Rapid Visual Loss
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Outline

- Pathophysiology
- Differential diagnosis.
- Patient scenarios in community practice:
  - What should you ask?
  - What should you examine?
  - When, where and how urgent should be any referral?
Summary

- Eye problems – 3 red flag Ps
  - Poor vision
  - Pain
  - Photophobia
- Is it ‘just’ an eye problem?
  - Consider vascular or neurological disease
- If it’s not simple trauma then they need to go somewhere for a Dx
Pathophysiology

- Opacification of normally clear media
- Retinal abnormality
- Visual pathway problems
Differential diagnosis (common)

- AMD (wet)
- Retinal vascular occlusions
- Ischaemic optic neuropathy
- Vitreous haemorrhage
- Retinal detachment
- Amaurosis fugax
- TIA & CVA
Differential diagnosis (less common)

- Corneal trauma
- Corneal infection
- Anterior uveitis = iritis
- Acute glaucoma
- Optic neuritis
Age-related macular degeneration = AMD

- Cells of central retina no longer work properly
- Impairment of central vision
  - Reduced acuity
  - Distortion (more commonly when “wet”)
- Functional consequences
  - Difficulty reading
  - Unable to identify road signs
  - Cannot recognise people’s faces
AMD (wet)

- Dry changes accompanied by neovascularisation
- New blood vessels are leaky
- Characterised by more abrupt reduction in central vision
- Distortion is common
Retinal vascular occlusions

- Blockage by emboli travelling to eye from carotid
- Thrombus from localised factors causing turbulent flow & endothelial damage
- Result:
  - Ischaemia
  - Venous occlusion leads to leakage of fluid
Ischaemic optic neuropathy

- Two diseases
  - Non-arteritic
    - Systemic and ocular pre-disposition
    - Precipitated by period of hypotension, often nocturnal
    - Very rarely due to embolism of feeding arteries
  - Arterititic
    - Normally due to GCA
    - Rarely other types of vasculitis
Vitreous haemorrhage

- Blood inside the eye between the lens and retina
- Normally the result of proliferative diabetic retinopathy
- Less common causes include a retinal tear and ocular tumours
- Sudden, painless loss of vision
  - Mild = Increase in floaters/streaks and blurred vision
  - Severe = Profound reduction in vision to perception of light
Retinal detachment

• Separation of the retina from the back of the eye

• Big risk factors are myopia and trauma

• Most symptom related to triggering PVD
  • Sudden increase in the number of floaters
  • Flashes of light
  • Dark shadow that starts at the edge of vision and extends centrally
  • Impression of a veil or curtain over vision
Amourosis fugax

- Amourosis = darkening. Fugax = fleeting
- Embolic / hypoperfusion / migraine
- Consider associated Sx of CVA and medical Hx
- If confident not migraine then refer to stroke clinic
TIA & CVA

- Vision loss tends to be sudden over seconds, not minutes
- Often associated neuro Sx
Differential diagnosis (less common)

- Corneal infection
- Anterior uveitis = iritis
- Acute glaucoma
- Optic neuritis
Red flags

- Sudden loss of vision
- Pain
- Distortion
- Light sensitivity
- Red eye, especially in contact lens wearer
- Associated with new neurological Sx
- Associated with Sx suggestive of GCA
What to ask

- How bad is vision?
- One eye or both eyes?
- How sudden? – seconds/minutes vs days vs months
- Pain? – versus annoying discomfort.
- Recent trauma/surgery?
- Associated with new neurological Sx
- Associated with Sx suggestive of GCA
What to examine

• Consider demographics

• Consider general health, principally vascular health

• Is the eye red

• Visual acuity – RE & LE tested separately

• Pupil reflexes – is constriction to light symmetrical

• Optional:
  • Crude assessment of peripheral vision with confrontation
  • Assessment of red reflex with the ophthalmoscope
  • Ophthalmoscopy
  • Blood pressure
Anyone you do not refer to Eye Casualty?

