Ochsner Journal 16:435, 2016

Arend LW, Mazzulla DA, Spiegel JA. Atypical retinal lesion in a heart transplant patient: investigation and management. *Ochsner J*. 2015 Winter;15(4);473-475. Erratum submitted by the authors, with the assistance/contributions of Johnson JS and Gallagher JR.

After consultation with several experts in the field of retina, we would like to retract the diagnosis of presumed cytomegalovirus retinitis and change the diagnosis to presumed *Nocardia chorioretinitis* infection.

Endogenous *Nocardia* endophthalmitis is exceedingly rare; however, this infection has been observed in patients who have received organ transplants and are on immunosuppressive therapy, as well as in patients with human immunodeficiency virus, systemic lupus erythematosus, and cancer. The infection can severely compromise vision in the affected eye and is often difficult to diagnose secondary to slow growth in culture medium, suspicion for other infectious etiologies (ie, mycoses), and nonspecific clinical findings.[1] A review of 38 patients with endogenous *Nocardia* endophthalmitis showed that the majority of the patients had an underlying systemic disease resulting in immunosuppression.[2] The paper demonstrated that 46% of affected patients were transplant recipients, 24% had autoimmune disease, and 19% had hematologic malignancy.[2] Endophthalmitis occurred within the first year in 11 of 17 transplant recipients.

The majority of these infections arise from hematogenous spread (most commonly from pulmonary focus) of *Nocardia asteroides,* a gram-positive, partially acid-fast organism. It is sometimes classified as a fungus as it shares similar characteristics; however, it is responsive to antibacterial agents such as sulfonamides rather than antifungal agents.[3] The most common presenting complaint in these patients is decreased vision and eye pain. Examination findings include inflammation of the anterior chamber and vitreous, as well as chorioretinal lesions similar to the lesion in our patient. Diagnosis requires a vitrectomy with retinal sampling, and time to diagnosis averages approximately 3.5 weeks.[1] It is unclear if pars plana vitrectomy offers any therapeutic benefit in addition to diagnosis. In a report of a case of bilateral intraocular *Nocardia* infection, Sher et al observed that the disease in one eye partially resolved after vitrectomy, whereas the disease in the nonsurgical eye was active at the time of the patient's death.[4] The patient had received several different drugs for nocardiosis prior to vitrectomy as the diagnosis had been established prior to surgery.[4] The mainstay of treatment for presumed bacterial endophthalmitis includes systemic antibiotics (achieve therapeutic levels due to the disrupted blood ocular barrier), as well as pars plana vitrectomy with intravitreal vancomycin (91 mg/0.1 mL) and ceftazidime (2.25 mg/0.1 mL).[5] Intravitreal voriconazole (400 mcg/0.1 cc) can also be given. Systemic antibiotics are continued for at least 3-4 weeks or as dictated by the extraocular infection if present.

Visual prognosis remains poor secondary to increased time to diagnosis because of clinical suspicion for other infections such as mycoses, as well as slow growth in culture. Complications such as retinal detachment (seen in 40% of patients with endophthalmitis) can also limit visual potential. These patients are at a very high risk for mortality as they often have devastating systemic disease at the time of intraocular diagnosis.

REFERENCES

1. Scott M, Mehta S, Rahman HT, Grossniklaus HE, Yeh S. *Nocardia veterana* endogenous endophthalmitis in a cardiac transplant patient. *J Ophthalmic Inflamm Infect*. 2013 Mar 30;3(1):44. doi: 10.1186/1869-5760-3-44.
2. Eschle-Meniconi ME, Guex-Crosier Y, Wolfensberger TJ. Endogenous ocular nocardiosis: an interventional case report with a review of the literature. *Surv Ophthalmol*. 2011 Sep-Oct; 56(5):383-415. doi: 10.1016/j.survophthal.2011.03.003.
3. Price NC, Frith PA, Awdry PN. Intraocular nocardiosis: a further case and review. *Int Ophthalmol*. 1989 May;13(3):177-180.
4. Sher NA, Hill CW, Eifrig DE. Bilateral intraocular Nocardia asteroides infection. *Arch Ophthalmol*. 1977 Aug;95(8):1415-1418.
5. Relhan N, Albini TA, Flynn HW Jr. Treating endogenous endophthalmitis. *Rev Ophthalmol*. 6 Oct 2014. https://www.reviewofophthalmology.com/article/treating-endogenous-endophthalmitis. Accessed September 14, 2016.