5.5.3. Patient With Transient Visual Loss (III): Transient Monocular Visual Loss (TMVL) (III)

Vasospasm, Hypervisocsity, and Hypercoagulability

- vasospasm of the retinal artery
  - rare
  - <50 years
  - strong personal or family history of migraine
  - ± complete visual loss
  - often severe
  - stereotypic episodes of painless TMVL
  - ± constriction of retinal arteries
  - ocular examination findings are usually normal
  - whether vasospasm can truly cause transient visual loss is debated
  - diagnosis of vasospastic TMVL is one of exclusion!
  - workup
    - complete blood count
    - cardiac evaluation
    - carotid imaging
    - 50 years
    - erythrocyte sedimentation rate and C-reactive protein concentration
  - seem to provide relief from amaurosis fugax in some patients
  - prevent vasospasm
  - calcium channel blockers
- hyperviscosity syndrome & hypercoagulable states
  - in younger patients
  - 10% of patients with polycythemia vera complain of TMVL
  - serologic testing
    - anticardiolipin antibody
    - antiphosphatidyl choline and serine
    - antinuclear antibody
    - serum protein electrophoresis
    - partial thromboplastin time
    - VDRL
    - treponema pallidum hemagglutination assay (TPHA)
    - protein S
    - protein C

Vasculitis

- giant cell arteritis (GCA)
  - ≥50 years
  - signals impending acute and permanent visual loss in 1 or both eyes
  - symptoms
    - headache
    - scalp tenderness
    - jaw claudication
    - proximal joint pain
    - muscle aches and myalgias
    - depressed appetite
    - weight loss
    - malaise
  - diagnostic workup
    - erythrocyte sedimentation rate
    - C-reactive protein
    - elevated platelet count
    - choroidal hypoperfusion
      - low intraocular pressure
      - changes on fluorescein angiogram
  - immediate treatment with high-dose corticosteroids

Additional systemic causes

- ophthalmic artery disease
- giant cell arteritis
- Raynaud disease
- vasculitis
- hyperviscosity syndromes
- antiphospholipid antibody syndrome
- vasospasm (migraine)
- carotid dissection
  - painful ipsilateral monocular visual loss
  - Horner syndrome
  - contralateral neurologic signs
  - associated with

Hypoperfusion

- central retinal vein occlusion
  - TMVL lasting seconds to minutes
  - recovery to normal vision
  - may predate more lasting visual loss by days or weeks
  - symptoms may cease when collateral vessels develop
- change in posture from a sitting to a standing position
  - TMVL lasting seconds to 1–2 minutes
  - progressive restriction of vision from the periphery ("iris diaphragm pattern")
  - etiology
    - cardiac arrhythmia
    - severe stenosis of the great vessels
    - GCA
- ocular ischemic syndrome
  - etiology
    - vascular occlusion anywhere between the heart and the eye
  - symptoms
    - recurrent orbital or facial pain that improves when the patient lies down
      - highly suggestive of carotid occlusive disease
    - transient visual loss on exposure to bright light
    - transient or persistent blurred vision
  - clinical presentation
    - early stages
      - midperipheral dot-and-blot hemorrhages
      - may resemble those associated with diabetes mellitus
    - late stages
      - anterior segment changes
        - red, painful eye
        - episcleral vascular injection
        - aqueous flare (ischemic uveitis)
        - may be confused with intraocular inflammation
        - neovascularization of the chamber angle and iris
        - intraocular pressure (IOP) may be low, normal, or high
        - impaired ciliary body perfusion!
      - fundus changes
        - dilated retinal veins
        - narrowed retinal arteries with microaneurysm formation
        - midperipheral dot-and-blot hemorrhages
        - macular edema
        - venous stasis retinopathy (VSR)
  - treatment
    - CEA
      - If preoperative IOP is low, CEA may precipitate dangerously high IOP
      - in some patients, carotid occlusion may be too advanced for surgical correction
      - with signs of chronic hypoperfusion, improvement is unlikely
        - early detection is crucial!
    - IOP-lowering drugs
    - corticosteroids for pain
    - panretinal photocoagulation

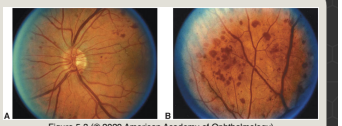

Figure 5-3 (© 2020 American Academy of Ophthalmology)

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