Difference Between Latent and Persistent Viral Infection

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Key Difference - Latent vs Persistent Viral Infection

We do not become ill as soon as a virus enters our body. Different stages of the viral growth cycle have to be passed for the clinical manifestations to appear. Latent infection is the stage of the cell cycle that is defined as the time from the onset of the infection to the appearance of virus extracellularly. When the virus stays within the body of the host while continuously replicating and remaining infectious, that is termed as a persistent viral infection. Accordingly, the key difference between the two stages of viral infections is, clinical features are present only during the persistent stage and not in the latent stage.

What is Latent Viral Infection?

Latent infection is defined as the time from the onset of the infection to the appearance of virus extracellularly. Since the viruses multiple at a rapid rate, by the end of the latent period billions of viral particles are produced. In this situation the virus exists in an occult noninfectious form.
Figure 01: Hepatitis B Viral Antigen and Antibody levels detected in the blood after an acute infection.

Following viruses and viral infections can be taken as examples of latent viral infections.

- Congenital rubella, HIV, hepatitis B, CMV (chronic infections)
- HSV, VZV
- Retroviral infections in some patients with genetic mutations
- adenovirus

**What is Persistent Viral Infection?**

When the virus stays within the body of the host while continuously replicating and remaining infectious, that is termed as a persistent viral infection. Clinical features of an infection appear during this stage of the infection. The persistence of viral infection is partially contributed by the virus not interrupting the vital metabolic processes of the host cells.
What is the Difference Between Latent and Persistent Viral Infection?

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Summary - Latent vs Persistent Viral Infection

Latent infection is defined as the time from the onset of the infection to the appearance of virus extracellularly. When the virus stays within the body of the host while continuously replicating and remaining infectious, that is termed as a persistent viral infection. Patient becomes clinically ill only during the latent infection and not in the persistent infection. This is the difference between these two stages.

Reference:


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