

Eye Emergencies for ED

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Overview

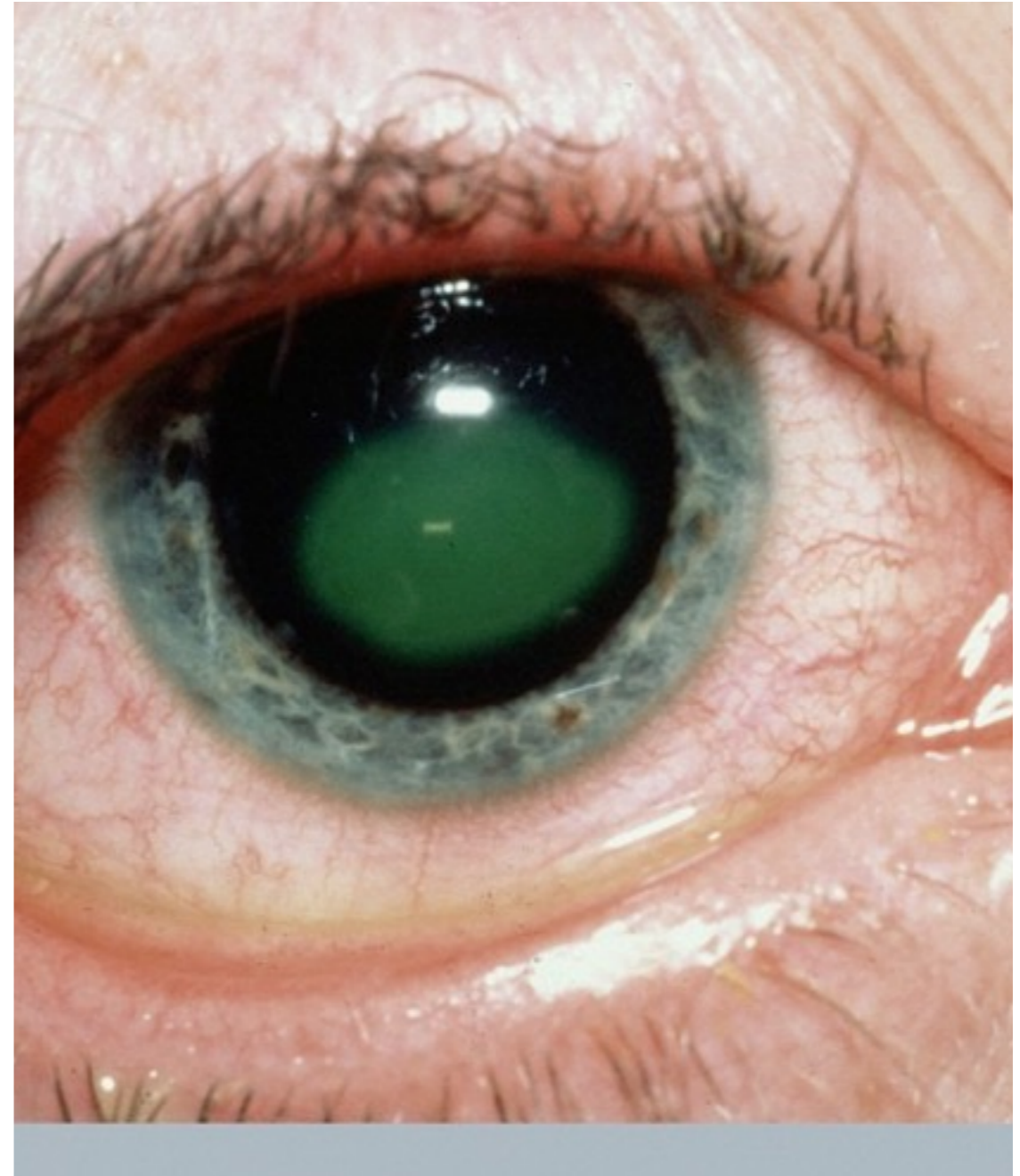
- Eye Problems in ED - audit results
- Eye trauma Minor & Major
- How to recognise Acute Angle Closure Glaucoma?
- TIA/Stroke/Dissections
- Unusual case of hiccoughing and then visual loss.....

