

OP 5 - ACUTE VISUAL LOSS

History

Visual Loss Transient or Persistent

Transient - Transient Ischemic Attack

- Migraine

Visual Loss Monocular or Binocular

Binocular - Cerebral Vascular accident (C.V.A.)

- Migraines

- Bilateral Ischemic optic neuropathy

painful visual loss → acute glaucoma

Tempo of Visual Loss

Sudden - vascular → central retinal artery occlusion

- central retinal vein occlusion

- vitreous hemorrhage

Days - Optic neuritis

- Ischemic optic neuropathy

Associated Medical Condition

- Hypertension, Atherosclerosis - CVA, vascular occlusions, ischemic optic neuropathy
- Diabetes - vitreous hemorrhage
- Myopia, previous cataract surgery - retinal detachment

Acute Discovery of Chronic Visual Loss by patient.

Many patients with one normal eye may not be aware of chronic progressive visual loss in fellow eye until they cover their good eye for some reason. Physician may find a chronic cause for loss eg. cataract, longstanding optic atrophy.

Physical Examination Points in Acute Visual Loss

Visual Acuity

Visual Field Testing - confrontation V.F.

Hemianopia → CNS cause of visual loss

Pupillary Reaction - afferent pupillary defect

optic nerve causes visual loss

Ophthalmoscopy - defect opaque vitreous retinal abnormalities

Tonometry - detect ↑ intraocular pressure

acute glaucoma

Causes of Acute Visual Loss

Vitreous Hemorrhage - Bleeding into vitreous

- (V.H.)
- Opacifies the normally optically clear vitreous body
 - Patient notes floaters, red streaks, reduced vision, painless

- Others
- bleeding from either causes of neovascularization
eg. retinal venous occlusion
 - Retinal tear (Tear across a retinal vessel causes bleeding)

Retinal Disease

- Retinal Detachment
- Acute visual loss with extensive detachment
 - Floaters, photopsia symptoms may precede progressive visual field loss. Visual acuity is affected when detachment spreads into macula.
 - Treatment → urgent referral ophthalmologist for surgery.

Retinal Vascular Occlusions

Central Retinal/Artery Occlusion

- sudden painless visual loss
- embolus or thrombosis to central retinal artery
- often history of vascular disease arteriosclerosis

- Examine
- attenuation of arterioles
 - opaqueness of inner layer of retina
 - “cherry red spot” appearance to fovea

- Treatment
- Ophthalmic emergency
 - If occlusion is less than a few hours old restoration of blood flow may restore vision, try digital massage of globe.
 - Ophthalmologist may try drain fluid from anterior chamber (paracentesis)
 - Check erythrocyte sedimentation rate (E.S.R.) to rule out giant cell arteritis

Central Retinal Vein Occlusion (CRVO)

Distinct Ophthalmoscopic Picture

- enlarged retinal veins
- cotton wool spots (white patches on retina)
- diffuse retinal hemorrhages
- optic nerve appears congested

- subacute onset of visual loss
- elderly, hypertensives

Optic Nerve Disease

Optic Neuritis

- inflammation of optic nerve
- Etiology - idiopathic
 - multiple sclerosis
 - infectious
- Reduced visual acuity
- Relative afferent pupillary defect
- Hyperemia swelling of optic disc
- Onset over days
- Visual field loss - central scotomas
 - or peripheral field loss

Most recover large part of vision over several weeks.

Treatment

- oral steroids alone contraindicated (may cause increase in relapses in M.S. patients).
- can consider using high dose I.V. steroids

Retrobulbar Neuritis

- optic nerve head appears normal
- still have other findings - pupil defect
 - ↓V.A.
 - visual field scotoma

Papilledema

- swelling of optic nerve due to elevated cerebrospinal fluid pressure
- bilateral usually
- does not affect V.A. or cause any visual loss unless chronic
- pupil reactions are normal

Ischemic Optic Neuropathy

- swelling of optic nerve due to hypoperfusion of optic nerve.
- thrombosis in posterior ciliary vessels which normally perfuse the optic nerve head
- visual field loss is usually altitudinal
- optic nerve swelling may be sectorial

Etiology

Non arteritic

- middle aged hypertensive, smokers
- pathophysiology → arteriosclerosis of optic nerve circulation
- treatment → medical for atherosclerotic risk factors

Arteritic

- giant cell arteritis
(temporal arteritis)
- elderly patient, may have a history of recent weight loss, myalgias,
headache
pain on chewing (jaw claudication)

Check for elevated E.S.R.

Pathophysiology → multinucleated giant cells

- inflammation in the walls of arteries
- a systemic process

Urgent to make a diagnosis before further sequelae.

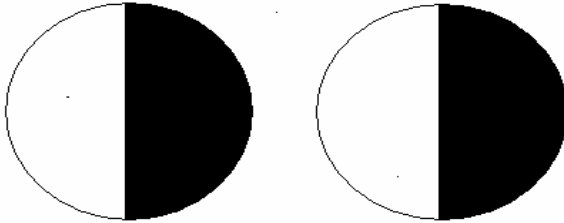
Treatment - high dose oral steroids

CNS causes of Acute, Visual Loss

Homonymous Hemianopic visual field loss

- loss of vision on one side of both visual fields

eg



R sided homonymous hemianopia

Suggests

Stroke or tumor

L sided occipital cortex

Functional Visual Loss - Hysteria, malingering

- pupil reactions normal
- visual field testing - responses from patient may be inconsistent

Key Points

Early Diagnosis and Referral for treatable emergencies most important in:

Retinal Detachment

Vitreous Hemorrhage

Ischemic Optic Neuropathy if suspected to be due to giant cell arteritis (Temporal arteritis)

