



Cytomegalovirus (CMV) Retinitis

Most adults in the United States have been infected by cytomegalovirus (CMV), although the virus usually does not cause illness in healthy people. Because the virus remains in the body for life, it can cause disease if the immune system becomes severely damaged by disease or suppressed by drugs. CMV disease can affect the eyes, gastrointestinal tract, lung and other organs. CMV retinitis is an eye disease common among people who are infected with HIV, the virus that causes AIDS. Without treatment, people with CMV retinitis can cause people to lose their vision. CMV disease can affect both eyes and is the most common cause of blindness among people with AIDS.

Symptoms and Diagnosis

In people with AIDS, CMV retinitis most often occurs late in the course of the disease, when the immune system has been nearly destroyed by HIV. CMV infection causes patchy areas of bleeding and pus formation on the retina, the light-sensing region that lines the back of the eye. This damage to the retinal tissue can limit vision and can cause total blindness if it is extensive. The first signs of CMV retinitis are blurred vision, the loss of peripheral vision or "floaters"--drifting dark specks ("spots before the eyes") that obstruct vision. Some people report pain behind the eye. CMV disease may not cause symptoms if affected regions are limited to the outer rim of the retina.

An experienced ophthalmologist can diagnose CMV retinitis by seeing the characteristic pattern of infection on the retina during a routine eye exam.

Treatment

Acute Therapy. Without treatment, CMV retinitis usually progresses rapidly. Infection also can spread quickly to other parts of the eye such as the optic nerve, which transmits images from the eye to the brain. Prompt treatment of patients with CMV retinitis is crucial to avoid loss of vision.

Two antiviral drugs, foscarnet and ganciclovir, each delay the progression of CMV retinitis in more than three-quarters of people with AIDS-related CMV. Initially, patients receive intravenous treatment with either drug two or three times a day for two to three weeks.

Both foscarnet and ganciclovir can cause serious side effects. Foscarnet can impair kidney function and in some cases cause seizures, muscle spasms or cramps. For more than one-third of people taking ganciclovir, the drug causes a drop in their number of white blood cells, particularly in people who also take the drug zidovudine (AZT). Most people with AIDS and CMV who are undergoing treatment with ganciclovir discontinue AZT therapy until their levels of white blood cells increase. Ganciclovir also can interfere with the production of platelets--blood cells essential for blood clotting.

Maintenance Therapy. Because neither foscarnet nor ganciclovir rids the body of CMV, but merely slows its growth, patients with CMV retinitis need lifelong maintenance therapy with one of these drugs to forestall progression of the disease and loss of vision. Maintenance therapy is usually once-daily administration of ganciclovir or foscarnet through the vein at a lower dose than that used for initial therapy. Over a period of months, however, many people experience progression of CMV retinitis despite maintenance therapy.

Recently, an oral (by mouth) form of ganciclovir was approved for maintenance therapy. Oral ganciclovir may minimize the need for long-term use of intravenous lines (catheters into the vein). Although the side effects of oral ganciclovir are the same as those of intravenous ganciclovir, their frequency and severity are less. However, oral ganciclovir is not as effective as the intravenous form in slowing progression of CMV, and it is not recommended for people whose lesions are near the central part of the retina, the area most important for sight.

Research

The National Institute of Allergy and Infectious Diseases (NIAID) funds research aimed at finding new drugs for CMV retinitis, as well as better ways of administering ganciclovir or foscarnet. Several new therapies for CMV retinitis are being evaluated for safety and effectiveness in NIAID-sponsored clinical trials.

For information about these and other studies, call the AIDS Clinical Trials Information Service:

1-800-TRIALS-A
1-800-243-7012 (TDD/Deaf Access)

For federally approved treatment guidelines on HIV/AIDS, call the HIV/AIDS Treatment Information Service:

1-800-HIV-0440 1-800-243-7012 (TDD/Deaf Access)

tuberculosis and other infectious diseases as well as allergies and immunology.

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