Eye problems in ED

- Eye emergencies 1.5-6% of A&E attendances
- 90% self referrals
- 51-66% trauma related
- 11-27% acute red eye (infection/inflammation)
- ENPs superior to junior Drs [Emerg Med J.](#) 2005 Oct;22(10):696-9.
Reliability of ophthalmic accident and emergency referrals: a new role for the emergency nurse practitioner?

Audit of Eye Cases

- Mainly Corneal Abrasions
- Did to ask about Contact lens wear
- Checked cranial nerves a lot
- Fast turnover of junior doctors



Audit of Eye Cases

- ENP to train the juniors
- Pin holes (got lost)
- Protocol for abrasions
- Video on how to use a slit lamp

Corneal Abrasion



- Check if contact lens wearer?
- Previous eye surgery
- VA, fluorescein

Management of corneal abrasion

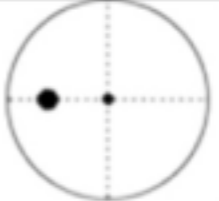
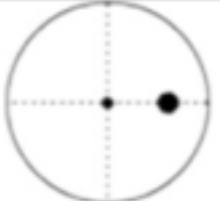
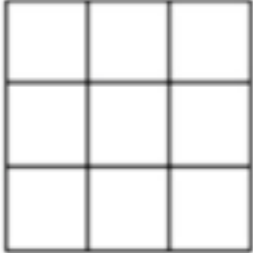
- chloramphenicol ointment
- oral analgesia
- For large abrasions
- Cyclopentolate 1% stat dose
- No evidence that eye pads reduce pain or help healing.
- Warn patients not to drive

Which abrasions to refer?

- Large abrasion (>4mm)
- History of significant trauma
- Infiltration around the abrasion
- History of contact lens wear
- Symptoms worse after 48 hours despite treatment

