Acute Pallid Optic Disc Edema: Recognizing Arteritic versus Non-Arteritic Ischemic Optic Neuropathy

Abstract
A case of giant cell arteritis in a 68-year-old patient who has sudden unilateral painless vision loss with no additional symptoms. A review on the importance of ordering blood work, imaging, and co-managing with ophthalmology.

I) Case Report
   a) Patient Demographics: 68-year-old Caucasian male
   b) Chief Complaint: sudden unilateral painless vision loss in his left eye
   c) Ocular History: unremarkable (-) glasses (-) contact lenses
   d) Medical History: remarkable for benign hypertension, seasonal allergies, psoriasis, Benign prostate hyperplasia, osteoarthritis, post-traumatic stress disorder
   e) Medications: cetirizine, finasteride, hydrochlorothiazide
   f) Other salient information: denied any muscle ache/weakness, denied scalp tenderness, denied jaw pain, tiredness, and recent weight loss

II) Pertinent Findings
   a) Clinical
      i) Acuity: 20/20 OD, Hand motion at 1 foot OS
      ii) Pupils: 3+ APD OS
      iii) Confrontation of Visual Fields: generalized constriction superior temporal and inferior nasal/temporal
      iv) Pallid optic disc edema with associated flame hemorrhage
   b) Physical
      i) Blood pressure: 151/76 mmHg
      ii) Weight: 215 lbs (lost 11 lbs in 9 months per medical records)
   c) Laboratory
      i) Abnormal hematology
         (1) Elevated sedimentation rate
         (2) Elevated C-Reactive Protein
         (3) Decreased Hematocrit
         (4) Elevated monocyte
         (5) Elevated Hb A1c
      ii) Positive temporal artery biopsy
   d) Imaging
      i) Fundus photos initial examination
         (1) Pallid optic disc edema 360 degrees without obscuration of major blood vessels OS
         (2) Pinpoint drusen bilaterally
      ii) Fundus photos follow-up examination
         (1) Optic nerve head (ONH) pallor OS
      iii) Optical coherence tomography (OCT)
         (1) Prominent swelling noted OS

III) Differential Diagnosis
   a) Primary/Leading
      i) Arteritic anterior ischemic optic neuropathy
      ii) Non-arteritic anterior ischemic optic neuropathy
   b) Others
      i) Inflammatory Optic Neuritis
      ii) Central retinal artery occlusion
      iii) Central retinal vein occlusion
      iv) Compressive optic nerve tumor
IV) Diagnosis and Discussion
   a) Elaborate on the Condition
      i) Giant Cell Arteritis (GCA) is a systemic inflammatory vasculitis that affects medium and large arteries. Etiology is not fully understood. Some researchers have attributed GCA’s etiology to idiopathic, viral, genetics, or sulfa drug origin. The incidence of this condition is on the rise with an estimated three million affected by 2050. Approximately 65% of affected patients experience vision loss. Patients can also experience diplopia, jaw claudication, weight loss, muscle weakness, scalp tenderness and new on-set of headaches. Clinical diagnosis is based on case history and posterior segment findings but is confirmed with a temporal artery biopsy. Treatment is started immediately with intravenous or systemic steroids. Without treatment, roughly 75% of patients will have this occur in the fellow eye within two weeks of initial symptoms. Additionally, if the patient has moderate to severe systemic vasculitis they are at risk for organ damage which can lead to death. Prompt diagnosis and treatment is warranted to decrease vision loss in the fellow eye and reduce mortality risk.
   b) Expound on unique features
      i) This patient presented with a complaint of painless unilateral vision loss. Denied any other systemic or ocular symptoms. Upon starting treatment, the patient stated that he had not noticed that his muscle weakness and fatigue was related to his ocular symptoms and had withheld the information prior.

V) Treatment and Management
   a) Blood work was ordered and then the results were analyzed and discussed with the onsite ophthalmologist. Treatment of oral prednisone was initiated and he was scheduled with the next available oculoplastic surgeon for temporal artery biopsy.
   b) Positive temporal artery biopsy results were received. The patient was scheduled with a follow-up with ophthalmology and instructed to continue with oral prednisone treatment.
   c) Currently, monitored on a four-week interval while tapering oral prednisone 5mg every one to two months. Referred to rheumatology with an update on hematologic labs.

VI) Conclusion
   a) Clinical Pearls/Take Home Points
      i) Life threatening condition that, at times, patients are not aware of until they have vision loss.
      ii) The importance and benefit recognizing perfusion to ONH even when edema is present will aid in differentiating arteritic versus non-arteritic.
      iii) Patients tend withhold information if they are not aware of the correlation of symptoms until treatment or do not believe they are relevant to their symptoms.

Bibliography


