**Lymphangiectasia**

**Signs**
Clear, yellowish, serous cyst with dilated tubules; variable size and shape (2-10mm), round or linear

Represent blockage of lymphatic channels, more often in patients with chronic irritation, may have blood form into spaces

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**Kaposi sarcoma**

**General characteristics**
Occurs in patients with AIDS
May involved the skin of eyelid, lid margins, conjunctiva, and rarely orbit

**Signs**
Appear as a bright red, purplish, vascular, nodular, subconjunctival mass of usually the inferior cul-de-sac (mistaken for subconjunctival hemorrage), often accompanied with subconjunctival hem.
Eyelid lesions are purple-red, non-tender nodules
Treatment: none or radiotherapy

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**Conjunctival Lymphoma**

- The conjunctiva maybe involved by a great variety of benign and malignant lymphoid lesions, Hodgkin disease
- Signs– salmon colored, subconjunctival lesion
- Treatment by radiotherapy

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**Conjunctival Laceration**
- Usually don’t need repair
- Important to rule out a foreign body or if ocular penetration: History is key!
- DFE to rule out intraocular hemorrhaging or retinal damage
- Large lacerations, it might be better to suture

**Chemical Burns: Ocular Emergency – Requires immediate copious irrigation with whatever available water source**
- Potentially blinding
- 2/3 occur at work, remainder at home
- Alkali are twice as common as acid

**Types of Chemicals**
- This includes alkali (lye, ammonia, sodium hydroxide, cements, plastics), acids (sulphuric, acetic), solvents, detergents, and irritants i.e. mace
- The amount, concentration and time lapse before treatment is key to damage
- Alkali >12 PH and acids <2.5 PH
- Acids cause rapid denaturization and coagulation of tissue proteins, may produce a physical barrier that prevents further penetration
- Alkali can cause dissolving of tissue proteins and allow for deeper and rapid penetration through tissues

**Emergency Treatment**
- Seconds can affect outcome
- Prompt irrigation with any benign fluid can lessen or prevent blinding sequela
- By time they reach your office most of the damage already done
- Irrigation is still repeated by doctor plus removal of solid material
- Note: chemical, their concentration & duration

**Management**
- Immediate treatment without first taking a detailed history or vision testing
- Copious irrigation with normal saline should be used to irrigate the eye for 15-30 min. or until pH is normalized
- Double eversion of the eyelids to examine for retained matter trapped in fornices i.e. lime or cement
  - Sweep conjunctival fornices with moistened cotton-tip applicator
  - Debridement of necrotic areas of epithelium

**Litmus Paper Test**
- Litmus paper should be touched to the inferior cul-de-sac. after 5-10 mins. of irrigation
- If the pH is not neutral (i.e. 7.0) irrigation should be continued until neutral pH is reached.
Mild to Moderate Burn

- **Signs**: corneal epithelial defects (mild staining to focal loss of epithelium to entire sloughing), no significant areas of perlimbal ischemia
- **Other**: focal areas of conjunctival chemosis, hyperemia, hemorrhages; mild eyelid edema; mild anterior chamber reaction, & first/second-degree burns of the periocular skin

Work-up

- **History**
  - Time of injury
  - Chemical exposed
  - Duration of exposure until irrigation
  - Eye protection
  - Slit Lamp exam
    - With & without Na Fl
    - Evert lids
    - Check IOP- tono-pen

Treatment During & After Irrigation

- Sweep conjunctival fornix with moistened cotton tip applicator to remove any particles
- Cycloplegic: 5% homatropine no phenylephrine
- Topical antibiotic ointment q3h eg. Ertromycin with pressure patch x 24 hrs/ bandage soft contact lens
- Oral pain medication as needed: Acetaminophen with or without codeine
- Treat IOP if elevated: Beta blockers or oral Diamox
- Frequent use of preservative-free tears if no pressure patch

Follow-up

- Recheck every day and continue treatment until the corneal defect is healed
- Steroids can be used if significant inflammation
- Watch for corneal ulceration & infection

Severe Burns-Critical Signs

- Pronounced chemosis and conjunctival blanching-limb ischemia
- Corneal edema & opacification- poor or no view of A/C, iris, or lens
- Moderate to severe A/C reaction
- Other: Increase IOP; second and third degree burns of skin
- **NOTE**: if you suspect an epithelial defect but don’t see one initially with NaFl repeat NaFl staining- all of the epithelium maybe sloughed off

Treatment After Irrigation

- Admission to hospital to closely monitoring of IOP and corneal healing
- Debride necrotic tissue containing foreign matter
- Cycloplegic: Atropine tid
- Topical antibiotics
- Topical steroids
- Consider pressure patch
- Antiglaucoma meds
- Frequent tears
- Lysis of conjunctival adhesions