8.5.2. Microbial and Parasitic Infections of the Eyelid Margin and Conjunctiva (II)

Chlamydial conjunctivitis

Trachoma

- Pathogenesis
  - obligate intracellular bacterium
  - C trachomatis
- Lab evaluation
  - cannot be easily cultured
  - Giemsa stain
  - direct fluorescent antibody staining
  - PCR
  - cell culture
- Epidemiology
  - Middle East and in developing regions
  - American Indians
  - USA
  - mountainous areas of the South
  - 150 million individuals worldwide
  - poor hygiene/sanitation
  - leading cause of preventable blindness
- Modes of transmission
  - eye to eye
  - flies
  - household fomites
- Symptoms
  - foreign-body sensation
  - redness
  - tearing
  - mucopurulent discharge
- Clinical presentation
  - diffuse papillary hypertrophy/inflammatory cell infiltration (acute trachoma)
  - superior tarsal conjunctiva
  - ← limbus
  - severe follicular reaction
    - become necrotic --> significant scarring
      - Arlt line
        - linear or stellate scarring of the superior tarsus
      - Herbert pits
        - limbal depressions
  - corneal findings
    - epithelial keratitis
    - focal/multifocal peripheral and central stromal infiltrates
    - superficial fibrovascular pannus
      - superior third of the cornea
  - diagnosis requires ≥ 2 of the following
    - 1 conjunctival follicles on the upper tarsal conjunctiva
    - 2 limbal follicles and their sequelae (Herbert pits)
    - 3 typical tarsal conjunctival scarring
    - 4 vascular pannus most marked on the superior limbus
  - complications
    - aqueous tear deficiency
    - tear drainage obstruction
    - trichiasis
    - entropion
- Treatment
  - tetracycline 1% ophthalmic ointment twice daily x 2 months
  - more effective and easier
    - oral azithromycin 1000 mg x 1
  - erythromycin ointment twice daily x 2 months
  - oral erythromycin
    - rare tetracycline-resistant cases
  - tear substitutes
  - eyelid surgery for entropion or trichiasis

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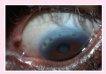
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Figure 5-14 (© 2020 American Academy of Ophthalmology)

Adult chlamydial conjunctivitis

- Epidemiology
  - sexually active adolescents and young adults
  - sexually transmitted systemic disease
  - in conjunction with chlamydial urethritis or cervicitis
  - Modes of transmission
    - contact with infected genital secretions
    - shared eye cosmetics
    - inadequately chlorinated swimming pools
- Clinical presentation
  - 1–2 weeks after ocular inoculation
  - mild symptoms for weeks–months
  - not as acute as adenoviral keratoconjunctivitis
  - unlike trachoma
    - lower palpebral conjunctiva and fornix
  - follicular conjunctival response
    - bulbar conjunctiva
    - semilunar fold
      - inferior
  - specific sign in patients not using topical medications
  - preauricular adenopathy
  - scant mucopurulent discharge
  - adenoviral conjunctivitis causes membranes and pseudomembranes
    - no conjunctival membranes
  - corneal involvement
    - ← subepithelial infiltrates
    - fine or coarse epithelial infiltrates
    - may also occur centrally and resemble adenoviral keratitis
    - superior cornea
  - micropannus
    - less than 3 mm from the superior cornea
- Management
  - resolves spontaneously in 6–18 months
  - superior
    - follicular response is inferior
    - micropannus is superior
  - oral antibiotic
    - azithromycin 1000 mg single dose
    - doxycycline 100 mg twice daily for 7 days
    - tetracycline 250 mg 4 times daily for 7 days
    - erythromycin 500 mg 4 times daily for 7 days
  - in neonate and children
  - evaluate patients and their sexual contacts for coinfection with other sexually transmitted diseases before starting antibiotic treatment
  - sexual partners should be concomitantly treated

Fungal and Parasitic Infections of the Eyelid Margin

Demodex

- a genus of mites
- clinical findings
  - waxy "sleeves" around eyelashes
  - cylinders extending from sebaceous glands of the eyelid margin
  - ← inflammatory response (blepharitis)
- treatment
  - dilute tea tree oil applied to the base of the eyelashes

Figure 5-10 (© 2020 American Academy of Ophthalmology)

Malassezia furfur

- blepharitis
  - oral ivermectin

focal granuloma or dermatitis

- blastomycosis
- sporotrichosis
- rhinosporidiosis
- cryptococcosis
- leishmaniasis
- ophthalmomyiasis

Lice infestation (phthiriasis palpebrum)

- adolescents and young adults
- pubic louse
- localized extension of head or body lice
  - rare
- treatment
  - Mechanical removal of the lice and nits (eggs)
  - pubic hairs are usually treated with a pediculicide
    - incubation period (of the nits) is 7–10 days
  - ointment
    - twice daily for at least 10 days
    - reexamination x 10–14 days
  - wash items of close contact
    - dry at the highest temperature setting (≥50°C)

Parinaud Oculoglandular Syndrome

- Etiology
  - B henselae
  - most common cause
  - Cat-scratch disease
    - transient infection in kittens and their fleas
    - carrier state
      - cat bite or lick
      - cat's fleas
      - no human-to-human transmission
  - other Bartonella species
  - Afipia felis
  - tularemia
  - tuberculosis
  - sporotrichosis
  - syphilis
  - coccidioidomycosis
- Clinical presentation
  - superior or inferior tarsal conjunctiva
    - bulbar conjunctiva
    - fornix
  - unilateral granulomatous conjunctivitis
    - ≥1 raised or flat gelatinous, hyperemic, granulomatous lesions
  - 3–10 days after inoculation
  - ipsilateral preauricular/submandibular (cervical) lymph nodes become firm & tender
    - enlarged suppurative nodes
    - 10–40%
  - optic neuritis and neuroretinitis
  - systemic symptoms
    - mild
      - fever
      - malaise
      - headache
      - anorexia
      - 10-30%
    - severe
      - encephalopathy/encephalitis
      - thrombocytopenic purpura
      - osteolysis
      - hepatitis
      - splenitis
- Lab evaluation
  - Serologic testing
    - indirect fluorescent antibody testing
    - enzyme immunoassay
      - more sensitive
  - skin test antigen
    - neither commercially available
    - nor standardized
  - culture
  - PCR
- Treatment
  - antibacterial treatment
    - azithromycin
    - erythromycin
    - doxycycline
    - rifampin
      - adjuvant

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