Cytomegalovirus Retinitis After Intravitreous Triamcinolone Injection in a Patient with Central Retinal Vein Occlusion

Yong-Sik Park, MD, Suk Ho Byeon, MD
Institute of Vision Research, Department of Ophthalmology, Yonsei University College of Medicine, Seoul, Korea

To report a case of cytomegalovirus (CMV) retinitis after intravitreal injection of triamcinolone acetonide (IVTA). A 77-year-old woman with macular edema due to central retinal vein occlusion (CRVO) developed peripheral retinitis 4 months after IVTA. A diagnostic anterior chamber paracentesis was performed to obtain DNA for a polymerase chain reaction (PCR) test for viral retinitis. The PCR test was positive for CMV DNA. Other tests for infective uveitis and immune competence were negative. Four months after presentation, gancyclovir was intravitreously injected a total of 5 times, and the retinitis resolved completely. CMV retinitis is a rare complication of local immunosuppression with IVTA. It can be managed with timely injection of intravitreal gancyclovir until recovery from local immunosuppression.

Key Words: Cytomegalovirus, Gancyclovir, Immunosuppression, Retinitis, Triamcinolone
Fig. 1. Cytomegalovirus (CMV) retinitis 4 months after intravitreous injection of triamcinolone acetone (IVTA). The patient initially presented with blurred vision and ghost vessels, multiple retinal hemorrhages, and peripheral retinitis.

resultant vision in her right eye was significant for hand motion. Her right eye has remained free of retinitis since.

Discussion

CMV is a ubiquitous human virus and 50-80% of adults in the United States harbor anti-CMV antibodies. Seroprevalence among lower socioeconomic groups, residents of developing countries, and homosexual men can exceed 90%. Acquisition of the virus occurs through placental transfer, breast feeding, saliva, sexual contact, blood transfusions, and organ or bone marrow transplants. Infection with CMV leads to life-long persistence; however, in healthy individuals, the virus becomes dormant and remains latent. Reactivation occurs in patients with immature or compromised immune systems. In iatrogenically immunosuppressed patients after organ or bone marrow transplantation, CMV retinitis is a rare complication. Recently, 4 cases of CMV retinitis after intravitreal steroid application in immunocompetent patients have been reported. In comparison with these previously published cases, our patient had no medical problems such as diabetes mellitus or Behcet’s disease that could have impaired her immunity. Local immunosuppression may be strong enough to allow CMV to replicate and lead to retinitis. In our case, symptomatic retinitis developed 4 months after the injection of intravitreal triamcinolone. The retinitis was completely resolved 8 months after IVTA. The local immunosuppressive effect of IVTA is thought to persist up to 8 months after injection. The poor visual outcome in this case was thought to be mainly due to the patient’s baseline disease. Timely treatment with intravitreal injection of gancyclovir until local immune recovery may be effective for local immunosuppression-induced CMV retinitis.

Ophthalmologists using intravitreal triamcinolone injections should be aware of the potential risk of subsequent CMV retinitis. Early diagnosis and treatment with intravitreal injections of gancyclovir until recovery is obtained may prevent further complications.

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