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CARE OF PATIENTS WITH AIDS VIRUS AND INFORMATION ABOUT THE AIDS VIRUS

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Annotation

Acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV). By damaging your immune system, HIV interferes with your body's ability to fight infection and disease.

Key words

Acquired immunodeficiency syndrome, blood, infection, AIDS.

HIV is a sexually transmitted infection (STI). It can also be spread by contact with infected blood and from illicit injection drug use or sharing needles. It can also be spread from mother to child during pregnancy, childbirth or breastfeeding. Without medication, it may take years before HIV weakens your immune system to the point that you have AIDS.

There's no cure for HIV/AIDS, but medications can control the infection and prevent progression of the disease. Antiviral treatments for HIV have reduced AIDS deaths around the world, and international organizations are working to increase the availability of prevention measures and treatment in resource-poor countries.

Symptoms

The symptoms of HIV and AIDS vary, depending on the phase of infection.

Clinical latent infection (Chronic HIV)

In this stage of infection, HIV is still present in the body and in white blood cells. However, many people may not have any symptoms or infections during this time.

This stage can last for many years if you're receiving antiretroviral therapy (ART). Some people develop more severe disease much sooner.

Symptomatic HIV infection

As the virus continues to multiply and destroy your immune cells — the cells in your body that help fight off germs — you may develop mild infections or chronic signs and symptoms such as:

- Fever
- Fatigue
- Swollen lymph nodes — often one of the first signs of HIV infection
- Diarrhea
- Weight loss
- Oral yeast infection (thrush)
- Shingles (herpes zoster)
- Pneumonia

Progression to AIDS

Access to better antiviral treatments has dramatically decreased deaths from AIDS worldwide, even in resource-poor countries. Thanks to these life-saving treatments, most people with HIV in the U.S. today don't develop AIDS. Untreated, HIV typically turns into AIDS in about 8 to 10 years.

When AIDS occurs, your immune system has been severely damaged. You'll be more likely to develop diseases that wouldn't usually cause illness in a person with a healthy immune system. These are called opportunistic infections or opportunistic cancers.

The signs and symptoms of some of these infections may include:

- Sweats
- Chills
- Recurring fever
- Chronic diarrhea
- Swollen lymph glands
- Persistent white spots or unusual lesions on your tongue or in your mouth
- Persistent, unexplained fatigue
- Weakness
- Weight loss
- Skin rashes or bumps

Causes

HIV is caused by a virus. It can spread through sexual contact, illicit injection drug use or sharing needles, contact with infected blood, or from mother to child during pregnancy, childbirth or breastfeeding.

HIV destroys CD4 T cells — white blood cells that play a large role in helping your body fight disease. The fewer CD4 T cells you have, the weaker your immune system becomes.

You can have an HIV infection, with few or no symptoms, for years before it turns into AIDS. AIDS is diagnosed when the CD4 T cell count falls below 200 or you have an AIDS-defining complication, such as a serious infection or cancer.

To become infected with HIV, infected blood, semen or vaginal secretions must enter your body. This can happen in several ways:

By having sex. You may become infected if you have vaginal, anal or oral sex with an infected partner whose blood, semen or vaginal secretions enter your body. The virus can enter your body through mouth sores or small tears that sometimes develop in the rectum or vagina during sexual activity.

By sharing needles. Sharing contaminated injection drug paraphernalia (needles and syringes) puts you at high risk of HIV and other infectious diseases, such as hepatitis.

From blood transfusions. In some cases, the virus may be transmitted through blood transfusions. Hospitals and blood banks screen the blood supply for HIV, so this risk is very small in the U.S. and other upper-middle-income countries. The risk may be higher in low-income countries that are not able to screen all donated blood.

During pregnancy or delivery or through breastfeeding. Infected mothers can pass the virus on to their babies. Mothers who are HIV-positive and get treatment for the infection during pregnancy can significantly lower the risk to their babies.

Infections common to HIV/AIDS

Pneumocystis pneumonia (PCP). This fungal infection can cause severe illness. Although it's declined significantly with current treatments for HIV/AIDS, in the U.S., PCP is still the most common cause of pneumonia in people infected with HIV.

Candidiasis (thrush). Candidiasis is a common HIV-related infection. It causes inflammation and a thick, white coating on your mouth, tongue, esophagus or vagina.

Tuberculosis (TB). TB is a common opportunistic infection associated with HIV. Worldwide, TB is a leading cause of death among people with AIDS. It's less common in the U.S. thanks to the wide use of HIV medications.

Cytomegalovirus. This common herpes virus is transmitted in body fluids such as saliva, blood, urine, semen and breast milk. A healthy immune system inactivates the virus, and it remains dormant in your body. If your immune system weakens, the virus resurfaces — causing damage to your eyes, digestive tract, lungs or other organs.

Cryptococcal meningitis. Meningitis is an inflammation of the membranes and fluid surrounding your brain and spinal cord (meninges). Cryptococcal meningitis is a common central nervous system infection associated with HIV, caused by a fungus found in soil.

Toxoplasmosis. This potentially deadly infection is caused by Toxoplasma gondii, a parasite spread primarily by cats. Infected cats pass the parasites in their stools, which may then spread to other animals and humans. Toxoplasmosis can cause heart disease, and seizures occur when it spreads to the brain.

Cancers common to HIV/AIDS

Lymphoma. This cancer starts in the white blood cells. The most common early sign is painless swelling of the lymph nodes in your neck, armpit or groin.