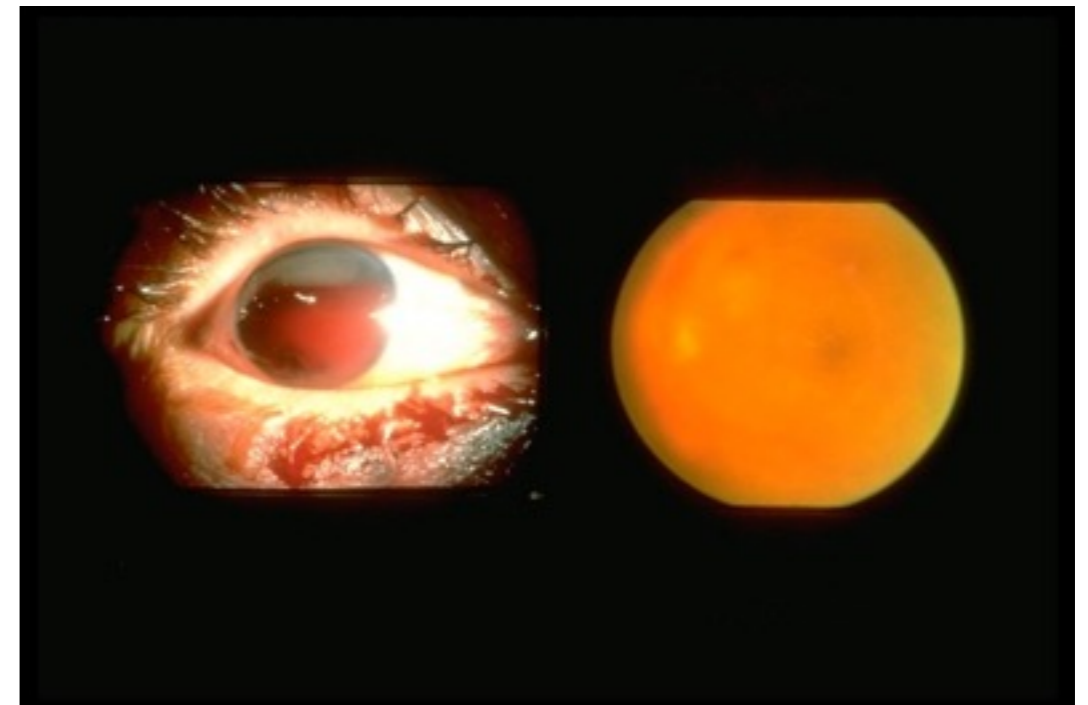
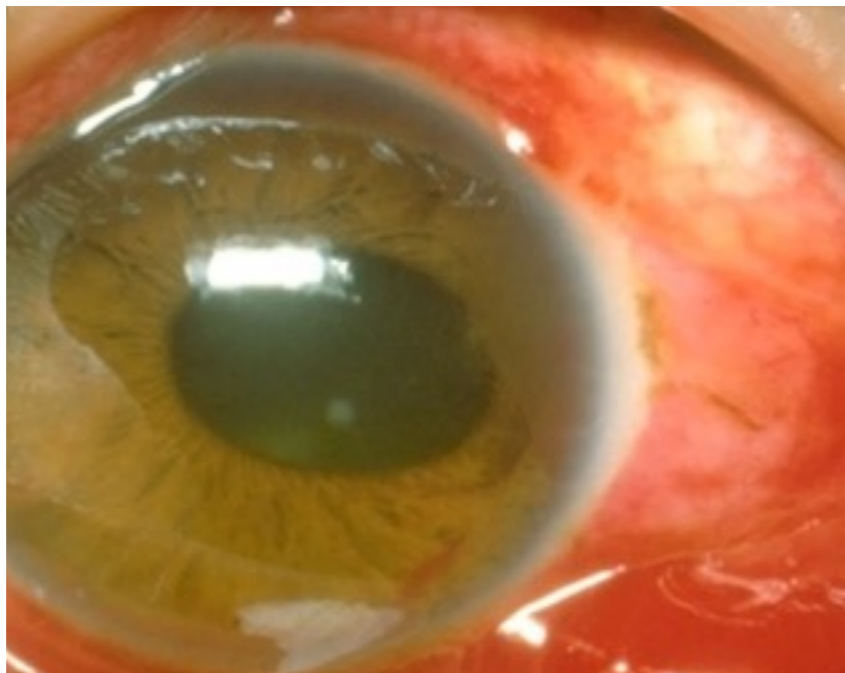
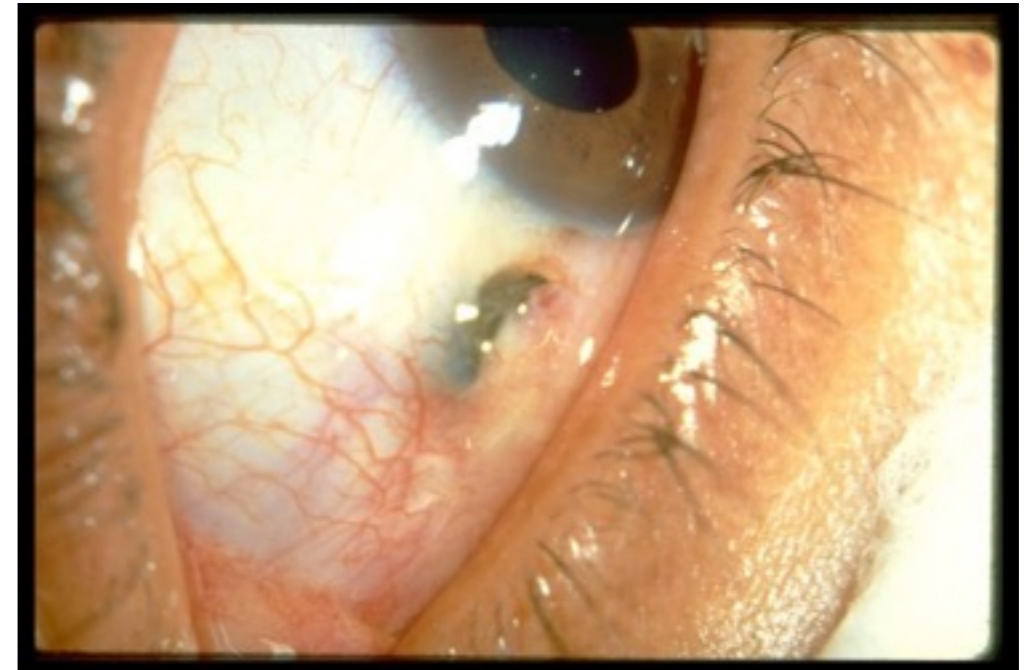
How to recognise serious eye injury in multiple trauma?