• Superficial trauma

• High suspicion of CVA

• Reasonable to ask to see optometrist in next few days depending on local arrangements for extended services, especially if:-
  
  • Reduction in vision modest

  • Vision reduced more than 2 weeks ago

  • No pain or redness

  • Pupil reflexes symmetrical

  • No new neurological Sx
Case 1

- 82 year old lady

  - C/O reduced vision
    - What questions to ask?
    - What to examine?
    - What is the differential diagnosis?
    - How would you manage?
Case 1

- What questions to ask?
  - When and how sudden? = Reduced over past week
  - One eye or both eyes? = RE
  - How bad is vision? = Blurred
  - Pain? = No
  - Recent trauma/surgery? = No
  - Associated with new neurological Sx = No
  - Associated with Sx suggestive of GCA = No
What to examine

- Demographics = **AMD or vascular cause**
- Consider general health, principally vascular health = **Nil remarkable**
- Is the eye red = **No**
- Visual acuity = **RE: 6/12, LE: 6/9**
- Pupil reflexes = **Normal**

Optional:
- Crude assessment of peripheral vision with confrontation = **NA**
- Assessment of red reflex with the ophthalmoscope = **OK**
- Ophthalmoscopy = **NAD**
Case 1

- Differential diagnosis

- Management
Case 1

- Differential diagnosis
  - Age-related macula degeneration – suspect wet
  - Vascular occlusion of retinal vein
  - Non-arteritic AION

- Management
  - Urgent referral to eye casualty
  - Referral to community optometrist (maybe)
Case 2

• 23 year old man
  
  • C/O reduced vision in RE following brawl at weekend
    
    • What questions to ask?
    
    • What to examine?
    
    • What is the differential diagnosis?
    
    • How would you manage?
Case 2

- What questions to ask?
  - When and how sudden? = Yesterday, noticed shadow in vision
  - One eye or both eyes? = RE
  - How bad is vision? = OK
  - Pain? = Achy discomfort
  - Recent trauma/surgery? = Yes
  - Associated with new neurological Sx = No
  - Associated with Sx suggestive of GCA = No
What to examine

- Demographics = RD, iritis, hyphema, vitreous haemorrhage
- Consider general health, principally vascular health = Nil remarkable
- Is the eye red = No, but periorbital bruising
- Visual acuity = RE: 6/6 (poor), LE: 6/6
- Pupil reflexes = Normal
- Optional:
  - Crude assessment of peripheral vision with confrontation = OK
  - Assessment of red reflex with the ophthalmoscope = OK
  - Ophthalmoscopy = NAD
Case 2

• Differential diagnosis

• Management
Case 2

- Differential diagnosis
  - RD
  - Iritis
  - Hyphema

- Management
  - Urgent referral to eye casualty
Case 3

- 80 year old man
  - C/O sudden reduction in vision 3 weeks ago
    - What questions to ask?
    - What to examine?
    - What is the differential diagnosis?
    - How would you manage?
Case 3

- What questions to ask?
  - When and how sudden? = 3 weeks ago
  - One eye or both eyes? = RE
  - How bad is vision? = Blurred
  - Pain? = None
  - Recent trauma/surgery? = No
  - Associated with new neurological Sx = No
  - Associated with Sx suggestive of GCA = No
What to examine

- Demographics = Wet AMD, retinal vascular occlusion, AION
- Consider general health, principally vascular health = NAD
- Is the eye red = No
- Visual acuity = RE: 6/12, LE: 6/6
- Pupil reflexes = Normal

Optional:
- Crude assessment of peripheral vision with confrontation = OK
- Assessment of red reflex with the ophthalmoscope = OK
- Ophthalmoscopy = NAD
Case 3

- Differential diagnosis

- Management
Case 3

- Differential diagnosis
  - Wet AMD
  - Vascular occlusion
  - AION

- Management
  - Refer to optometrist < 1 week due to delayed presentation
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