Ocular Problems in a Female High School Soccer Athlete

Freed SD, Alvarez JL, McGinness CJ, Michael CL, Blair DF, Abbott MJ:
Wenatchee High School, Wenatchee, Washington

Background: Our subject is a seventeen-year-old female soccer player. She was first seen by the ATC at her high school with a complaint of black floaters and vision problems in her left eye in June 2010. She had constant floaters, which caused the blurring of vision in her left eye. The ATC referred her to an optometrist for possible retinal pathology. After an ocular examination, she was also referred to her family physician for additional diagnostic laboratory tests. **Differential Diagnosis:** Detached retina, tuberculosis, toxoplasmosis, retinitis, infectious or autoimmune retinopathy, Behcet's disease, syphilis, histoplasmosis, toxocariasis **Treatment:** The tests indicated positive toxoplasma IgG (immunoglobulin G) 4.31 mg/dl; however, the IgM (immunoglobulin M) was negative. The IgM is only positive with an active infection and gradually becomes negative while the IgG will remain positive when the infection is no longer active. Ocular physical examination and laboratory tests confirmed the diagnosis of ocular toxoplasmosis in the left eye. Toxoplasmosis is a zoonotic infection in humans caused by the protozoal intracellular parasite *Toxoplasma gondi*. She was found to have an old toxoplasmosis scar with an adjacent area of reactivation in her right eye. Fortunately, the lesions in the left eye were located on the nasal side of the optic nerve and were not infringing on the macula or temporal arcades. If the lesions were nearer the macula or the optic nerve, a course of oral medications, pyrimethamine and sulfadiazine or clindamycin (if allergy to sulfa) in addition to steroids to suppress the inflammatory response, would have been started. In our subject's case, she was treated without oral medication and was only prescribed ocular steroid (prednisolone acetate) eye drops to reduce the eye inflammation. In July 2010, she returned to her eye doctor and was found to have minimal floaters and improved vision. **Uniqueness:** The cause of her case is still unknown, but is most likely from congenital origin. It is possible that the parasite was passed on congenitally during an acquired maternal infection where the organism simply crossed the placenta, and infected the fetus. The parasite persists in an encysted state for many years following infection. Cats are the primary hosts, while humans and other mammals serve as intermediate hosts. She did not have a cat, however, a family member had a cat for a few months when she was 8. Other possible modes of transmitting include: eating poorly washed vegetables that contained contaminated soil or eating undercooked meat. Most individuals do not show any symptoms with toxoplasmosis or only show symptoms later in life (ages 20-40). **Conclusion** There are numerous medical conditions that can mimic a more "routine" problem. On the surface, this appeared to be a common condition associated with the retina, such as a retinal detachment. However, the problem was a more obscure diagnosis of ocular toxoplasmosis. This condition is so rare, showing up in only .01% of live births. Nearly 80% of congenital toxoplasmosis will cause retinitis, compared to less than 1% of acquired toxoplasmosis. This

case underscores the importance of ruling out all the possible differential diagnoses when evaluating conditions. This remains a sight threatening condition as the subject could have 2 or 3 recurrences by the time she reaches her 40's. However, with the proper education on the signs and symptoms of recurrence, this should be avoided. Presently, the subject does experience the black floaters on an occasional basis and only on a limited basis. The symptoms of toxoplasmosis did not affect her play this past soccer season. **Word Count: 579**