Title: Retinal Vasculitis and Various Signs Associated with Underlying Systemic Etiologies

Abstract: This case presents a patient with retinal vasculitis, a sight threatening disease associated with various systemic and ocular conditions. A review of differential diagnoses using fundus photos, fluorescein angiography, and lab work will be discussed.

1) Case History
   a) Patient demographics
      i) 59-year-old Hispanic male
   b) Chief complaint
      i) sinus issues causing his eyes to feel swollen and pain looking side to side x 1 day
   c) Ocular history
      i) Unremarkable
   d) Medical history/medications
      i) Type 2 diabetes controlled with oral medication and insulin
      ii) Hypertension controlled with lisinopril
   e) Other salient information: Denies any vision changes

2) Pertinent Findings
   a) Clinical
      i) VA corrected OD: 20/20, OS 20/25-2
      ii) Pupils equal, round, reactive, (-)APD
      iii) Slit lamp unremarkable OU
      iv) IOP OD: 15 mmHg, OS 16 mmHg
      v) Dilated fundus exam (fundus photos and FANG available)
         (1) Significant sheathing of arteries off ONH superior>inferior OD
         (2) Moderate AV crossing changes OD
         (3) Possible mild sheathing of artery superior nasal arcade OS
         (4) FANG
            (a) OD: mild filling defects of affected arteries superior and inferior to ONH, possible collaterals vs. dilated capillaries on ONH, late leakage of arteries surrounding ONH
            (b) OS: no significant filling defects or leakage
   b) Physical: Denies arthralgia, rashes, oral or genital ulcerations
   c) Laboratory studies
      i) Normal: Urinalysis, CBC and PTT, RPR, TP PA, ESR, c-ANCA, p-ANCA, ACE, lysozyme, quantiferon gold, chest xray
      ii) Abnormal: cholesterol and triglycerides elevated

3) Differential diagnosis
   a) Primary/leading
      i) Systemic inflammatory disease: Behcet’s disease, sarcoidosis, SLE, Wegner’s granulomatosis
   b) Others
      i) Infectious disorders: TB, syphilis, lyme disease
      ii) ocular disorders: birdshot retinochoroidopathy, pars planitis
4) Diagnosis and discussion
   a) Retinal vasculitis is a sight threatening inflammatory disease that involves the retinal vessels. It is detected with a fundus examination but a fluorescein angiography may be helpful in diagnosis, which demonstrates vascular leakage and capillary non-perfusion. There are various etiologies to retinal vasculitis. It may occur as a manifestation of a systemic disease or occur as an isolated ocular condition.
   b) Signs associated with retinal vasculitis
      i) Phlebitis: associated with Behcet’s disease, TB, sarcoid
      ii) Retinal arteritis: more common in SLE, Wegner’s granulomatosis
      iii) Intraretinal infiltrates: characteristic of infectious diseases (absence- pathognomonic of Behcet’s)
      iv) CWS: associated with systemic vasculitides- SLE and Wegener’s
      v) Retinal necrosis: ocular toxoplasmosis, CMV retinitis
      vi) Frosted branch angiitis: associated with viral infections or autoimmune disease
      vii) Retinal ischemia: seen secondary to TB
   c) Behcet’s Disease produces the most aggressive pattern of vasculitis. Ocular features include diffuse capillary leakage, BRVO, optic atrophy and macular degeneration. Peripheral or focal periphlebitis, extensive areas of non-perfusion without an occlusion, and neovascularization are rare.
   d) Sarcoidosis related vasculitis is characterized by focal periphlebitis. Arterial involvement is virtually never seen.
   e) SLE retinal features are due to arterial occlusion; CWS, larger retinal infarcts, and optic disc infarctions are characteristic findings. Veins are usually not involved ad there are no inflammatory changes in the anterior chamber or vitreous.

5) Treatment, management
   a) Main goal of treatment in retinal vasculitis is suppression of intraocular inflammation to prevent vision loss and long-term complications.
   b) Detailed history, review of systems, and physical examination should narrow the lab work-up
   c) Not all patients require therapeutic intervention.
   d) Corticosteroids and immunosuppressive medications along with laser photocoagulation of retinal ischemic areas are the mainstay treatment.

6) Conclusion
   a) Retinal vasculitis can be the first sign of a lethal systemic disease
   b) It may occur as an isolated ocular condition
   c) Patients can be asymptomatic

References