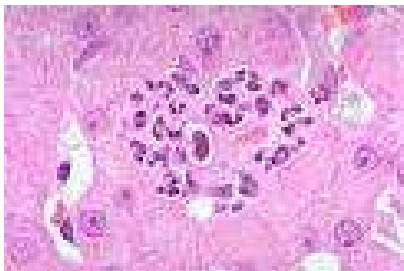




## Cytomegalovirus (CMV)



Cytomegalovirus (CMV) is a genus of Herpes viruses; in humans the species is known as Human Herpesvirus 5 (HHV-5). The name means “very big cell virus”. It is characterized by narrow spectrum of hosts, slow replication, frequently involving formation of giant cells and late, slow development of cytopathology (see fig.).

CMV infections remain inapparent or harmless in the immunological healthy even in very early – perinatal or postnatal - infections, but can cause generalized, fatal infections in immunocompromised individuals (e.g. patients with HIV, organ transplant recipients, or neonates).

The virus apparently persists in the latent state in mononuclear cells. Reactivation can also run an asymptomatic course, but symptoms may also develop that are generally relatively mild, such as mononucleosis-like clinical pictures, mild forms of hepatitis or other febrile illnesses. Droplet infection is the most frequent route of transmission, but smear infections and nursing infections are also possible. Generalized contamination with this pathogen (over 90% of the adult population is infected) frequent reactivation with – in some cases – months of continued excretion of viruses in saliva and urine and the wide variety of potential clinical pictures are all factors that make it difficult to implicate CMV as the etiological cause of an observed illness.

The illness can manifest as a sequel instead of a cause, for instance of a flu-like illness. To labor the point somewhat, it could be said that the patient is not primarily ill due to a CMV infection, but rather has a florid CMV infection because he or she is ill.

The situation is different in AIDS, transplantation or malignancy patients, in whom a fresh CMV infection or reactivation – similar to HSV and VZV – can result in severe generalized infections with lethal outcome. The liver and lungs are the main organs involved. Retinitis is also frequent in AIDS patients. In kidney transplant patients, a CMV infection of the mesangial cells can result in rejection of the transplant. Another feared CMV-condition is an intrauterine fetal infection, which almost always result from a primary infection in the mother.

Time of infection	Symptoms	Mechanism of infection
Prenatal	<p>Primary infection in the pregnant:</p> <ul style="list-style-type: none"> <li>Contamination with this pathogen: over 40% of the fetuses.</li> <li>90 % of the babies show no symptoms, in 10 – 15 % of cases the infection results in severe deformities.</li> </ul>	<p>Transmission by contact or smear infection, usually in childhood or adolescence.</p> <p>Iatrogenic transmission by transplanted organs or – rarely – blood transfusions.</p>
Perinatal	<p>25 % of all babies are infected during birth. The course of infection is generally asymptomatic.</p>	
Postnatal	<p><u>Children</u> normally show no symptoms. The course of primary infection in <u>adults</u> is generally asymptomatic, in particular cases the infection leads to hepatitis or pneumonia. In <u>Immunocompromised individuals</u> the infection can be lethal, e.g. retinitis in AIDS patients. Infection of the mesangial cells can result in rejection of the transplant.</p>	

