



# CYTOMEGALOVIRUS (CMV)

## WHAT IS CMV?

Cytomegalovirus (CMV) is an opportunistic infection. The virus is very common. Between 50% and 85% of the US population tests positive for CMV by the time they are 40 years old. A healthy immune system keeps this virus in check.

When the immune defenses are weak, CMV can attack several parts of the body. This can be caused by various diseases including HIV. Combination antiretroviral therapy (ART) has reduced the rate of CMV in people with HIV by 75%. However, about 5% of people with HIV still develop CMV disease.

The most common illness caused by CMV is retinitis. This is the death of cells in the retinas, the back of the eye. It can quickly cause blindness unless treated. CMV can spread throughout the body and infect several organs at once. The risk of CMV is highest when CD4 cell counts are below 50. It is rare in people with 100 or more CD4 cells.

The first signs of CMV retinitis are vision problems such as moving black spots. These are called "floaters." They may indicate an inflammation of the retina. Patients may also notice light flashes, decreased or distorted vision, or blind spots. Some doctors recommend eye exams to catch CMV retinitis. The exams are done by an ophthalmologist (an eye specialist). **If your CD4 count is below 100 and you experience any vision problems, tell your health care provider immediately.**

Some patients who have recently started using ART can get inflammation in their eyes, causing loss of vision. This is called immune restoration syndrome (See Fact Sheet 473).

A recent study suggests that having active CMV makes it easier to pass HIV to others.

## HOW IS CMV TREATED?

The first treatments for CMV required daily intravenous infusions. Most people had a permanent medication "port" inserted into their chest or arm. People had to keep taking anti-CMV drugs for life.

CMV treatments have improved dramatically over the past several years. There are now seven CMV treatments approved by the FDA.

Strong antiretrovirals (ARVs) can improve the immune system. Patients can stop taking CMV drugs if their CD4 cell count goes over 100 to 150 and stays there for at least three months. However, there are two special cases:

1. Immune restoration syndrome can cause severe inflammation in the eyes of people with HIV even if they didn't have CMV before. The usual treatment is to add anti-CMV drugs to the patient's ARVs.
2. If the CD4 count drops below 50, there is an increased risk of developing CMV disease.

## CAN CMV BE PREVENTED?

Ganciclovir was approved for prevention (prophylaxis) of CMV. However, many health care providers don't prescribe it. They don't want to add up to 12 capsules a day for their patients. Also, it's not clear that it does any good. Two large studies came to different conclusions. Finally, strong ARVs keep most people's CD4 counts high enough so that they won't get CMV.

## HOW DO I CHOOSE A TREATMENT FOR CMV?

There are several issues to consider when choosing a treatment for active CMV disease:

**Is your vision at risk?** You may need to take quick action to save your eyesight.

**How effective is it?** Intravenous ganciclovir is the most effective overall CMV treatment. Implants are very good at stopping retinitis. However, they only work in the eye with the implant.

**How is it administered?** Pills are the easiest to manage. Intravenous (IV) medication involves needle sticks or a medication line that might become infected. Ocular injections mean inserting a needle directly into the eye. Implants,

which last six to eight months, take about an hour to insert in an office procedure.

**Is it a local therapy or systemic?** Local therapies affect just the eyes. CMV retinitis can progress rapidly and lead to blindness. For this reason, it is treated aggressively when it first shows up. The newer injections or implants put medication directly into the eye and have the greatest impact on retinitis.

CMV can also show up in other places in the body. To control CMV in the rest of the body, you need a systemic (whole-body) therapy. Intravenous medication or valganciclovir pills can be used.

**What are the side effects?** Some CMV drugs can damage your bone marrow or kidneys. This may require additional medications. Other drugs require infusions that can take a long time. Discuss the side effects of any CMV treatment with your health care provider.

**What do the guidelines say?** Recently, several sets of professional guidelines have recommended valganciclovir as the preferred treatment for patients who are not at immediate risk of losing their sight.

## THE BOTTOM LINE

Strong ARVs are the best way to prevent CMV. If your CD4 cell count is below 100, talk with your health care provider about CMV prevention and a regular schedule of eye exams. If you have a low CD4 cell count and experience **ANY** unusual vision problems, **see your health care provider immediately!**

Treatments directly in the eye make it possible to control CMV retinitis. With the newer drugs to treat CMV, you can avoid implanted medication lines and daily infusions.

Most people can safely stop taking CMV medication if their CD4 cell counts go up and stay above 100 to 150 when they take ARVs.

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