Effective January 1, 1993, the Centers for Disease Control (CDC) added pulmonary tuberculosis (TB), recurrent bacterial pneumonia, and invasive cervical carcinoma to the list of the 23 clinical conditions included in the 1987 AIDS case definition. Although none of the new diseases is unique to patients with AIDS, all three are more aggressive and more prevalent in immunodeficient people than in the general population, and each can be treated and often cured, especially when diagnosed early.

It is important for both medical and mental health providers to understand the symptoms, course of disease, and treatment of these conditions, so they can diagnose and treat them and respond to the psychological concerns of clients and their requests for information. Any new information related to HIV disease raises hopes and fears among HIV-infected people. Two factors make information about the new diseases even more important: TB is easily transmissible, has reached epidemic proportions, and is provoking calls for extreme public health measures, such as quarantine; and invasive cervical carcinoma, a cancer affecting the growing number of HIV-infected women, is among the gynecological manifestations of HIV with which many providers are unfamiliar.

Pulmonary Tuberculosis

TB is caused by infection with *Mycobacterium tuberculosis* (MTB). Pulmonary TB can be active or latent, and only active infection results in symptoms and can be transmitted. Latent TB is a common, asymptomatic, non-contagious state that occurs after exposure to MTB, and is signified by reaction to a purified protein derivative (PPD) tuberculin skin test. Since HIV infection causes a decrease in the number and function of T-helper cells and macrophages, which are central to human antituberculosis defenses, HIV disease leads to vastly increased risks of acquiring TB infection, of activating latent TB, and of developing aggressive, possibly fatal, active disease. As a result, the HIV pandemic has been associated with a dramatic increase in numbers of TB cases both in the United States and worldwide.

Anyone can get TB, but certain groups are more likely to have been exposed in the past and, therefore, are at higher risk for developing active TB. Such groups include immigrants from African, Asian, and Latin American countries with high rates of TB, and people who live in crowded long-term care facilities such as correctional institutions and homeless shelters.

Pulmonary disease is the most common manifestation of TB infection in patients both with and without HIV infection. Typically, HIV antibody negative, immunocompetent patients with active pulmonary TB complain of fever, sweating, weight loss, and cough, sometimes with blood-streaked sputum. Chest X-ray can show areas of infection typically in the upper lobes of the lungs. HIV-infected patients with good immune function—high T-helper cell counts, normal reactivity to TB skin tests, and no previous HIV-associated infections—are likely to present this way as well.

In patients with lower T-helper cell counts and advancing immunocompromise, however, TB may present atypically. Patients may have widely disseminated disease, including TB infection of the blood, lymph nodes, or central nervous system. Their chest X-rays may show
The CDC AIDS definition is a sign both of the wealth of information we have about HIV disease and the fragility of that information. While it expresses the state of the science—the latest about the virus and its clinical manifestations—it is also a reminder that our knowledge about AIDS is evolving.

In light of this shifting reality, every clinician, every counselor, every educator must be a source of information for people with HIV disease and for other professionals. This issue of FOCUS is primarily an educational tool providers can use to maintain their HIV-related knowledge. Allen Gifford’s article informs readers about the newest additions to the list of AIDS-defining conditions: pulmonary tuberculosis, recurrent bacterial pneumonia, and invasive cervical carcinoma.

The Unfolding of Illness

The AIDS definition is also a reminder that HIV disease is a process, an unfolding of illness from one stage to another leading towards the diagnosis of one of the conditions on the CDC’s infamous list. Mary Alice O’Dowd examines how counseling varies over the course of HIV disease and focuses on the effects of the other new component of the AIDS definition, a T-helper cell count of less than 200. While the new medical conditions—TB, pneumonia, and cervical cancer—present with severe symptoms and prognoses, many people with diminished T-helper cell counts have only mild to moderate symptoms, symptoms that up to now have not been associated with an AIDS diagnosis.

It is this change that most confuses the way we have thought about HIV disease and that may present the greatest psychological challenges for clients and counselors. In response, O’Dowd discusses the potent defense that denial provides clients as they ride the roller coaster of illness and health over the course of HIV disease. For counselors, a knowledge of HIV-related medical conditions and treatments, and an understanding of the dynamics of denial and acceptance enables them to help clients mediate what may be a harrowing journey.

TB Treatment and Prevention

CDC guidelines for treating TB in people with HIV disease reflect two important points. First, a short course of antmycobacterial therapy may not be as effective among HIV-infected patients who have developed significant immunocompromise as it is among seronegative people with TB. Second, multidrug-resistant TB (MDR-TB) is a serious problem among HIV-infected people, and is always difficult and occasionally impossible to treat effectively.

