

CLINICAL SYMPTOMS AND PREVENTIVE MEASURES OF AIDS

Student : **Sharifjon Habibullo og‘li Shamsiddinov**

Medical faculty, Pediatrics department group 25.02

Kokand University, Andijan branch

Scientific supervisor: **Nasriddinova Yorqinoy Abdumuhtorovna**

Abstract: This article discusses the origins, transmission methods, and health impacts of Acquired Immunodeficiency Syndrome (AIDS). It explores not only the medical aspects of AIDS but also its social and moral implications. The article emphasizes the need for awareness, preventive measures, and social support in the fight against AIDS.

Keywords: AIDS, HIV, infection, antibodies, lymph nodes, joints, diarrhea, peripheral neuropathy, flu-like symptoms, cachexia, antiretroviral therapy, bacterial infections, fungal diseases.

Introduction

Acquired Immunodeficiency Syndrome (AIDS) is a disease caused by a retrovirus known as the Human Immunodeficiency Virus (HIV). The progression of this disease includes two phases: HIV infection and the AIDS stage. HIV was independently discovered in 1983 by scientists led by Professor Luc Montagnier in Paris and Professor Robert Gallo in the United States. The virus specifically targets the immune system, particularly the CD4+ T-cells. After entering the human body, initial symptoms may occur within 2–3 days in about 25–30% of cases. These are known as "acute seroconversion syndrome" and may include fever, night sweats, joint and head pain, fatigue, vomiting, diarrhea, and rashes. During this phase, antibodies are not yet detectable, as the immune response is not fully developed. Without treatment, this latent phase can last 8–10 years or even longer. HIV infection is usually diagnosed via enzyme-linked immunosorbent assay (ELISA) to detect HIV antibodies, which become measurable approximately three weeks after infection. For accurate results, testing is recommended 90 days post-exposure. The final stage—AIDS—occurs when the immune system becomes severely compromised. Common microbes that are typically harmless begin to cause serious health issues, known as AIDS-related infections (e.g., bacterial, fungal, and viral infections, and Kaposi's sarcoma). Transmission occurs through blood, unprotected sexual contact, or vertically from mother to child.

Clinical symptoms**1. Acute Retroviral Syndrome**

This is the earliest phase of HIV infection. It appears in 2–4 weeks after exposure and mimics flu or mononucleosis symptoms:

- ✓ Fever
- ✓ Enlarged lymph nodes

- ✓ Sore throat
- ✓ Maculopapular rash
- ✓ Headache
- ✓ Fatigue
- ✓ Ulcers in the mouth and genitals
- ✓ Vomiting, diarrhea

In some cases, neurological signs such as peripheral neuropathy or Guillain-Barre syndrome may also occur.

This phase typically lasts 1–2 weeks.

2. Clinical Latency Stage

Also called “chronic” or “asymptomatic” HIV infection. This stage may last 3–20 years without treatment (average: ~8 years). There are usually no symptoms, though late in the stage, the following may occur:

- ✓ Unexplained fever
- ✓ Weight loss
- ✓ Gastrointestinal problems
- ✓ Muscle pain
- ✓ Persistent generalized lymphadenopathy

Some individuals, known as "elite controllers," maintain a strong immune response without therapy.

3. AIDS Stage

AIDS is diagnosed when CD4+ T-cell count drops below 200 cells/ μ L or when specific opportunistic infections develop. Without treatment, about 50% of HIV-positive people develop AIDS within 10 years.

Common symptoms include:

- ✓ Pneumocystis pneumonia (~40%)
- ✓ Cachexia (~20%)
- ✓ Esophageal candidiasis
- ✓ Recurrent respiratory infections
- ✓ Enlarged lymph nodes
- ✓ Chronic fatigue
- ✓ Night sweats
- ✓ Modes of Transmission
- ✓ Main risk factors for HIV/AIDS transmission include:
- ✓ Unprotected sexual intercourse
- ✓ Blood exposure (e.g., transfusion of infected blood)
- ✓ Sharing non-sterile needles (e.g., drug use)

Mother-to-child transmission during pregnancy, delivery, or breastfeeding

Organ or tissue transplantation from infected donors

Diagnosis

Diagnosis of HIV infection involves:

- ✓ Enzyme-linked immunosorbent assay (ELISA) for HIV antibodies
- ✓ Molecular tests for HIV RNA or DNA
- ✓ CD4+ cell count and viral load analysis

Clinical symptom-based evaluation, especially in low-resource settings

In Sierra Leone, for example, using a symptom-based approach (fever, weight loss, lymphadenopathy, diarrhea, candidiasis) achieved 85.5% diagnostic accuracy (PubMed).

Prevention measures

Recommended measures for HIV/AIDS prevention include:

- ✓ Avoiding unprotected sex; using condoms consistently
- ✓ Using sterile needles and medical equipment
- ✓ Screening blood products before transfusion
- ✓ Preventing mother-to-child transmission
- ✓ Starting antiretroviral therapy (ART) early
- ✓ Raising awareness and reducing risky behaviors (e.g., drug use)
- ✓ Reducing social stigma and discrimination
- ✓ Supporting affected individuals with counseling and medical care

According to UNAIDS, immediate ART initiation in all diagnosed individuals significantly reduces viral spread.

Social and moral aspects

AIDS is not just a medical issue; it is also a significant social and ethical concern. Affected individuals often face stigmatization and discrimination, which may deter them from seeking treatment. A holistic approach that includes education, medical care, and psychological support is essential in managing the epidemic.

Conclusion

AIDS is one of the most serious global health threats. By weakening the immune system, it makes the body vulnerable to even minor infections. Addressing AIDS requires more than just medical intervention—it demands increased awareness, social responsibility, and community engagement. Each individual, family, and society must take part in preventing the spread of the disease and

supporting those affected. Through knowledge, vigilance, and collective action, we can reduce the spread of AIDS and build a healthy, prosperous future.

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