- Up to 30% patients with peri-orbital trauma will have ocular injury
- Can be devastating consequences if missed
- VA documentation increased from 41% to 83%

	Left	Right
VA aided/unaided/pinhole		
Pupils (direct, consensual, RAPD)		
Fields (quadrants)		
Ocular movements I = normal painless II = diplopia I* = normal vision, painful II* = double vision, painful		
High risk for surface injury? (abrasion, foreign body, perforation)	Yes/no	Yes/no
Referred to Ophthalmology? Yes/no		
Name:		
Orthoptist requested? Yes/no		

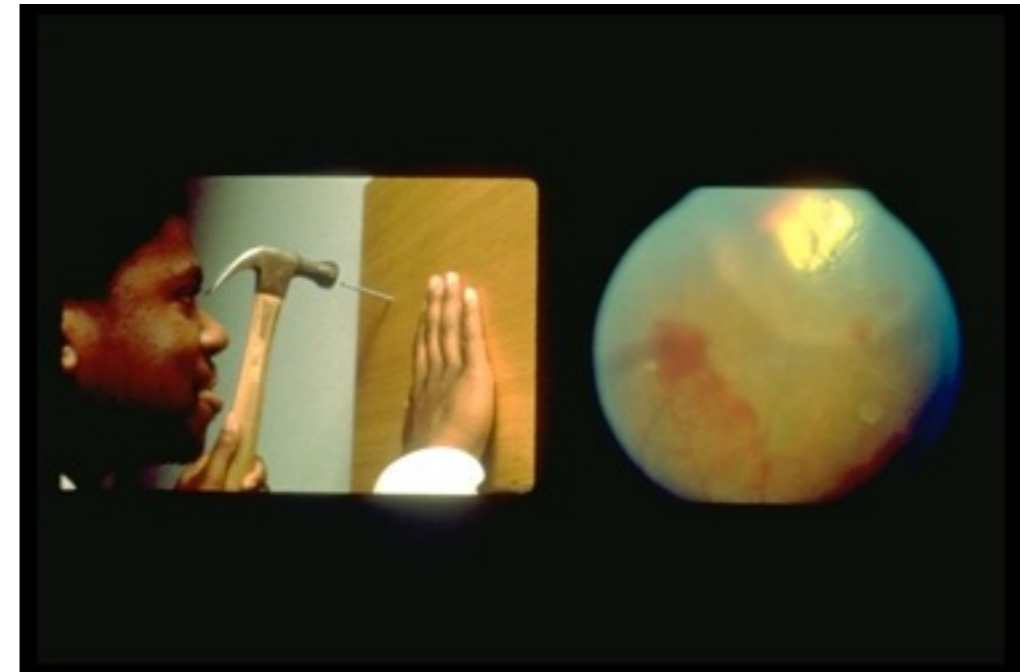
Myuran, Tharsika. "Improving Visual Assessment Documentation in Patients with Periorbital Trauma through an Eye Assessment Teaching Session and a Proforma Sticker." *BMJ Quality Improvement Reports* 6.1 (2017): u211253.w4618. PMC. Web. 12 Feb. 2017.

Signs of ruptured globe



Intraocular foreign body

- Consider with any high velocity injury, metal on metal contact
- Stop examination!
- Shield
- Tetanus
- Antibiotics
- Nil by mouth
- Refer for imaging



