Gradual Loss of Vision

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Outline

• Differential diagnosis.

• Patient scenarios in community practice:
  • What should you ask?
  • What should you examine?
  • When, where and how urgent should be any referral?
Differential diagnosis (common)

- Refractive error
  - Ammetropia
  - Presbyopia
- Cataract & complications of surgery
- Age-related macular degeneration
- Diabetic retinopathy
Differential diagnosis (less common)

- Glaucoma
- Corneal decompensation
- Progressive corneal scarring
- Compressive optic neuropathy
- Medication
Ammetropia

- Mismatch between focusing power and length of eye.
- Picture is not imaged on retina.
  - Hypermetropia
    - Eye is relatively weak in power.
  - Myopia
    - Eye is relatively too long.
  - Astigmatism
    - Non-rotational symmetry of the focusing power of the eye.
    - Occurs in combination with hypermetropia or myopia.
Presbyopia

- Age-related stiffening of crystalline lens.
- Inertia and reduced amplitude of accommodation.
- Difficulty with near vision.
  - Emmetropes
    - Difficulty reading
  - Hypermetropes
    - Difficulty reading and then later difficulty with distance
  - Myopes
    - Difficulty reading when wearing distance spectacles
Cataract

- Clouding of the crystalline lens.
  - Reduced contrast
  - Glare
  - Reduced acuity
  - Ghosting
Cataract – complications of surgery

- Posterior capsular opacification
- Corneal decompensation
- Cystoid macular oedema
Age-related macular degeneration

- Cells of central retina no longer work properly
- Impairment of central vision
  - Reduced acuity
  - Distortion
- Functional consequences
  - Difficulty reading
  - Unable to identify road signs
  - Cannot recognise people’s faces
Diabetic retinopathy

• Changes in the blood vessels of the retina as a result of diabetes
  • Blood vessels may leak
  • Blood vessels may block leading to neovascularisation
• Maculopathy
  • Leakage of fluid from retinal blood vessels into the macula
• Proliferative disease
  • Neovascularisation associated with haemorrhage and vitreoretinal traction, and in ultimately tractional retinal detachment
Glaucoma

- Damage to the retinal nerves as they leave the eyeball
- Main cause is raised intraocular pressure
- Usually asymptomatic
  - Some defects only affect one eye, or different parts of the two eyes
  - Most defects progress gradually over several years
  - The scotoma is not seen as a black tunnel or black patches
  - More commonly perceived as blurry patches or missing features
Red flags

- Sudden loss of vision
- Pain
- Distortion
- Light sensitivity
- Red eye that is not obviously conjunctivitis, especially in contact lens wearer
- Associated with new neurological Sx
- Diagnosis of cancer
Medication

- Corticosteroids
- Hydroxychloroquine
- Tamoxifen
- Chemotherapy
- Erectile dysfunction drugs
Case 1

- 68 year old lady
  - Gradual, painless loss of vision over the past 6 months
    - What questions to ask?
    - What medical history is relevant?
    - What is the differential diagnosis?
    - How would you manage?
Case 1

- What questions to ask?
  - One or both eyes?
  - When do you notice your vision is worse?
  - Is it mainly things far away or up close?
  - Is it worse at any particular time of day?
  - Any distortion?
  - Are bright lights painful or do you experience significant glare?
  - When did you last have an eye test?
Case 1

- What questions to ask?
  - One or both eyes? = RE
  - When do you notice your vision is worse? = 6 months ago
  - Is it mainly things far away or up close? = Both
  - Is it worse at any particular time of day? = Always present
  - Any distortion? = No
  - Are bright lights painful or do you experience significant glare? = No
  - When did you last have an eye test? = Two years ago
Case 1

- Relevant medical history
  - Any previous medical problems with the eyes = No
  - Previous cataract surgery = No
  - Diabetic = No
  - Contact lenses = No
Case 1

- Differential diagnosis

- Management
Case 1

- Differential diagnosis
  - Ammetropia
  - Cataract
  - Age-related macula degeneration – suspect dry

- Management
  - Routine referral to community optometrist
Case 2

- 72 year old lady
  - Gradual, painless loss of vision
    - What questions to ask?
    - What medical history is relevant?
    - What is the differential diagnosis?
    - How would you manage?
Case 2

• What questions to ask?
  • One or both eyes?
  • When do you notice your vision is worse?
  • Is it mainly things far away or up close?
  • Is it worse at any particular time of day?
  • Any distortion?
  • Are bright lights painful or do you experience significant glare?
  • When did you last have an eye test?
Case 2

• What questions to ask?
  • One or both eyes? = RE
  • When do you notice your vision is worse? = 4 weeks ago
  • Is it mainly things far away or up close? = Books and faces
  • Is it worse at any particular time of day? = Always present
  • Any distortion? = Yes
  • Are bright lights painful or do you experience significant glare? = No
  • When did you last have an eye test? = 6 months ago
Case 2

• Relevant medical history
  
  • Any previous medical problems with the eyes = No
  
  • Previous cataract surgery = Yes – several years ago
  
  • Diabetic = No
  
  • Contact lenses = No
Case 2

- Differential diagnosis

- Management
Case 2

- Differential diagnosis
  - Age-related macula degeneration – suspect wet
  - Other maculopathy, e.g. ERM

- Management
  - Urgent referral to community optometrist within 1 week
Case 3

• 68 year old man
  • Gradual, painless loss of vision over the past 6 months
    • What questions to ask?
    • What medical history is relevant?
    • What is the differential diagnosis?
    • How would you manage?
Case 3

- What questions to ask?
  - One or both eyes?
  - When do you notice your vision is worse?
  - Is it mainly things far away or up close?
  - Is it worse at any particular time of day?
  - Any distortion?
  - Are bright lights painful or do you experience significant glare?
  - When did you last have an eye test?
Case 3

- What questions to ask?
  - One or both eyes? = RE
  - When do you notice your vision is worse? = > 3 months ago
  - Is it mainly things far away or up close? = Both
  - Is it worse at any particular time of day? = Always present
  - Any distortion? = No
  - Are bright lights painful or do you experience significant glare? = Yes
  - When did you last have an eye test? = One year ago
Case 3

- Relevant medical history
  - Any previous medical problems with the eyes = No
  - Previous cataract surgery = Yes, RE 2 years ago, LE 1 year ago
  - Diabetic = Yes (controlled)
  - Contact lenses = No
Case 3

- Differential diagnosis

- Management
Case 3

• Differential diagnosis
  • Posterior capsular opacification
  • Ammetropia
  • Age-related macula degeneration

• Management
  • Routine referral to community optometrist
Before capsulotomy

After small capsulotomy
Gradual Loss of Vision

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