The RED EYE and ALLERGIC EYE DISEASE
DIAGNOSIS & MANAGEMENT

Frank Larkin
Moorfields Eye Hospital

RED EYES
conjunctionitis
keratitis
episcleritis / scleritis

acute glaucoma
anterior uveitis
post-op. / trauma

THE RED EYE
history
• acute onset or chronic
• redness, itch, pain, discharge, visual loss
• contact lens wear or injury / eye surgery
• known associated disease
• prodrome or any contacts

THE RED EYE
examination
• visual acuity
• eyelid skin and conjunctiva blepharitis?
• location of redness episcleritis?
• clarity of cornea and iris detail keratitis?
• stain cornea with fluorescein ulcer?
• pre-auricular lymphadenopathy adenovirus?

CONJUNCTIVITIS

Classification by time course
• acute (< 3 wks): papillary follicular oculocutaneous (rash)

Classification by slit-lamp examination signs
• acute (< 3 wks): papillary follicular oculocutaneous (rash)
ACUTE FOLLICULAR CONJUNCTIVITIS

Associated clinical signs

• keratitis (watery discharge)
  ± adenopathy: adenovirus
  small follicles
  chlamydia
  large follicles

INFECTIVE CONJUNCTIVITIS

• acute or sub-acute onset, usually bilateral
• purulent discharge if bacterial
• papillary or follicular inflammation

IS THIS CONJUNCTIVITIS BACTERIAL?

Rietveld et al. Predicting bacterial cause in infectious conjunctivitis, cohort study on informativeness of combinations of signs and symptoms. BMJ 2004;329:206

INDEPENDENT INDICATORS OF POSITIVE BACTERIAL CULTURE

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>REGRESSION COEFFICIENT</th>
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<tbody>
<tr>
<td>Two glued eyes</td>
<td>2.71</td>
</tr>
<tr>
<td>One glued eye</td>
<td>1.09</td>
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<tr>
<td>Itch</td>
<td>-0.61</td>
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<tr>
<td>History of conjunctivitis</td>
<td>-1.16</td>
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</tbody>
</table>

INFECTIVE CONJUNCTIVITIS

• acute or sub-acute onset, usually bilateral
• purulent discharge if bacterial
• papillary or follicular inflammation
• corneal involvement frequent if viral, not chlamydial

INFECTIVE CONJUNCTIVITIS

• acute or sub-acute onset, usually bilateral
• purulent discharge if bacterial
• papillary or follicular
• corneal involvement frequent if viral
• unilateral?
  keratitis
  HSV / other cause
**INFECTIVE CONJUNCTIVITIS**

**Management**
- exclude HSV (dendrite)
- Gutt. chloramphenicol 4/day for 5d + ointment nocte
- treat any blepharitis
- consider adenovirus, chlamydia if unresponsive: investigation required
- no steroid especially if HSV cannot be confidently excluded

**CHRONIC CONJUNCTIVITIS >3 weeks**
- Blepharitis / blepharoconjunctivitis
- chlamydia infection
- molluscum
- allergic
- toxic response to topical medications

**OCULOCUTANEOUS CONJUNCTIVITIS**
- blepharoconjunctivitis: seborrheic dermatitis
- acne rosacea, atopic eczema
- conjunctivitis:
  - zoster, molluscum
  - Reiter's erythema multiforme / SJS
  - cicatricial pemphigoid

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**OCULOCUTANEOUS CONJUNCTIVITIS**
- variant in children
  - hypersensitivity blepharo-keratoconjunctivitis
  - Recurrent red eye + photophobia, watering
  - Unilateral
  - Asian ethnic group
  - 4 – 12 yrs
  - Azithromycin (Azyter) drops x 3 d
OCULOCUTANEOUS CONJUNCTIVITIS

• blepharoconjunctivitis: seborrheic dermatitis, acne rosacea, atopic eczema
• conjunctivitis: zoster, molluscum