Features of penetrating



- Suspicious lid laceration
- Oval pupil



- Peaked pupil
- Iris prolapse
- Corneal haze around laceration

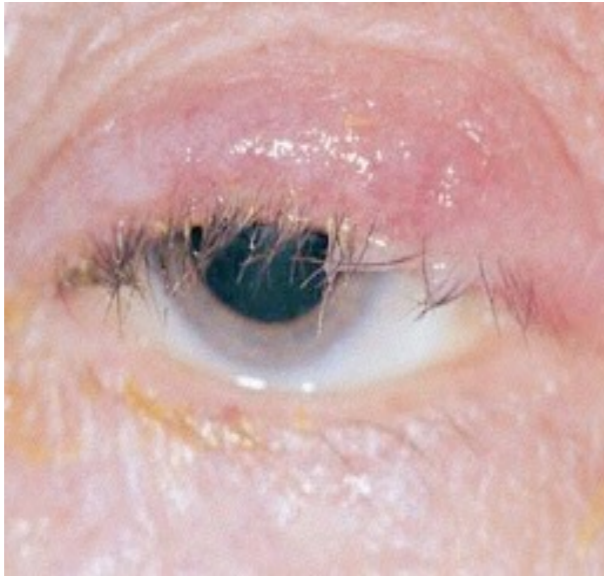
History (acute red eye)

- Vision affected?
- Sticky? Itchy?
- Both eyes or just one?
- Contact lens wearer?
- Pain or discomfort?
- Trauma or fb?

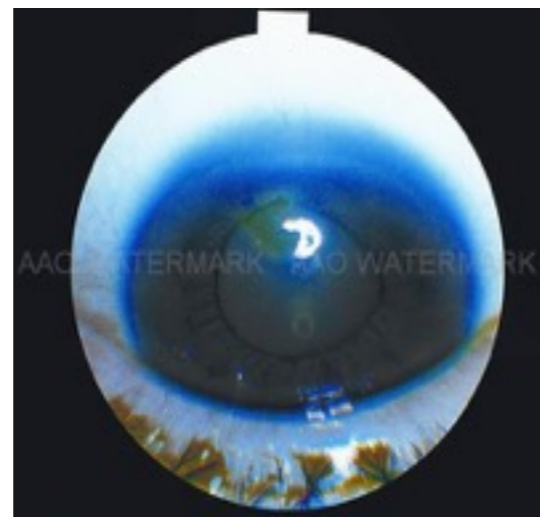
Chemical injury!



