

Ophthalmology for Finals

History	<ul style="list-style-type: none"> Vision Diplopia Pain, redness and discharge Trauma Ocular history Medical history Drugs Family history
Examination	<ul style="list-style-type: none"> Visual acuity Visual fields Pupil reactions Ophthalmoscopy Eye movements
Imaging	<ul style="list-style-type: none"> Ultrasonography Computed tomography Magnetic resonance imaging
Conjunctivitis	<ul style="list-style-type: none"> discomfort, redness, discharge Infective; <ul style="list-style-type: none"> viral; bacterial chlamydial Allergic; <ul style="list-style-type: none"> acute chronic
Episcleritis and Scleritis	<ul style="list-style-type: none"> discomfort/pain, localised redness, no discharge Ideopathic Connective tissue disease
Keratitis	<ul style="list-style-type: none"> pain, photophobia, redness, discharge, fluorescein staining Infective; <ul style="list-style-type: none"> herpes simplex keratitis bacterial fungal
Uveitis	<ul style="list-style-type: none"> Clinical features <ul style="list-style-type: none"> red, painful, photophobia, reduced vision circumciliary injection, keratic precipitates, posterior synechiae Aetiology <ul style="list-style-type: none"> idiopathic systemic associations infections
Cataract	<ul style="list-style-type: none"> = lens opacity causing visual impairment Causes <ul style="list-style-type: none"> senile diabetes drugs; steroids trauma uveitis congenital Features <ul style="list-style-type: none"> blurring, glare, monocular diplopia, increasing myopia decreased VA, decreased red reflex, lens changes Indications for extraction; visual, glaucoma or medical

Technique; intracapsular/extracapsular
 intraocular lens implants

Complications persistent inflammation
 endophthalmitis
 astigmatism
 decentration of lens implant
 posterior capsule opacification

Glaucoma =Group of conditions characterised by;
 1) cupping of optic disc
 2) peripheral visual field loss
 3) (usually) raised intraocular pressure

NB Ocular hypertension
 Normal pressure glaucoma

Classification; Primary, or secondary to other ocular conditions
 Iridocorneal angle of anterior chamber; closed or open
 Acute, subacute or chronic

Primary (chronic simple) open angle glaucoma

 Normal appearance of angle
 Prevalence 0.5%; age, FH, diabetes, myopia, W.Indies

Features Insidious painless onset with progressive field loss

Treatment Aim to reduce IOP;
 reduce aqueous production
 increase aqueous outflow
 trabeculectomy

Primary (acute) angle closure glaucoma

Aetiology Angle closed by iris-trabecular contact due to pupil block
 Risk factors; hypermetropia, mydriasis, age, women

Features Painful red eye with haloes and visual loss
 Cloudy cornea, mid-dilated non-reactive oval pupil

Treatment reduce IOP
 bilateral iridotomies

Retinal vascular occlusion

Aetiology diabetes
 hypertension
 hyperlipidaemia
 vasculitis esp GCA if optic nerve/ retinal artery
 thrombogenic and hyperviscosity states

Features central or branch vessel
 sudden painless unilateral loss of vision

Retinal artery occlusion

Aetiology retinal arterial thrombosis
 cardiac or carotid embolus

Features may be preceded by amaurosis fugax
 pale infarcted retina with cherry red spot at macula

Treatment urgent vasodilatation; treat cause

Retinal vein occlusion

Features venous dilatation, haemorrhages, cotton wool spots
Treatment treat cause
laser for macular oedema or neovascularisation

Ischaemic optic neuropathy

Aetiology occlusion of posterior ciliary arteries
Features disc swelling, APD, altitudinal field loss
Treatment treat cause

Diabetic retinopathy

Commonest cause of registered blindness in 30-60yr age group
Prevalence overall; 25% of diabetic population

Pathology;
microangiopathy; microaneurysms
capillary leakage; haemorrhages
lipid exudates
oedema
capillary closure; ischaemia
neovascularisation

Background diabetic retinopathy

microaneurysms
haemorrhages
lipid (hard) exudates

Pre-proliferative diabetic retinopathy

venous dilatation, beading
cotton wool spots

Proliferative diabetic retinopathy

neovascularisation into vitreous
vitreous haemorrhage
tractional retinal detachment
neovascular glaucoma with rubeosis

Management

metabolic Control
stop smoking
treat HT

screening for maculopathy or preprolif retinopathy
focal laser for significant maculopathy
scatter laser (Pan-Retinal Photocoagulation) for NV

Hypertensive retinopathy

- 1) Silver wiring
- 2) AV nipping
- 3) Haemorrhages, exudates and cotton wool spots
- 4) Disc swelling

Retinal detachment = separation from RPE

Aetiology; retinal break
Features floaters/photopsia, "curtain"
Treatment; closure of break; internal or external approaches

Age related macular degeneration

Aetiology drusen
 atrophy of retinal pigment epithelium
 choroidal neovascularisation
Features distortion, loss of central vision
Management early laser in a few cases

Strabismus "Squint" = misalignment of visual axes

Importance May be caused by poor vision
 May cause amblyopia
 Cosmesis
Treatment Treat cause
 Occlusion
 Orthoptic exercises
 Squint surgery

Ocular Nerve Palsies

III- eye is down and out, ptosis, dilated pupil
IV- unable to depress in adduction
VI- unable to abduct

Horner's Syndrome

ptosis, miosis, anhidrosis,

Optic atrophy

Glaucoma
Papilloedema
Hereditary Optic Neuropathy
Trauma
Compression
Inflammation
Infiltration
Toxic
Ischaemia

Red Eye

Aetiology	corneal abrasion subtarsal/corneal foreign body subconjunctival haemorrhage acute angle closure glaucoma conjunctivitis keratitis episcleritis scleritis uveitis
Signs of serious disease	photophobia poor vision corneal fluorescein staining abnormal pupil

Sudden Loss of Vision

vitreous haemorrhage
macular degeneration
vascular occlusions
retinal detachment
optic neuritis
cerebrovascular accident

Ocular Injuries

Blunt injuries

Periorbital haematoma
Eyelid lacerations
Subconjunctival haemorrhage
Corneal abrasion
Hyphaema
Vitreous haemorrhage
Lens dislocation, cataract
Retinal tear and detachment
Ruptured globe
Orbital fractures

Foreign bodies

conjunctival
corneal
intraocular

Penetrating injuries

Chemical burns

Radiation injuries