10-minute consultation

Red eye

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This is part of a series of occasional articles on common problems in primary care

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A young man comes to you with a history of rapid onset redness in his right eye, accompanied by some watering. Physical examination shows hyperaemic conjunctiva but no preauricular node.

What issues you should cover

Patients presenting with a red eye can pose a diagnostic challenge. Occasionally there is a serious risk of complications if it is treated incorrectly. A good history, with attention to pertinent negative signs, is essential. You must decide whether the condition is treatable or whether he needs referral to a specialist.

History

Was the development of redness gradual or sudden? What are the associated symptoms? Does he have discharge (mucopurulent or stringy), itchiness, or a family history of atopy, or is it spring or summer? (All indicate an allergy.) Is there swelling or watering? Does he have photophobia? Is he experiencing ocular pain? If so, assess its quality. Scratchy, well defined pain indicates a corneal problem, whereas a dull, deeper pain usually indicates a more serious condition (such as acute angle closure glaucoma, iritis, or scleritis). Is his vision blurred? Any change in visual acuity is potentially serious.

Examination

Your equipment should include a light source (for inspecting the pupils), a Snellen's chart (a simple visual acuity test), a funduscope, and fluorescein (to check for abrasions). Begin with a general inspection: does the patient look unwell? You must assess the entire eye area, including brows and eyelids.

Conditions requiring referral to an ophthalmologist

Scleritis
Severe pain, tenderness. Examination may show bluish red discolouration. It is associated with autoimmune illnesses, including rheumatoid arthritis.

Uveitis
Sudden onset pain, photophobia, blurred vision. Examination shows circumcorneal congestion, tenderness on palpation, and meiotic pupil. Tonometry will often show decreased pressure; a slit lamp examination is needed to show flare.

Acute angle closure glaucoma
Severe ocular pain and decreased vision, and the patient sees coloured haloes around lights. Alternatively, there may be little ocular pain but severe headache and nausea or vomiting. Examination shows a fixed, mid-dilated pupil and cloudy cornea, and tonometry shows raised intraocular pressure.

Keratitis (infectious)
Ocular pain, redness, decreased vision. Is often secondary to trauma or wearing of contact lenses. Examination shows a white lesion (ulcer), although slit lamp examination and fluorescein staining are needed to show herpetic ulcer.

Useful reading

International Council of Ophthalmology. ICO international clinical guidelines: conjunctivitis (initial evaluation). www.icoph.org/guide/guidecon.html

Goldberg S. *Ophthalmology made ridiculously simple.* 2nd ed. Miami: MedMaster, 2001

Possible causes

The symptoms of blepharitis, when it is staphylococcal, are lash matting, crusting, or loss of lashes; when it is seborrhoeic there will be accompanying scalp and ear manifestations. Gland infections (a hordeolum or stye) can show as a boil-like lesion on the lid or, more chronically, rubbery non-tender swelling (chalazion) that is less responsive to compresses. Conjunctival conditions are associated with redness and discharge. Bacterial causes are characterised by purulent discharge. Sudden onset hyperaemia and preauricular node often indicate viral conjunctivitis. Allergic conjunctivitis is easily diagnosed by itchiness and a history of atopy and a particularly watery and stringy discharge. Usually both eyes are affected.

Subconjunctival haemorrhage may be traced to a history of trauma or cough or so on, but often no cause is found. Examination shows a continuous patch of redness that isn't painful. The symptoms of episcleritis are mild irritation and photophobia, and examination shows a sector area of hyperaemia or diffuse redness in episcleral vessels. Both these conditions are self limiting.

What you should do

- Your most important task is to detect potentially serious ocular presentations for immediate referral of the patient to an ophthalmologist and treatment. Conditions requiring referral to an ophthalmologist are orbital cellulitis, hyphaema, scleritis, iritis or uveitis, acute angle closure glaucoma, and corneal abrasions (unless very superficial).
- Use caution when prescribing steroids: you should exclude the possibility of herpetic keratitis.
- Ocular pain and change in vision are two extremely specific warning signs of eye pathology, and unless you are absolutely certain of a benign diagnosis you must refer him for ophthalmological assessment if he has these.