Red eye



Assessment of red eye

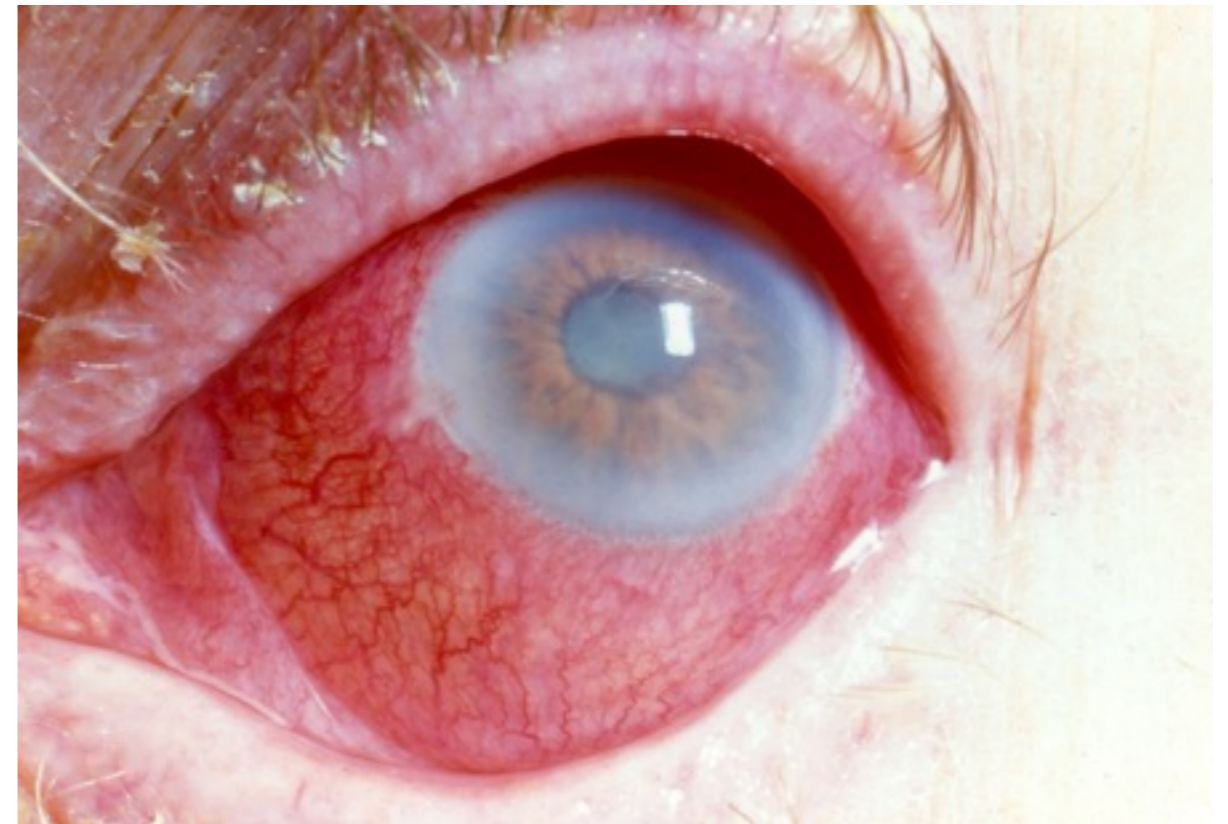


Signs of serious red eye

- Reduced visual acuity
- Dull light reflex
- Loss of red reflex
- Fluorescein staining
- Abnormal pupil

Acute angle closure glaucoma

- Pain, headache, nausea & vomiting
- Blurred vision, haloes
- High IOP
- Shallow AC
- Mid-dilated sluggish pupil
- Corneal oedema



Learning points

- Presentation may be atypical
- Diagnosis may be missed or delayed
- Longer duration, greater residual disability
- Consider acute glaucoma in all patients with red eye and reduced vision
- DD... subarachnoid haemorrhage, GI upset, MI, iritis

Getting fit - a pain in the neck?

- 46 yr man started cycling to work to get fit
- Knocked off bike with laptop in back pack
- Seen in ED with pain in neck and headache, vertigo and balance problems
- Diagnosed as benign positional vertigo
- 3 days later noticed right pupil smaller & slight lid droop



- Seen in EED
- Diagnosed Right Horner's syndrome
- Referred to clinic

- 4 weeks later, asymptomatic
- Acute painful Horner's with neck trauma
- Likely to be a carotid dissection
- D/W Stroke reg Needs MRI and MRA
- If evidence of stroke lifelong anticoagulation
- To see GP about blood pressure & statins
- Father died 65 of MI

- 3 months later didn't get MRI or MRA
- Re-ordered
- MR angiogram showed focal stenosis of right vertebral artery in keeping with a traumatic dissection
- Stroke team recommended life long anti platelets and statins



Vertebral Artery Dissection

- Less common than carotid artery dissection
- Both account for 10-25% of non-hemorrhagic strokes in young and middle-aged people
- >75% recover completely
- Remainder severe disability 2% dying
- Traumatic dissections often diagnosed too late due to a lack of awareness of potential initial signs

Traumatic Cervical Dissections

- >50% of patients have delayed cerebral infarctions or TIA
- Over 80% occur within first week after the onset of symptoms
- Remainder up to 1/12 later due to pseudo aneurysm formation or emboli

Vertebral Artery Dissection

- Symptoms such as head and neck pain
- Intermittent or perm
- Remainder severe disability 2% dying
- Traumatic dissections often diagnosed too late due to a lack of awareness of potential initial signs

- Head pain 50-75% back of head, dull or pressure like, throbbing
- 8% of cases diagnosed on pain alone
- Partial Horner's from involvement of sympathetic tracts in the brainstem
- Homonymous quadrantanopia/hemianopia
- 13-16% have more than one cervical arterial dissection

Causes of cervical dissection

- Ehlers-Danlos syndrome (type 4 CLO3A gene defective collagen fragility of walls of arteries)
- Marfans FBN1 gene
- Neck manipulations - hairdressers, chiropractors, “Beauty Parlour syndrome”
- “Swimming with crocodiles
Ref Matti et al BMC
Ophthalmology 2010, 10:14”



Epidemiology

- 2.5-3 per 100,000 probably under diagnosed
- 25% of ischaemic strokes in the under 50's
- M=F