ALLERGIC CONJUNCTIVITIS

• ACUTE
  - seasonal (hay fever)
  - perennial

• CHRONIC
  - vernal
  - atopic

ALLERGIC CONJUNCTIVITIS features

• itch
• patient or family history of atopy
• papillae on eyelids and at limbus
• eczema on lids
• chemosis
• corneal ulcer if severe symptoms

ALLERGIC CONJUNCTIVITIS

soft contact lens-associated allergic conjunctivitis
ALLERGIC CONJUNCTIVITIS management

• avoid allergen – pets, house dust, etc.
• contact lens management, if relevant
• ocular decongestants (short-term only)
  G. Otrivine-Antistin or emedastine / levocabastine
• G. sodium cromoglycate 2% QID
• topical steroid for severe vernal or atopic keratoconjunctivitis (glaucoma, HSV, cataract)

Anti-allergy drops available in UK

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<thead>
<tr>
<th>Action</th>
<th>Constituent</th>
<th>Commercial name</th>
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<tbody>
<tr>
<td>antihistamine + vasoconstrictor</td>
<td>antazoline + xylometazoline</td>
<td>Otrivine-Antistin</td>
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<td>azelastine HCl</td>
<td>Optilan</td>
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<td>antihistamine</td>
<td>levocabastine</td>
<td>Livostin</td>
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<td>mast cell stabiliser</td>
<td>Na cromoglycate</td>
<td>Opticrom, etc.</td>
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<td>mast cell stabiliser</td>
<td>lodoxamide</td>
<td>Alomide</td>
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<tr>
<td>mast cell stabiliser + antihistamine</td>
<td>olopatadine</td>
<td>Opatanol</td>
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<td>Oufen</td>
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<tr>
<td>prostaglandin inhibitor / NSAID</td>
<td>diclofenac</td>
<td>Voltarol Ophtha</td>
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CONJUNCTIVITIS

Refer

• suspected bacterial conjunctivitis with significant symptoms unresponsive to chloramphenicol
• ophthalmia neonatorum (with red eyes)
• suspected viral conjunctivitis with keratitis
• any suspected corneal infection
• unresponsive allergic conjunctivitis

CORNEAL ABRASION

• remove foreign body
• topical antibacterial prophylaxis
• G.homatropine 2%
• double eye pad for large abrasions
• oral analgesia

CORNEAL INFECTION

• Pain, watering, photophobia
• In contact lens wear, most are bacterial, frequently bypass GP
**CORNEAL INFECTION: Herpes simplex**

- Pain, watering, photophobia
- History of cold sores and keratitis
- EPITHELIAL HSV recurrence → ulcer
  - STROMAL HSV recurrence → no ulcer

**Management**

- EPITHELIAL recurrence → acyclovir 3% ointment
  - ganciclovir 0.15% gel
- STROMAL recurrence → as above + refer

**EPISCLERITIS**

- acute onset
- foreign body sensation in some, acuity unaffected
- focal redness
- spontaneous resolution but often recurs
- avoid topical treatment
- systemic association is rare

**SCLERITIS**

- sub-acute onset
- severe deep seated eye pain, vision often affected
- focal or diffuse hyperaemia, bluish tinge

**SCLERITIS**

- ocular complications common
- systemic association is common
- requires oral treatment
  - flurbiprofen, steroid, cyclophosphamide
ACUTE ANTERIOR UVEITIS

• vision often reduced
• circumcorneal redness
• anterior chamber cells and keratic precipitates
• occasional hypopyon
• hazy iris detail
• small irregular pupil margins - adhesions

ACUTE ANTERIOR UVEITIS

• small irregular pupil margins - adhesions

ANGLE CLOSURE GLAUCOMA features

• elderly hypermetrope
• preceding haloes in visual field
• onset often at night
• variable pain, often severe

ANGLE CLOSURE GLAUCOMA examination

• vision severely reduced
• intense redness
• hazy cornea and poor iris detail
• fixed oval and mid-dilated pupil

RED EYE

Special situations

• contact lens wear: infection if acute history (not allergy)
• trauma: FB or penetrating injury
  what is the visual acuity?
• adult chlamydial conjunctivitis
  exclude sub-clinical genital infection
• new presentation post-op.
  exclude infection