

Case #31921374

Summary: Unilateral Transient Visual Loss due to impending arteritic anterior ischemic optic neuropathy (AAION) from giant cell arteritis (severe narrowing of posterior ciliary artery before impending occlusion)

History

Presentation:

80-year-old white female that has noticed repeated episodes of sudden darkening of vision.

Inquiry: Bilateral vs Unilateral

Patient Response: unilateral, right eye only for each episode

Inquiry: Duration

Each episode has a duration of less than a minute

Inquiry: Episode Characteristics

Negative visual phenomenon (darkening of vision)

Inquiry: Activity during the episode

Episodes of darkening of vision occurred while standing upright from sitting position or when she bends over to pick up laundry from the floor and rises to standing position.

Inquiry: Pattern of visual loss

Repeated episodes of sudden darkening of entire vision in the right eye only.

Inquiry: Other Symptoms

10 lb. (4.5kg) weight loss in the last 6 months, flu-like symptoms and mild low-grade fever. Has been having some hip and neck pain the last 3 months. She went to her hairdresser 3 weeks ago and was experiencing some pain during her comb-out after a shampoo. She also has had two episodes of horizontal diplopia lasting less than a minute in the last 2 weeks.

Inquiry: Current Medication

The patient is on anti-hypertensive medications for high blood pressure.

Exam Results

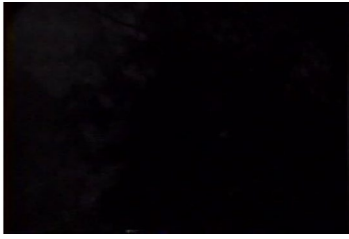
Exam: normal vision of 20/20, no relative afferent pupil defect. Ocular motility normal. Intraocular pressure 13 mmHg OU. Dilated fundus exam showed normal retina, macula and optic nerves

Further exam: when pressing on her globe, the retinal artery collapsed in the right eye with very little digital pressure on the eye, and the left eye's central retinal artery did not collapse until moderate digital pressure was given



Retinal artery collapse in response to light pressure

Testing: fluorescein angiogram showed delayed patchy choroidal filling in the right eye during the early phase and delayed filling of the central retinal vein (delayed arterial- venous filling time of greater than 4 seconds).



Fluorescein angiogram in a **normal** patient.
Choroidal fills first followed by the retinal arteries



Fluorescein angiogram of **patient**

Commentary:

This is an important case, because often transient visual loss may be the first sign of giant cell arteritis before an arterial occlusion of one or more posterior ciliary arteries occurs causing AION. As the arterial inflammation progresses, there is progressive narrowing of the vessel lumen of the distal vessel in the orbit. At this point, sudden drops in blood pressure produce a transient visual obscuration and this is most commonly experienced with orthostatic changes causing a transient drop in blood pressure. A fluorescein angiogram will usually show patchy, slow filling of the choroid supplied by the narrowed posterior ciliary artery. Transient diplopia may also occur when the muscular artery in the orbit, which supplies blood to the extraocular muscles is involved, causing transient ischemia to one or more eye muscles. This is another reason why unilateral transient visual loss should also result in obtaining an ESR and C-reactive protein level. Remember also that 20% of cases of visual loss due to GCA are "occult" with no other systemic symptom of giant cell arteritis.

Other causes of unilateral transient visual loss due to drops in blood pressure can be due to any flow significant narrowing of the carotid artery supplying the eye, either in its proximal or distal, intracranial portion, or at the location of origin of the ophthalmic artery from the carotid artery.