Andrew Marr 'responding to treatment' following stroke

BBC journalist 'continuing to progress' after falling ill on Tuesday with guest presenters filling in temporarily on his shows



Hornby Odd ball eye case 1

- 52 year old woman with f.b. sensation left eye
- Triage nurse “ please could you see this one? (because if I give it to the nurse practitioner they will be there all day...)”
- PC “Chicken mite in left eye for 1/52 All over body for last 5 months. Lots of skin lesions. Has seen dermatologists. Rentokill x2. Baths with chemicals+
- POH Previous eye cas a few days ago
NAD



Chicken Mites

- *Dermanyssus gallinae*
- Grey to red mites up to 0.7mm
- Infestations around perch ends & cracks
- Anaemia & death in young chickens, Drop in egg production
- Ectoparasites spend entire life cycle (1 week) on host
- Host specific. Can bite humans but cannot survive for long.
 - Poultry keeper.com

Case 1 continued

- VA 6/6 OD 6/7.4OS with correction
- Conjunctival injection OS+
- No subtarsal or corneal fb.
- ? viral, blepharitis, allergic, RCES,
- Bit more history ... medications?
- lots of psychiatric medications and card from mental health team with their phone no
- What does your psychiatrist say about the chicken mite situation? “I have to learn to live with them..”

Delusional parasitosis

- Rare psychiatric disorder
- Unshakeable belief that infested with parasites
- Cannot be convinced that not true
- **Primary** (no other psychiatric problem)
- **Secondary** (functional if associated psychiatric condition such as schizophrenia as in this case)
- **Secondary** (organic hypothyroidism, diabetes, cancer, CVA, TB, vit B12 deficiency, neurological, drugs e.g amphetamines)
- More common in women & > 40 years
- Some patients respond to antipsychotics but not all

Literature review

- Cause - unknown Likely neurochemical pathology (as induced by psychoactive agents e.g. amphetamines, cocaine, methylphenidate,) assoc with schizophrenia
- Epidemiology F:M 2:1 (1:1 <50, 3:1 >50 yrs)
- Ocular Complications - can threaten vision from self-inflicted trauma
- e.g. Bilateral corneal abrasions
- Marriage breakdown, social isolation, 1 suicide reported

Management

- Diagnosis - delusional parasitosis with self-induced mechanical conjunctivitis from trying to remove the “parasite”
- Phoned mental health team (no. on card)
- Occ chloramphenicol and pad for 24 hours
- “ to smother the mite” and also to get out of the eye rubbing vicious cycle
- Mental health team promise to phone her at home and see her asap.



Birdmites.org

- "Dedicated to finding effective solutions for bird mite infestations of humans and their environment, encouraging those afflicted, facilitating research and a better understanding of human parasitosis."

- **Mental Anguish**

If you have been dealing with a parasite infestation for any length of time, you quickly come to realize that the 'mental anguish' is often more difficult than the physical torment. The relentless biting, itching, crawling sensation and lack of sleep are the physical symptoms that can propagate a whole host of secondary 'mental health' issues. For those dealing with a parasite infestation, it is important to acknowledge this aspect of the battle being waged.

Disappointment in the medical profession.....

