Ophthalmia neonatorum

- Conjunctivitis occurring in first month of life
- Bacterial, viral, or chemical causes
- Significant cause of blindness in medically underserved areas
  - Incidence rates reported to be as high as 15-20% in some parts of the world
- Infants can be infected during SVD or C-section
- Risk factors:
  - Prolonged rupture of membranes, maternal infections, inadequate prophylaxis, poor prenatal care, silver nitrate exposure
Physical examination

- Thorough examination of globe and periocular structures
- Corneal examination including fluorescein

Most important agents

- Neisseria gonorrhoeae
- Chlamydia trachomatis
- Chemical conjunctivitis
- Herpes simplex, s aureus, pseudomonas
Case 1

4-day-old girl presenting with copious discharge from the right eye with associated swelling and redness of the eyelid. The discharge began 2 days earlier and had become profuse and yellow-green. Chemosis and injection of the conjunctiva of the right eye were also noted. The left eye is unaffected. Pupils are equal and reactive to light, and extraocular movements were normal.
Gonococcal conjunctivitis

- **Timing:**
  - 2-7 days postnatal (can present up to 3 weeks of age)

- **Signs/symptoms:**
  - Severe lid swelling, purulent discharge, marked chemosis

- **Diagnosis:**
  - Gram neg intracellular diplococci on gram stain, culture on chocolate agar plate

- **Treatment:**
  - Systemic ceftriaxone and topical saline irrigation
  - Topical abx indicated if cornea involved
  - Mother and her sexual contacts should be treated
Case 2

1-week-old male infant presents with his mother to your office with a two day history of left eye drainage. Pregnancy, delivery and postpartum hospital course were uncomplicated. Mother does admit that six months ago she and her husband had separated briefly, but are now back together. Infant had been in good health until two days ago when he developed serous drainage and mild periorbital swelling. On exam, his left upper and lower eyelids are edematous. There is mild conjunctival injection with moderate amounts of mucoid drainage.
Chlamydia trachomatis

- **Timing:**
  - 5-14 days postnatal

- **Signs/symptoms:**
  - Mild swelling, hyperemia, papillary rxn with minimal to moderate serous or mucoid discharge

- **Diagnosis:**
  - Culture conjunctival scrapings (obligate intracellular organisms) or PCR

- **Treatment:**
  - Oral erythromycin (50mg/kg/day) in 4 divided doses x 14 days
  - Topical treatment not effective
  - Contact public health authorities to evaluate maternal sexual contacts
Case 3

20 hour old male infant born to a healthy 28 year old at 39 weeks gestation via SVD is noted to have mild right lid edema and watery discharge. Pregnancy, delivery and postpartum hospital course were uncomplicated. Infant received topical 1% silver nitrate following birth. On exam, his right lids are mildly swollen, conjunctiva has moderate injection, and infant has moderate tearing.
Chemical conjunctivitis

- **Timing:**
  - 0-1 day postnatal

- **Signs/symptoms:**
  - Mild swelling, hyperemia, transient tearing

- **Diagnosis:**
  - Clinical
  - Less incidence since decreasing use of silver nitrate prophylaxis

- **Treatment:**
  - Condition should improve spontaneously by day 2 or 3
  - Could consider AT
<table>
<thead>
<tr>
<th>Etiologic Agent</th>
<th>Onset</th>
<th>Conjunctival Features</th>
<th>Cytology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>24 hours</td>
<td>Diffuse hyperemia, purulent exudate</td>
<td>Polymorphonuclear lymphocytes</td>
</tr>
<tr>
<td>Chlamydial</td>
<td>5–10 days</td>
<td>Diffuse hyperemia, purulent exudate</td>
<td>Basophilic cytoplasmic inclusion bodies</td>
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<tr>
<td>Other bacterial</td>
<td>5 days</td>
<td>Diffuse hyperemia, mucopurulent discharge</td>
<td>Causative agent</td>
</tr>
<tr>
<td>Neisseria gonorrhoeae</td>
<td>3–5 days</td>
<td>Hyperacute conjunctivitis with mucopurulent discharge</td>
<td>Intraepithelial Gram-negative diplococci</td>
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<tr>
<td>Herpetic</td>
<td>5–15 days</td>
<td>Diffuse hyperemia, watery discharge</td>
<td>Multinucleated giant cells</td>
</tr>
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<td>Onset</td>
<td>Conjunctival features</td>
<td>Treatment</td>
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<td>Supportive</td>
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<td>5-14 days</td>
<td>Hyperemia, serous or mucopurulent discharge</td>
<td>Oral erythromycin</td>
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<tr>
<td>Gonococcal</td>
<td>2-7 days</td>
<td>Copious purulent discharge, chemosis, lid swelling</td>
<td>IV ceftriaxone</td>
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<tr>
<td>Herpes</td>
<td>5-15 days</td>
<td>Hyperemia, watery discharge, periorbital vesicles</td>
<td>IV acyclovir plus vidarabine ointment 5x/day for 14-21 days</td>
</tr>
</tbody>
</table>
Differential diagnosis

- Dacrocystitis
- Congenital glaucoma
- Nasolacrimal duct obstruction
- Preseptal/Orbital cellulitis
- Infectious keratitis
Prevention

- **Good prenatal care**
  - Treatment of chlamydial, gonococcal, or other maternal infections during pregnancy

- **Topical prophylaxis**
  - All infants required to get prophylaxis
  - Erythromycin most common; silver nitrate and tetracycline also effective

- **Systemic prophylaxis**
  - High risk infants should receive appropriate prophylaxis following birth
Thank you