Sudden Loss of Vision
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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
  - Artertitic
    - 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
- 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 = Hyp
- Is the eye red = No, but periorbital bruising
- 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
Gradual Loss of Vision

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