

NEONATAL CONJUNCTIVITIS

Arun Joseph
July 27, 2012

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

Etiologic Agent	Onset	Conjunctival Features	Cytology
Chemical	24 hours	Diffuse hyperemia, purulent exudate	Polymorphonuclear lymphocytes
Chlamydial	5–10 days	Diffuse hyperemia, purulent exudate	Basophilic cytoplasmic inclusion bodies
Other bacterial	5 days	Diffuse hyperemia, mucopurulent discharge	Causative agent
<u>Neisseria gonorrhoeae</u>	3–5 days	Hyperacute conjunctivitis with mucopurulent discharge	Intraepithelial Gram-negative diplococci
Herpetic	5–15 days	Diffuse hyperemia, watery discharge	Multinucleated giant cells

Etiology	Onset	Conjunctival features	Treatment
Chemical	24 hours	Hyperemia, tearing	Supportive
Chlamydial	5-14 days	Hyperemia, serous or mucopurulent discharge	Oral erythromycin
Gonococcal	2-7 days	Copious purulent discharge, chemosis, lid swelling	IV ceftriaxone
Herpes	5-15 days	Hyperemia, watery discharge, periorbital vesicles	IV acyclovir plus vidarabine ointment 5x/day for 14-21 days

Differential diagnosis

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

Prevention

- Good prenatal care
 - Treatment of chlamydial, gonococcal, or other maternal infxns 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