

What You Should Know About Cytomegalovirus Retinitis

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Cytomegalovirus is commonly present in the environment throughout the world, and most people are exposed to the virus early in life. When they are infected, they experience a cold or flu-like syndrome, and then recover. This virus does not leave the body with recovery, however. Instead, it remains in a dormant state as long as the immune system remains competent. If the immune system becomes impaired, then the virus can reactivate and begin multiplying again. It does so in certain preferred tissues of the body, for reasons for which are unknown at the present. The most common scenario that causes the immune system to fail and cytomegalovirus (called CMV for short) to reactivate is AIDS - that is, infection by yet another virus, HIV, which specifically attacks the helper T immune cells (called T4 or CD4 cells) and reduces the effectiveness of the immune system. Other scenarios which can cause CMV reactivation include organ transplantation with use of immune suppressing drugs, and certain types of cancer, leukemia, and lymphoma with the immune suppressing drugs and radiation therapies which are used to treat these conditions. The most common tissue in which CMV begins to multiply is the retina, the lining of the back of the eye, but other commonly affected organs include the lungs, brain, and intestines.

What Symptoms Does CMV Retinitis Cause?

Many patients with CMV retinitis have no symptoms, especially if the infection begins in the side parts of the retina. Eventually, however, the virus progresses to involve more central parts of the retina, and the patient notices that the peripheral vision is not as wide in the eye with the infection. I recommend that all patients who are HIV positive cover one eye at a time at least once per week and compare how good the side vision is in the two eyes tested individually. To do this, cover one eye and look at a clock on the wall with the open eye. Do not move the open eye, but move the hand around in the periphery of the field of vision. It should be very similar in the two eyes, and if it is not, then an examination by the ophthalmologist, with the pupils dilated, is needed. The examination by the patient's general physician is different, and will NOT detect most early cases, which is when the condition can be best treated.

Other symptoms can be floaters, or debris moving around in the field of vision of the eyes. Some patients describe these as specks, blobs, strings, or bugs. These represent clumps of inflammatory cells and debris released by the infected retina. Some patients see flashes of light, caused by the vitreous jelly that fills the eye pulling on the retina with eye movements. Patients with CMV retinitis get retinal detachments and tears much more than other people, and light flashes are a warning sign for this problem. General blurring of vision is also a common symptom, which should not be ignored.

Not all AIDS patients get CMV retinitis, so who is at greatest risk?

Very few people get CMV retinitis unless their T4 count, a measure of how advanced the immune suppression is, falls below 50 cells per cubic milliliter of blood. Just

like the "viral load", this is a number all AIDS patients should know, and remain current on as the disease progresses and improves depending on therapy. If the T4 count falls below 50, I recommend a dilated eye examination of the patient every four months, even in the absence of symptoms, in order to pick up early disease in this high-risk group. I have never seen a patient with a T4 count over 50 get CMV retinitis, although a few have been reported. Thus, routine screening in the T4>50 group is recommended only once per year, unless symptoms develop.

How is CMV retinitis treated?

The basic treatment is to begin two weeks of intravenous ganciclovir, an antiviral drug, and then switch to oral ganciclovir tablets. Simultaneously, the infected eye is surgically implanted with a ganciclovir slow release device, which provides drug to suppress the infection for an average of 8 months. When the device runs dry, another device can be implanted. There are many other options, depending on the severity of the infection and its location in the eye, and its response to the initial therapy. Intravenous foscarnet, intraocular shots of ganciclovir and foscarnet, combinations of intravenous drugs and intraocular shots, and newer drugs on the horizon, such as cidofovir and ISIS 2922 are all possible candidates, depending on the circumstances.

What is the ultimate outlook?

With a cooperative patient and a vigilant doctor, the outlook is good. I have patients who have maintained reading vision for three years. On the other hand, without proper treatment, the disease progression is relentless, and blindness assured. The patient's overall condition has a tremendous influence on how well the CMV retinitis responds, and new anti-HIV drugs will probably benefit the CMV retinitis as well. If you have more detailed questions, please write them down in the space below, and let us discuss them at your next visit.