Pending drug-susceptibility testing, initial four-drug therapy with isoniazid (INH), rifampin (RIF), pyrazinamide (PZA), and ethambutol (ETH) is the most prudent course in treating most HIV-infected TB patients. If the strain is not drug-resistant, INH, RIF, PZA should be continued for two months, followed by INH and RIF to complete a full six- to nine-month course. INH and RIF are the two most active drugs in the regimen. If one or both cannot be given due to resistance or toxicity, clinicians should prescribe a longer course of therapy with at least two active drugs. Other, second-line drugs may be needed, and it is prudent to consult a specialist at this point.

As might be expected, patients with advanced cases of AIDS survive TB for shorter periods than those with early HIV infection. Nevertheless, most people respond to therapy with clear sputum cultures after three months. Response to therapy should be carefully monitored, and monitoring should include monthly sputum exams with smears and cultures. Therapy should continue for approximately six months after the last negative culture. If cultures do not clear, clinicians should consider that patients may not be complying with treatment.

PPD tuberculin skin tests are a useful preventative response to identify patients who have latent TB infection, but they cannot be used to either diagnose or exclude active TB. A normal immune response to skin antigens is often absent in patients with HIV disease, and therefore...
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References


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HIV infection respond with higher antibody titers. Some clinicians suggest other prevention strategies, including prophylactic oral antibiotics or intermittent infusion of immune globulin, but none of these has been generally accepted.

Invasive Cervical Carcinoma

To date, cervical carcinoma is not a major cause of mortality among women with HIV disease, but its importance among the AIDS-defining illnesses lies in its potential to cause future illness and death. Cervical dysplasia—caused by some strains of human papillomavirus (HPV)—is a precursor lesion for cervical cancer and is extremely common among the more than 4.5 million HIV-infected women in the world. Good gynecologic primary care to properly recognize and treat cervical dysplasia could prevent a future cervical carcinoma epidemic.

Cervical cancer that has already become invasive may cause abdominal pain, vaginal bleeding and discharge, and lymphadenopathy. Cervical dysplasia, however, is most often asymptomatic, and can only be detected with routine gynecologic screening. Abnormal Papanicolaou (Pap) smears may occur 10 times as frequently among HIV-infected women as among seronegative women. Although much of this discrepancy is due to the fact that HIV-infected women face frequent vaginal infections by a variety of organisms, recent evidence indicates that cervical abnormalities are more common and more severe as immune status worsens. Therefore the CDC currently recommends Pap smears annually in all women with HIV disease, and many providers screen as often as every six months.

Prudence dictates that HIV-infected women with abnormal Pap smears should be more closely followed than their seronegative counterparts, and treatment of their dysplasia should be more aggressive. Abnormal smears should be followed by a repeat Pap in three months, and, if results remain abnormal, by a colposcopic biopsy. A recent small study of HIV-infected women detected intraepithelial neoplasia in 40.6 percent of patients who underwent colposcopic biopsy, but abnormal Pap smears in only 9.4 percent of these patients. This finding requires confirmation, and until then the efficacy of periodic screening colposcopy remains unconfirmed.

Treatment of each of the various stages of cervical cancer is the same for both HIV-infected and uninfected women. Options for non-invasive lesions include local cone excision, cryotherapy, and laser therapy, all with close follow-up. The treatment of choice for locally invasive disease is surgery. While there has been no systematic follow-up of HIV-infected women treated for invasive cervical cancer, in one small series, all seven HIV-infected women either failed to clear the disease or experienced a recurrence. This suggests that when HIV infection is associated with it, invasive cervical cancer is advanced and responds poorly to therapy.

Conclusion

While there has been a great deal of debate about the utility of the AIDS definition and the most recent changes to it, it is clear that focusing attention on pulmonary TB, recurrent pneumonia, and invasive cervical carcinoma is crucial to the effective treatment and prevention of these overlooked killers. Despite its shortcomings, the change in the CDC AIDS definition fulfills an important role in educating clinicians and all AIDS professionals about newly understood challenges to people with HIV disease.

Clearinghouse: New AIDS Diseases

References


Coping with HIV over the Course of Disease
Mary Alice O'Dowd, MD

For the first time, as a result of the new AIDS definition, people who are asymptomatic will be diagnosed with "AIDS." To respond to this change, it is useful to look at the psychological challenges clients face as they progress from asymptomatic HIV infection to the severe medical conditions that have traditionally comprised AIDS.

Among the most important concepts in this discussion is denial. Although some studies have shown that in less extreme forms, denial of illness can be useful in minimizing anxiety, other studies suggest that over the long term people who deny the severity of their conditions may do more poorly than people who accept this reality. People who deny learn less about their illnesses, delay seeking help, do not cooperate with medical management, and do not follow self-care or health behavior recommendations. The therapeutic task is to define when denial changes from the client's ally to his or her enemy. Beyond that, what is the therapist's role in dealing with acceptance or denial as clients move through the various stages of HIV infection?

