5.5.1. Patient With Transient Visual Loss (I): Transient Monocular Visual Loss (TMVL) (I)

- Introduction to transient visual loss
  - definition
    - sudden loss of visual function (partial or complete) in 1 or both eyes that lasts <24 hours
  - most common cause
    - transient monocular visual loss (TMVL)
      - retinal ischemia due to carotid artery disease
    - transient binocular visual disturbance
      - migraine
  - Monocular versus binocular visual loss
    - monocular loss
      - prechiasmal problem
    - binocular loss
      - chiasmal or retrochiasmal problem
      - transient homonymous hemianopia is frequently misperceived by the patient as a monocular visual loss in the eye with the temporal field deficit
  - Age
    - < 50 years
      - migraine/vasospasm
        - most common cause
      - eclampsia
        - important exception in pregnant women
          - within days of delivery
          - transient visual loss may be a harbinger of more serious and permanent visual loss
    - 50 years
      - cerebrovascular disease
      - giant cell arteritis
  - Duration of visual loss
    - only seconds
      - optic disc drusen
      - papilledema
      - precipitated by a change in posture
    - < 15 minutes
      - ipsilateral internal carotid artery stenosis
        - retinal emboli
          - <1 hour
            - usually resolves in 10–15 minutes
    - 20–30 minutes
      - scintillating scotoma of migraine (binocular)
    - seconds to an hour
      - retinal artery vasospasm
  - Pattern of visual loss and recovery
    - descending curtain in 1 eye
    - tunnel-like contraction of vision
    - sudden loss of vision
      - retinal emboli
    - altitudinal visual loss
      - carotid artery disease
      - vasospasm
    - visual loss or disturbance precipitated by exercise
      - vasospasm
      - demyelinating disease
        - Uhthoff phenomenon
          - transient visual blurring with physical activity or elevation in body temperature
          - in patients with a current or previous episode of optic neuritis
    - binocular visual disturbance with geometric quality
      - occipital lobe dysfunction
        - migraine
        - ischemia
        - seizure
      - hexagonal "chicken wire" pattern
    - whiteout of vision in both eyes simultaneously
    - gradual constriction (ie, "closing in") of peripheral vision without positive visual phenomena
      - occipital lobe ischemia
    - complete bilateral visual loss
    - homonymous hemianopia
      - posterior circulation ischemia
        - in association with brainstem and cerebellar symptoms
  - Associated symptoms and additional signs
    - positive visual phenomena (+ headache)
      - migraine
    - persistent headaches
      - increased intracranial pressure
    - intracranial noises
      - increased intracranial pressure
    - elderly patient with headaches, weight loss, fever, malaise, and scalp tenderness
      - giant cell arteritis
    - loss of consciousness, dizziness, diplopia, dysarthria, or focal weakness
      - global perfusion problems
        - often involving the brainstem or cortex
    - skin or joint changes
      - collagen vascular disease
    - Raynaud phenomenon
      - collagen vascular disease
- Causes of transient monocular visual loss
  - Nonvascular ocular causes
    - tear film abnormalities
      - provoke blepharospasm
        - moments of vision loss
        - improves with a blink or application of a tear supplement
    - opacities, inflammation, or blood in the anterior chamber or the vitreous
      - UGH syndrome
        - recurrent hyphema
    - intermittent angle-closure glaucoma
      - glaukomflecken
        - halos and pain
    - macular disease
      - prolonged visual recovery
      - persistent afterimages following exposure to bright light
      - abnormal photostress recovery test
    - diseases
      - detachment
      - age-related macular degeneration
      - ocular ischemia
    - optic nerve disorders
      - well-developed papilledema
      - drusen
      - coloboma
    - references
  - Vascular diseases
    - embolic
    - carotid artery dissection
    - vasculitis
    - vasospasm
    - systemic hypotension
    - hyperviscosity, hypercoagulability
    - ocular hypoperfusion
  - Non-organic visual loss
  - See Table 5-1
- transient visual obscurations
  - grayouts or blackouts of vision
    - brief
      - <10 seconds
    - clears completely
    - precipitated by
      - changes in posture
      - spontaneous
    - may involve 1 eye at a time
  - in idiopathic intracranial hypertension, obscurations are not prognostic of optic nerve damage
- Examination for transient visual loss
  - thorough examination is crucial
    - to rule out ocular and orbital causes of transient visual loss
    - to assess the afferent visual function
    - to look for retinovascular clues such as emboli, cotton-wool spots, vascular attenuation, or hemorrhage
  - Examination should include
    - testing for best-corrected visual acuity
    - visual fields
    - color vision
    - relative afferent pupillary defect
    - dilated ophthalmoscopy
    - photostress recovery test
      - positive photostress recovery test may indicate macular ischemia
      - to differentiate vision loss caused by macular lesion or ocular ischemia from optic neuropathy
        - maculopathy
        - severe carotid artery stenosis
        - optic neuropathy
          - prolonged recovery times
            - ≥ 90–180 seconds
          - normal recovery times
            - <30 seconds
- Orbital Causes
  - gaze-evoked visual loss
    - induced by moving the eyes toward a certain direction, particularly downward
    - suggests an orbital mass
      - hemangioma
      - meningioma
  - other orbital findings
    - proptosis
    - limited ocular motility
- ischemia from positional vascular obstruction

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