lid
- Madarosis
- Ulceration
- Poliosis
- Local lymph node enlargement

Congenital nevi larger than 20cm have an estimated 4 to 20% risk of malignant transformation.

Treatment

- Primary treatment is a local wide skin excision for local malignancy
  - Safety margin determined by thickness
- Metastatic disease requires chemotherapy



Our Patient