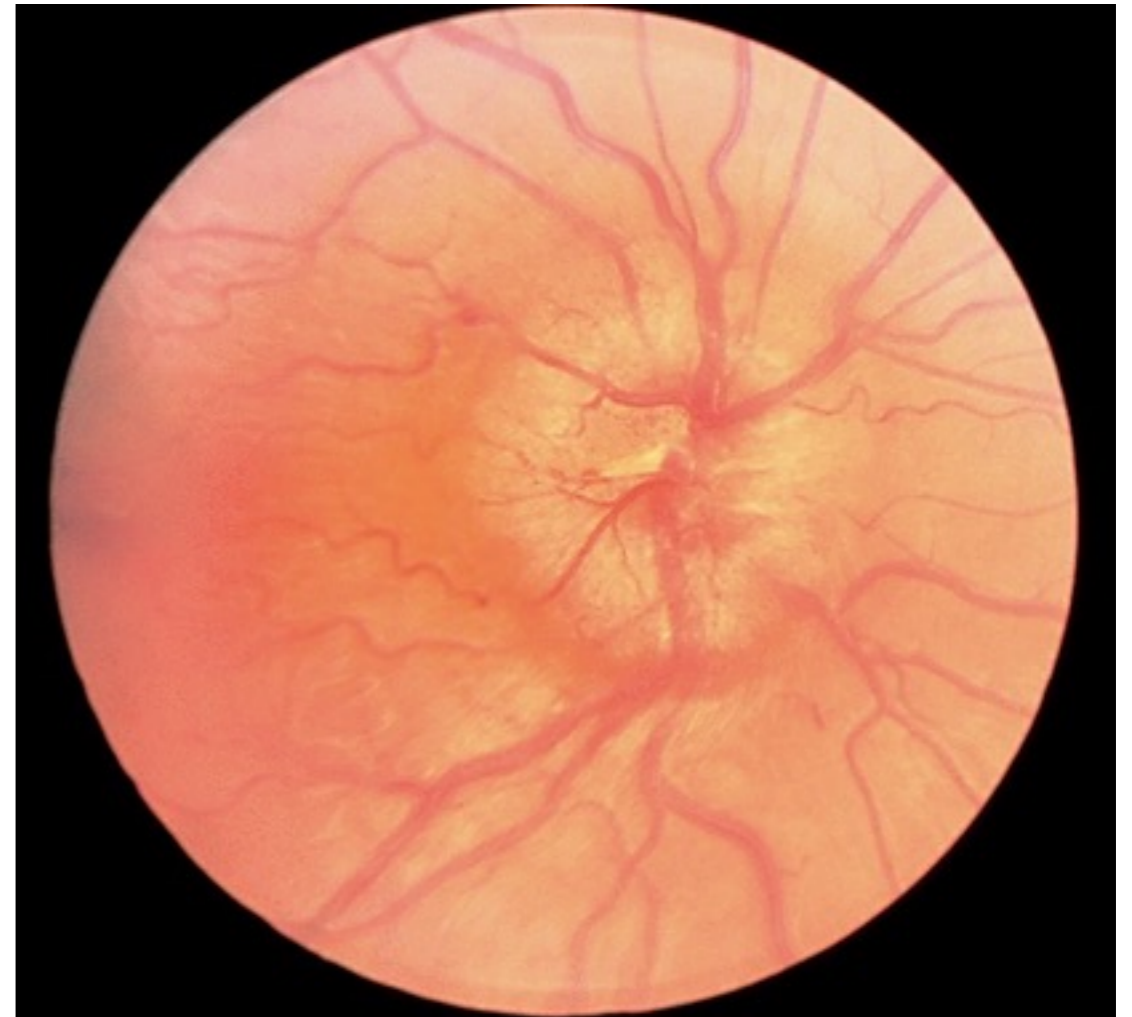
Case 2

- 35 year old male
- Attended Eye Cas
- Visual loss in left eye over a few days, pain on eye movement, paraesthesia right leg, left sided headache 2/52
- Stomach problem under investigation - awaiting endoscopy ?acid reflux
- From the Gambia Lived in UK 7 years
- Non-smoker
- Non-drinker

Examination findings

- RVA 6/5 U.a.
- LVA CF

- Left RAPD
- Right disc normal
- Left disc - optic disc swelling - looks chronic



CT scan

- CT head
- Mildly thickened left optic nerve and less straight suggests swelling
- No mass lesion
- CXR normal



Next day referred to neurology

- MRI brain
- NMO antibodies
+ve
- LFTs abnormal -
hepatitis
- HIV negative
- Vision recovered to
6/5 with high dose
steroids

Neuromyelitis Optica

- Autoantibodies against AQP4 (autoimmune astrocytic channelopathy)
- Associated with many systemic diseases
VZV, EBC, HIV, paraneoplastic,
- Hiccoughing - common from brainstem
- Early treatment and prolonged immunosuppression can save sight and prevent paralysis

Summary

- Check Visual Acuity in all patients (esp maxillo-facial trauma)
- Ask about contact lens wear in abrasions
- Cervical dissections can be spontaneous or traumatic and window of opportunity to prevent strokes in young people
- Odd ball eye cases - chloramphenicol ointment and eye pad and refer!