Human Immunodeficiency Virus Infection and Acquired Immunodeficiency Syndrome

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Care for patients with human immunodeficiency virus (HIV) infection requires excellence in all aspects of family practice. The family physician's roles include providing patient education to prevent uninfected persons from becoming infected, identifying and counseling infected persons, delivering comprehensive medical care (including antiretroviral treatment), prophylaxis against opportunistic infections, management of the acquired immunodeficiency syndrome (AIDS), and providing support and care for the family. New manifestations of HIV disease, diagnostic protocols, and drug recommendations for HIV disease change on a regular basis. Epidemiologic, social, and community trends also have important effects on clinical care.

The striking benefits of combination antiretroviral therapy, especially with protease inhibitor drugs, have changed the implications of HIV dramatically. Although long-term outcomes remain unknown, the demonstrated effectiveness of combination therapies has made the hope of prolonged suppression of HIV disease a real possibility. In addition, the ability of antiretroviral therapy to decrease transmission from mother to infant and among health care workers sustaining occupational exposures further establish the efficacy of drug intervention against HIV.

Acute HIV infection usually produces a flu-like syndrome about 2 weeks after transmission. This acute illness is followed by an asymptomatic phase, usually lasting more than 5 years. Immunodeficiency, characterized by progressive destruction of CD4+ (T-helper) lymphocytes, results in susceptibility to opportunistic infections and malignancies. Early symptomatic disease (oral candidiasis, oral hairy leukoplakia, and lymphadenopathy) is followed by the opportunistic infections and malignancies that characterize AIDS (Table 42.1). The average time from infection to AIDS-defining illnesses appears to be about 8 to 11 years.

Risk Factors, Risk Reduction, and Patient Education

The HIV is usually transmitted from person to person by the passage of blood or body fluids such as semen and vaginal secretions. Urine, sweat, and saliva are not generally considered to be infectious. Persons engaging in unsafe sexual activity and intravenous drug use with needle-sharing account for most cases of HIV infection. Transfusion-related infection now occurs in only about 1 of every 500,000 units of donated blood. Vertical transmission occurs in 25% of children of infected mothers; zidovudine therapy can decrease this transmission by two-thirds. Casual transmission (in the absence of sexual contact or passage of blood) from person to person does not seem to occur. Transmission from infected patients to health care workers occurs at a rate of 0.3% (one seroconversion for every 333 needlesticks or similar injury) and constitutes an uncommon but important transmission category. Antiretroviral therapy can decrease needlestick transmission. The use of universal blood and body fluid precautions are essential for minimizing health care worker risk.

Physicians should assess their patients' risk for HIV infection by obtaining a sexual and drug history. Education about the use of condoms is essential for all persons who do not remain celibate or in a mutually monogamous relationship. Intravenous drug users can be encouraged to enter a drug treatment program. Those who do not
abstain from intravenous drug use must be educated about safe needle use through a needle exchange program or by cleaning their injection equipment with bleach. Physicians' offices should have health education materials about HIV and sexually transmitted diseases openly available for patients and families to read and take with them.

Counseling and Testing

Counseling about HIV is the beginning of a critical medical intervention. During the pretest counseling sessions, the physician and patient need to discuss the patient's risk of being infected, ongoing activities that put the patient or others at risk, and methods of future risk reduction. Before offering testing, the physician should assess whether the patient appears psychologically and socially prepared for results and if support from friends and family is available. A discussion of the risks of testing (including false-positive results, false-negative results, the possible loss of confidentiality, and family and social disruption) precedes obtaining informed consent for testing.

The difference between confidential and anonymous testing needs to be discussed. Although confidential testing can be done in the physician's office, it results in charted documentation that can reveal HIV status to health care workers and others who process medical records. To avoid possible breaches of confidentiality and to ensure anonymity, the patient can be referred to an anonymous test site or obtain home testing. Testing to establish the diagnosis of HIV infection usually requires an enzyme-linked immunosorbent assay (ELISA) screening test followed by either a Western blot (WB) or immunofluorescent antibody (IFA) confirmatory test.

A "window period" of 6 weeks to 3 months exists between the time of infection and seroconversion. During this time patients can be infected but do not have a sufficient antibody response to result in positive serologic testing. For seronegative patients with recent at-risk activities, retesting at 3 to 6 months is advised. In a few patients, serologic evidence of HIV infection may not occur for 6 months to 1 year or longer and, rarely, not at all.

Posttest counseling is likely a turning point in the HIV-positive patient's life. The patient should be told clearly that the test is positive, and that he or she is infected with the HIV virus. It is important to reassure the patient that HIV positivity does not mean he or she has AIDS. Because there is a long asymptomatic phase of HIV infection and because advances in treatment of HIV infection and opportunistic infections continue, there may be many years before problems arise. Upon hearing an HIV-positive result, however, most patients are in some degree of psychological shock and might not be able to assimilate much information. A commitment to ongoing care should be the focus of the first posttest counseling session. Perhaps the most important intervention the family physician can make is to provide reassurance that he or she will remain the patient's personal physician while assembling a multidisciplinary team to meet problems should they arise. Offering to meet with the family and members of the patient's social network can be helpful.

**Health Care Maintenance**

The seropositive patient requires routine health care maintenance and special attention to specific signs, symptoms, and laboratory markers for HIV disease progression. Routine health care maintenance includes a comprehensive history and physical examination with special attention to a history of sexually transmitted diseases and physical findings of skin and oral conditions. Laboratory evaluation includes a routine complete blood count including platelet count, chemistry panel, and syphilis serology. A chest roentgenogram is required for persons with a history of cardiopulmonary problems but is not required for all HIV-infected persons. Influenza vaccination and one-time pneumococcal vaccination should be administered. Hepatitis B vaccine is recommended if there is an ongoing risk of exposure to hepatitis B. Polio vaccination for HIV-infected