

Neuro-ophthalmology: 5 Rules for the Road

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Rule #1: You can't find a fever if you don't take a temperature

- ⌘ Patients with blurred vision need:
 - ⌘ Visual acuity measurement
 - ⌘ Confrontation field testing
 - ⌘ Pupil examination ie "swinging flashlight test"
 - ⌘ (Fundoscopy)



Horner's Syndrome

- ⌘ anisocoria with miosis, ptosis ipsilateral to lesion
- ⌘ may also have
 - ⌘ anhydrosis
 - ⌘ face or neck pain (suggests ICA dissection)
 - ⌘ heterochromia iridis (suggests congenital or very longstanding)
- ⌘ causes include
 - ⌘ ICA dissection
 - ⌘ brainstem stroke/tumour, cavernous sinus & apical lung tumours
 - ⌘ iatrogenic (neck/chest surgery, chiropractic neck manipulation)

Rule #2: Suspect Giant Cell Arteritis

- ⊗ in every patient over 50 with
 - ⊗ transient loss of vision
 - ⊗ sudden loss of vision
 - ⊗ acute/recent (whether transient or persistent) diplopia, even if eye movements look normal
- ⊗ get an ESR and CRP on the way to their ophthalmologist

GCA Symptoms

- ⊗ Ophthalmic
 - ⊗ transient loss of vision, preceding permanent visual loss
 - ⊗ LOV is often rapidly, sequentially, **bilateral**
 - ⊗ transient or persistent diplopia
- ⊗ Systemic
 - ⊗ *new* recent onset headache
 - ⊗ jaw claudication, scalp tenderness
 - ⊗ malaise, weight loss, night sweats, muscle aches
 - ⊗ ear pain, neck pain

Giant Cell Arteritis: Investigation and Management

- ⊗ Blood tests: ESR & CRP
- ⊗ Treatment:
 - ⊗ Steroid: oral Prednisolone or IV Methylprednisolone followed by oral Prednisolone
 - ⊗ osteoporosis and gastric ulcer prophylaxis
- ⊗ Anatomical pathology: Temporal Artery Biopsy
 - ⊗ Every patient with *suspected* Giant Cell requires TABx
 - ⊗ Every patient *treated* for Giant Cell deserves TABx

Rule #3: Acute/recent diplopia needs imaging and referral

[and ESR & CRP if over 50 years old]

- ⊗ Acute III Paresis is an aneurysm until proven otherwise
- ⊗ Acquired IV Paresis could be tumour or vascular malformation, and needs MRI
- ⊗ Acquired VI Paresis could be tumour, and needs MRI

⌘ *IV Paresis*

- ⌘ Congenital
- ⌘ Trauma
- ⌘ Ischemia

Rule #4: Eye problems can kill

- ⌘ most urgent life-threatening emergencies:
 - ⌘ III paresis (aneurysm)
 - ⌘ bilateral disk swelling (tumour or dural sinus thrombosis)
 - ⌘ acute ophthalmoplegia (pituitary apoplexy / acute myasthenia)
 - ⌘ ptosis or diplopia with dyspnea, dysphagia, systemic weakness
 - ⌘ (and of course let's not forget **Giant Cell Arteritis**)

Raised Intracranial Pressure

- ⌘ Headache
 - ⌘ constant
 - ⌘ present on waking
- ⌘ Disk swelling
- ⌘ VI paresis
- ⌘ Needs urgent MRI/MRV

Pituitary Apoplexy

- ⌘ sudden necrotic expansion of (pre-existing) pituitary adenoma
- ⌘ severe sudden-onset headache
- ⌘ may be groggy
- ⌘ eye signs
 - ⌘ reduced vision (monocular or binocular)
 - ⌘ field defect can be central chiasmal, pre- or post-chiasmal
- ⌘ needs urgent admission

Rule #5: Visual loss can be the presenting sign of generalised neurological illness

- ⌘ Optic neuritis
 - ⌘ typically painful acute monocular vision loss
 - ⌘ RAPD almost universal
 - ⌘ central loss with confrontation fields
 - ⌘ fundus usually normal
 - ⌘ MRI for assessment of MS risk
 - ⌘ Steroids speed recovery, short-term protection against MS

Summary

- ⌘ #1: Need to examine VA, Fields, Pupils, Disks
- ⌘ #2: Suspect Giant Cell Arteritis
- ⌘ #3: Recent diplopia needs imaging
- ⌘ #4: Eye emergencies *CAN KILL*
- ⌘ #5: Eye complaints can presage systemic disease