Kaposi's sarcoma. A tumor of the blood vessel walls, Kaposi's sarcoma usually appears as pink, red or purple lesions on the skin and mouth. In people with darker skin, the lesions may look dark brown or black. Kaposi's sarcoma can also affect the internal organs, including the digestive tract and lungs.

HPV-related cancers. These are cancers caused by human papillomavirus (HPV) infection. They include anal, oral and cervical cancer.

Other complications

Wasting syndrome. Untreated HIV/AIDS can cause significant weight loss, often accompanied by diarrhea, chronic weakness and fever.

Neurological complications. HIV can cause neurological symptoms such as confusion, forgetfulness, depression, anxiety and difficulty walking. HIV-associated neurocognitive disorders (HAND) can range from mild symptoms of behavioral changes and reduced mental functioning to severe dementia causing weakness and inability to function.

Kidney disease. HIV-associated nephropathy (HIVAN) is an inflammation of the tiny filters in your kidneys that remove excess fluid and wastes from your blood and pass them to your urine. It most often affects Black or Hispanic people.

Liver disease. Liver disease is also a major complication, especially in people who also have hepatitis B or hepatitis C.

Prevention

There's no vaccine to prevent HIV infection and no cure for HIV/AIDS. But you can protect yourself and others from infection.

To help prevent the spread of HIV:

Consider preexposure prophylaxis (PrEP). The combination oral drugs emtricitabine plus tenofovir disoproxil fumarate (Truvada) and emtricitabine plus tenofovir alafenamide fumarate (Descovy) can reduce the risk of sexually transmitted HIV infection in people at very high risk. PrEP can reduce your risk of getting HIV from sex by about 99% and from injection drug use by at least 74%, according to the Centers for Disease Control and Prevention. Descovy hasn't been studied in people who have receptive vaginal sex.

The FDA recently approved cabotegravir (Apretude), the first injectable PrEP to reduce the risk of sexually transmitted HIV infection in people at very high risk. The injection is given by a health care provider. After the first two monthly injections, cabotegravir is given every two months. The injection is an option in place of a daily PrEP pill.

Your health care provider will prescribe these drugs for HIV prevention only if you don't already have HIV infection. You will need an HIV test before you start taking any PrEP. The test should then be done every three months for pills or before each injection for as long as you're taking PrEP. Your health care provider will also test your kidney function before prescribing Truvada and continue to test it every 6 to 12 months. Other regular testing may also be needed.

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You need to take the pill form every day or closely follow the injection schedule for cabotegravir. They don't prevent other STIs, so you'll still need to practice safe sex. If you have hepatitis B, you should be evaluated by an infectious disease or liver specialist before beginning therapy.

Use treatment as prevention (TasP). If you're living with HIV, taking HIV medication can keep your partner from becoming infected with the virus. If you make sure your viral load stays undetectable — a blood test doesn't show any virus — you won't transmit the virus to anyone else through sex. Using TasP means taking your medication exactly as prescribed and getting regular checkups.
Use post-exposure prophylaxis (PEP) if you've been exposed to HIV. If you think you've been exposed through sex, needles or in the workplace, contact your health care provider or go to the emergency department. Taking PEP as soon as possible within the first 72 hours can greatly reduce your risk of becoming infected with HIV. You will need to take medication for 28 days.
Use a new condom every time you have sex. Use a new condom every time you have anal or vaginal sex. Women can use a female condom. If using a lubricant, make sure it's water-based. Oil-based lubricants can weaken condoms and cause them to break. During oral sex use a nonlubricated, cut-open condom or a dental dam — a piece of medical-grade latex.
Tell your sexual partners if you have HIV. It's important to tell all your current and past sexual partners that you're HIV-positive. They'll need to be tested.
Use a clean needle. If you use a needle to inject illicit drugs, make sure it's sterile and don't share it. Take advantage of needle-exchange programs in your community. Consider seeking help for your drug use.
If you're pregnant, get medical care right away. If you're HIV-positive, you may pass the infection to your baby. But if you receive treatment during pregnancy, you can significantly cut your baby's risk.
Consider male circumcision. There's evidence that male circumcision can help reduce the risk of getting HIV infection.

Diagnosis

HIV can be diagnosed through blood or saliva testing. Available tests include:

Antigen/antibody tests. These tests usually involve drawing blood from a vein. Antigens are substances on the HIV virus itself and are usually detectable — a positive test — in the blood within a few weeks after exposure to HIV.Antibodies are produced by your immune system when it's exposed to HIV. It can take weeks to months for antibodies to become detectable. The combination antigen/antibody tests can take 2 to 6 weeks after exposure	**Antibody tests.** These tests look for antibodies to HIV in blood or saliva. Most rapid HIV tests, including self-tests done at home, are antibody tests. Antibody tests can take 3 to 12 weeks after you're exposed to become positive.	**Nucleic acid tests (NATs).** These tests look for the actual virus in your blood (viral load). They also involve blood drawn from a vein. If you might have been exposed to HIV within the past few weeks, your health care provider may recommend NAT. NAT will be the first test to become positive after exposure to HIV.

to become positive.		

Talk to your health care provider about which HIV test is right for you. If any of these tests are negative, you may still need a follow-up test weeks to months later to confirm the results.

Treatment

Currently, there's no cure for HIV/AIDS. Once you have the infection, your body can't get rid of it. However, there are many medications that can control HIV and prevent complications. These medications are called antiretroviral therapy (ART). Everyone diagnosed with HIV should be started on ART, regardless of their stage of infection or complications.

ART is usually a combination of two or more medications from several different drug classes. This approach has the best chance of lowering the amount of HIV in the blood. There are many ART options that combine multiple HIV medications into one pill, taken once daily.

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