Ocular Syphilis in a 32 Year Old HIV-Positive Caucasian Male

Abstract- A patient presents in urgent care with complaints of floaters and history of syphilis. Dilated eye exam revealed bilateral anterior vitreous cells. Patient sent for blood work and subsequently started on intravenous antibiotics.

I. Case History
   a. 32 year old Caucasian Male
   b. CC: Black Spots in vision OS, occasional flash x 1 week
   c. POHx long-standing PVD OD
   d. PMHx
      i. (+) syphilis x6months prior, treated with IM antibiotics
      ii. (+) back and neck pain x1-2 weeks
      iii. Pt denies any additional conditions
   e. Patient denies use of any medications.
   f. Denies eye pain, decrease in vision, and/or light sensitivity.

II. Pertinent findings
   a. VA sc- 20/100-1 PH 20/25 OD; 20/30-2 PH 20/20 OS
   b. Slit lamp
      i. Adnexa, lids, lashes, conjunctiva, cornea, iris lens unremarkable
      ii. Rare cell, negative flare in anterior chamber OS, unremarkable OD
   c. DFE
      i. (+) PVD OD, (+) vitreous syneresis OS
      ii. 2+ fine, non-pigmented anterior vitreous cells OD, 2-3+ OS presenting without vitreal haze (slit lamp photos)
      iii. Posterior pole unremarkable, (-) retinitis, (-) vasculitis
      iv. (+) retinal tuft OS, (-) snowbanking OU
   d. Referred to ophthalmologist for further vitreo-retinal evaluation
      i. Lab work previous lab work
      ii. Serologic Testing
         1. + MHA-TP
         2. + RPR
         3. + HIV
      iii. Lumber Puncture ordered
   e. Later systemic treatment at hospital with Intravenous Antibiotics
III. **Differential Diagnosis**

a. Leading- anterior vitritis secondary to reactivated syphilis

b. Other- Schaffer’s sign secondary to posterior vitreous detachment, spill-over of cells from old anterior uveitis cells, old cells from previous vitritis.

IV. **Diagnosis and Discussion**

a. Ocular Syphilis

   i. Incidence of ocular syphilis in adults—2013 CDC data (most recent data)

   1. 10.3 cases of primary of secondary syphilis per 100,000 in the US (vs. 11.6 cases/100,000 in Illinois) amongst males

   2. 798 cases reported in Illinois

   ii. Complications/associated symptoms

   1. Patient may come in with complaints of decreased vision, eye pain

   2. Potential for vision loss when untreated

   iii. Common ocular signs – the great masquerader

   1. Uveitis

   a. Anterior, intermediate, or posterior uveitis; panuvietis

   b. Granulomatous or non-granulomatous

   2. Anterior: keratitis, hypopyon, iris nodules, posterior synechia, Argyll-Robinson pupil

   3. Posterior: Chorioretinitis, retinitis, vasculitis, vitritis, optic nerve atrophy/pallor, serous detachment

   4. Other: Extraocular palsies

   iv. Etiology

   1. Infectious disease caused by a spirochete *Treponema pallidum*

   2. Acquired syphilis transmitted by sexual contact via syphilitic chancres on the lips, mouth, genitals, or anus.

   3. Congenital syphilis can be transferred to infants from infected mothers during birth.

b. Unique features

   i. Ocular syphilis, considered to be neurosyphilis, can present at any stage, but is most commonly associated with secondary syphilis.

   ii. HIV patients with syphilis are at an increased risk for developing neurosyphilis earlier than non-HIV patients with syphilis.
2. Treatment/Management
   a. Indicated Lab Work
      i. Pt went in for general medical examination and blood work the next day.
         1. Treponemal: FTA-Abs, MHA-TP
         2. Non-Treponemal: RPR, VDRL
         3. HIV Testing: ELISA with Western Blot
      ii. Pt was seeing by ophthalmologist 4 days later.
         1. Confirmed diagnosis of anterior vitritis OS>OD.
         2. Patient positive for reactivated syphilis titers, diagnoses as ocular syphilis/nuerosyphilis.
         3. Lumbar Puncture, additional serology testing ordered. (CD4, Viral load, PPD, CBC, ACE, CXR)
      iii. Patient was admitted to hospital and received intravenous antibiotics.
   b. Response
      i. Pt was discharged from hospital upon completion of antibiotic regime.
      ii. Leukocyte counts are an effective measure of treatment response in neurosyphilis patients
   c. CDC recommended treatment for ocular syphilis (same regime as neurosyphilis)
      i. Patient is considered “responsive to treatment” if a four-fold decrease is seen in treponemal and non-treponemal testing
      ii. Parenteral penicillin is the gold standard in initial treatment
         1. Recommended dose for adults is 3-4 million units or aqueous crystalline penicillin delivered q4hrs intravenously x 10-14 days
         2. Alternatively a daily dose of 2.4 million units of procaine penicillin given intramuscularly along with oral 500mg probenicid (increases uric acid excretion) dosed 4x/day for 10-14 days.
      iii. The CDC recommends reporting all cases of ocular syphilis to the local and/or state health department within 24 hours of diagnosis via email.
   d. References


3. Conclusion
   a. Ocular syphilis can present at any stage of syphilis infection.
   b. Ocular manifestations have been shown to appear in earlier stages in untreated HIV+ patients, even if not immunosuppressed.
   c. If inflammatory signs fail to improve with steroid treatment, send patient for serology testing to rule out diagnoses of infectious disease.
   d. Prompt treatment with antibiotics can prevent vision loss in ocular syphilis patients.