Gradual loss of vision

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Gradual loss of vision

• 1. Open angle glaucoma..
• 2. Cataracts.
• 3. Refractive errors.
• 4. Macular degeneration.
• 5. Diabetic retinopathy.
• 6. Hypertensive retinopathy
• 7. Retinitis pigmentosa.
Primary Open Angle Glaucoma

- Movement of fluid in the eye.
Primary Open Angle Glaucoma
Primary Open Angle Glaucoma

- Optic nerve damage
- Multitude of diseases
- Gradual loss of vision
- Second leading cause of blindness
  - Symptoms:
    - Loss of peripheral vision
    - Tunnel vision
    - Loss of colour vision
Optic nerve damage
Primary Open Angle Glaucoma

- Tests:
  - Intra-ocular pressure
  - Fundoscopy
  - Visual field tests
  - Cornea thickness
POAG tests

Humphreys visual field machine

Goldmann’s tonometer
Humphreys Visual field test

- Normal Blindspot
- Glaucoma Arcuate Defect
- Glaucoma Nasal Step
POAG treatment

• Medical:
  – Reduce production or increase outflow

• Surgical:
  – Trabeculectomy
Cataract
Cataract

• Clouding of the lens of the eye
• Primary, senile cataract progresses slowly
  – Symptoms
    • Blurred vision
    • Worsening vision at night
    • Halos around lights
    • Fading of colours
    • Monocular diplopia

• Secondary, Diabetes/trauma
• Evaluation by direct ophthalmoscopy/red reflex
• Phacoemulsification surgery – wound size generally 3.5mm across and implantation of intra-ocular lens
The lens and Cataract
Types of Cataract
Types of Cataracts
Cataract surgery
Refractive errors

- Myopia
  - axial
  - Index
Refractive errors

• Hypermetropia
  – Axial
  – index
Refractive errors

- Astigmatism
Refractive errors

Presbyopia
Age-related macular degeneration

- Age-related maculopathy (ARM)
  - Drusen
  - hyper/de-pigmentation of RPE
- Age-related macular degeneration
  - Dry:
    - Geographic atrophy of RPE
    - Gradual onset, slowly progressive.
    - No treatment possible
  - Wet:
    - Neovascular AMD
    - Vessels grow from choriocapillaris through defects in Bruch's membrane
    - Metamorphopsia, positive scotoma and blurring of central vision
Age related maculopathy
Age related macular degeneration
Wet age related macular degeneration
Age related Macular Degeneration

• Treatment
  – Wet AMD – monthly ranibizumab (Lucentis) if Va within the range 6/12 to 6/60. (FFA)
  – Dry AMD – diet includes leafy greens, quit cigs, monitor/check BP.
Diabetic retinopathy

• Commoner in type 1 than in type 2
• Most prevalent cause of blindness between ages of 20 and 65
  – Risk factors
    • Duration of disease, 50% at 10 years, and 90% after 30 years.
    • Poor metabolic control, can prevent or delay development or progression of DR.
    • Pregnancy
    • Hypertension
    • Nephropathy
Diabetic retinopathy

• Pathogenesis:
  – Capillaropathy: degeneration/loss of pericytes, proliferation of endothelial cells, thickening of the basement membrane and occlusion
  – Haematological changes leading to decreased blood flow
  – Microvascular occlusion, causing AV shunts and neovascularisation
Diabetic retinopathy

Classification:-

• No DR
• Background
• Exudative
• Preproliferative
• Proliferative
• Advanced diabetic eye disease
No diabetic retinopathy.

Background diabetic retinopathy.
Exudative diabetic retinopathy.
Preproliferative diabetic retinopathy.

IRMA and CWS.

Venous beading.
Proliferative diabetic retinopathy.

New vessels at the disc (NVD)  New vessels elsewhere (NVE)
Advanced diabetic eye disease.

Vitreous haemorrhage from NVD  
Fibrosis from NVE
Hypertensive retinopathy

• Chronic:
  – AV crossing, arteriolar sclerosis, cotton wool spots, flame-shaped hemorrhages, arterial macro-aneurysms, central or branch occlusion of an artery or vein.

• Acute (malignant):
  – Hard exudate “macular star”, retinal oedema, cotton-wool spots, flame-shaped hemorrhages, optic nerve head oedema,
Hypertensive retinopathy
Retinitis pigmentosa

• Diverse genetic disorder leading to photoreceptor death (retinal dystrophy)
• 1:5000
• Inheritance
  – Affects age of onset, rate of progression, eventual loss of vision.
  – AD, common best prognosis
  – De-novo/sporadic
  – AR less common, intermediate prognosis
  – XL least common, worst prognosis
Retinitis pigmentosa

• Symptoms
  – Decreased night vision
  – Loss of peripheral vision
  – Decrease in central vision
  – Loss of colour vision

• Diagnosis:
  – Bilateral
  – Loss of vision as above
  – Arteriolar attenuation
  – Retinal bone-spicle pigmentation
  – Waxy disc pallor
Retinitis pigmentosa.
Thanks!

Any Questions?

Good Luck!
Optic disc swelling
Venous occlusion
Malignant melanoma of the choroid.

Choroidal MM.

Choroidal naevus.
Glaucoma medications.

- Prostaglandin analogues and prostanolides.
- Beta blockers.
- Combinations of the above (Xalacom, Lumigan, Travoprost).
- Trusopt, Azopt.
- Alphagan.
- Pilocarpine.
- Oral Diamox, oral glycerol, i/v mannitol.
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