Human Immunodeficiency Virus (HIV) Stages

Human immunodeficiency virus (HIV) infection is caused by an RNA retrovirus and leads to immunosuppression. The stages of HIV infection include primary infection, asymptomatic stage, symptomatic stage, and AIDS (refer to the Picmonics on "Human Immunodeficiency Virus (HIV) Diagnosis" and "Human Immunodeficiency Virus (HIV) Interventions").



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Primary Infection

#1 Foam-finger Viral Infection

Shortly after infection, the patient with HIV will briefly experience the primary infection stage. The patient may be asymptomatic or present with flu-like symptoms. During the acute HIV syndrome period, the patient will maintain a normal CD4+ T count of > 800 cells/µL. CD4+ T cells are white blood cells that activate the body's immune system to fight against infections.

Within 3 Weeks

Within (3) Tree Weeks

The primary infection stage of HIV occurs within 2-4 weeks of initial infection. During this period, the patient's immune system attempts to fight off the high viral load in the blood. Although symptoms normally last for 1-3 weeks, some symptoms may persist for months.

Flu-like Symptoms

Thermometer and Ice-bag

During the acute HIV syndrome period, the patient may develop flu-like symptoms including fever, swollen glands, fatigue, and headache as the body attempts to fight off the initial infection. Usually, the symptoms are mistaken for the flu.

Asymptomatic Stage

Thumbs-up Stage

During the asymptomatic stage, the patient will maintain a CD4 cell count of > 500 cells/µL and present with no symptoms. The viral load of the blood is low. Although the period is referred as "asymptomatic," the patient may experience fatigue, headache, low-grade fever, night sweats, or lymphadenopathy. Since the symptoms are vague and nonspecific for HIV, infected individuals may continue with their normal activities. Asymptomatic HIV-infected people engaging in high-risk sexual and drug-using behaviors may transmit the virus to other individuals.

Years

Year-calendar

The asymptomatic stage may last for years depending on the patient's immune system and degree of viral replication. During this period, the HIV virus remains active and reproduces at low levels. Although this period usually lasts for 10 years, patients undergoing antiretroviral therapy (ART) may delay the process by decades.

Symptomatic Stage

Symptoms Stage

During the symptomatic stage, the patient with HIV begins to experience worsening symptoms of persistent fever, drenching night sweats, chronic diarrhea, and constant fatigue. The patient may also experience significant weight loss, oral candidiasis, and leukopenia (refer to the Picmonic on "Human Immunodeficiency Virus (HIV) Assessment").

CD4+ < 500

CD (4) Fork with Less-than Indy (500)

During the symptomatic period, the patient's CD4+ T cell counts decreases to < 500 cells/µL. As the viral load in the bloodstream increases, the patient's immune system has decreased reserves to fight off opportunistic infections and symptoms worsen.

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AIDS

Band-AID

The patient with HIV will be diagnosed with AIDS. The patient's immune system is severely compromised and highly susceptible to infections. Diagnostic criteria for AIDS includes a CD4+ T cell count of < 200 cells/µL, CD4+ T cells accounting for less than 14% of all lymphocytes, an opportunistic infection, an opportunistic cancer, wasting syndrome, or AIDS dementia complex. A patient diagnosed with AIDS will remain infected for the rest of their life.

Opportunistic Infections

Open window Opportunity Bacteria

People with functioning immune systems are usually able to fight off opportunistic infections. However, the risk of developing opportunistic infections increase as the patient progresses to AIDS. These infections may overwhelm the patient's poorly-functioning immune system and cause debilitating, disseminated, and life-threatening conditions.

CD4+ < 200

CD (4) Fork with Less-than (200) Tooth-fairy in Tutu

As the patient's viral load increases, the patient's number of CD4+ cell counts decreases to < 200 cells/µL. A CD4+ count of < 200 cells/µL is one of the criteria for diagnosing AIDS. Since the level of white blood cells to fight infections is extremely low, the patient is highly susceptible to developing possibly life-threatening opportunistic infections.

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