The Early Stages
For the seropositive asymptomatic client, HIV infection presents a future characterized by years of feeling well followed by the relative certainty of progressive illness and death. Some patients may spend their years of wellness in hypochondriacal preoccupation and anxiety. Most patients, however, are able to accommodate their illness and, through the use of denial, retain the hope of remaining well.

Therapists need not confront denial in response to illness unless it leads to maladaptive behaviors, whether they be refusal of treatment or inappropriate life choices in the wider arena of finances, career, and relationships. Thus, while the therapist should encourage hope, it may also be necessary for him or her to remind the patient, gently but repeatedly, about the need to focus on unfinished business, for example, executing a will and a health care proxy, arranging for child custody, or resolving less tangible interpersonal issues.

The next challenge to the coping skills of seropositive clients may come when health care providers suggest the use of antiviral medication. The very act of taking medication several times daily confronts clients with the reality of the illness. The distress is intensified when asymptomatic clients experience side effects of medication, thus seeming to create illness where none existed before. Clients wishing to keep their infection secret may be reluctant to carry medication that others may recognize. It may be difficult for patients to afford HIV-related medications, and this may add to their anxiety. In response, the therapist and client may want to explore the wide range of issues that can contribute to refusal or reluctance to take medications, clarifying these issues so that the client's final decision is as balanced and informed as possible.


Contacts
Mary Alice O'Dowd, MD, Montefiore Medical Center, 111 East 210th Street, Bronx, New York 10467-2490, 718-820-2490.
Allen L. Gifford, MD, University of California San Francisco AIDS Clinic, Box 0378, San Francisco, CA 94143-0378, 415-476-3226.

See also references cited in articles in this issue.
As the disease progresses, clients may develop mild to moderate symptoms. For some this escalation of symptoms may serve as a bridge to psychological acceptance as well as to the ultimate diagnosis of AIDS. For others, denial remains paramount despite the physical realities that contradict it.

Disease Progression

Under the new AIDS definition, clients may progress to an AIDS diagnosis in two ways. First, a person may continue to feel well, but meet the new definition because of a reduced T-helper cell count. Second, as before, a person may be diagnosed with a debilitating opportunistic infection, such as Pneumocystis carinii pneumonia (PCP). In the first scenario, an individual might feel compelled to deny the diagnosis in order to minimize its threatening implications. Despite the official definition change, the diagnosis without symptoms may not force the patient to feel the pressure of time and disability. This may be the best and least threatening setting in which to discuss health-related legal issues as well as unresolved interpersonal matters.

In the relatively brief time since the new criteria were adopted, it appears that many asymptomatic clients who meet the new definition have chosen to ignore it. Therapists must decide on a case-by-case basis and in terms of changes in health status and decisions about treatment whether to encourage or confront this denial. In any case, such patients may need time and support before they accept the new diagnosis, that is, until they can talk openly about it and bring their behaviors into accord with their knowledge.

Those who are diagnosed with AIDS as a result of advancing disease must cope with the immediate struggle for survival as well as the reality of increasing illness and future death. Initially, it may be difficult for such a client to focus far beyond the need to catch his or her next breath or to tolerate the next procedure; in such cases, denial may be relevant only to the extent that it remains robust and interferes with treatment decisions.

If and when the physical crisis is resolved and the client’s health is stabilized, these practical and personal issues may need to be addressed yet again. But, although the therapist may have a new sense of urgency because of the client’s advancing disease, the client may not share this urgency. Despite the confrontation with the realities of the illness, denial is powerful and may be reconstituted with different, more modest goals, for example, living to the next birthday, or being able to regain strength or the ability to walk. Again, the therapist must choose whether or not to confront such denial and which aspects of the denial to confront, and should base these choices on the potential for harm resulting from the client’s beliefs and behaviors.

The End of Life

As death nears, the client may reach a stage of acceptance, accompanied by appropriate sadness and grief, but he or she may still be able to hope, if only for a more comfortable day or a better night’s sleep. It is particularly important to continue to offer the client the opportunity to discuss feelings and fears as others in the client’s life may find these topics too distressing.

In the presence of lasting despair and hopelessness—if all physical remedies to improve comfort and decrease pain have been applied and psychological support or religious counseling, if desired, has been unavailing—therapists should consider the possibility of antidepressant treatment. Some clients will respond with a return to a more optimistic outlook, despite an overall poor prognosis, and this may enable them to make treatment decisions, achieve some physical and emotional comfort, and face the ongoing existential issues surrounding death and dying.

Mea Culpa

Due to a printer’s error, a small number of the March 1993 issue of FOCUS were collated with two copies of pages 1, 2, 7 and 8 and no copies of pages 3, 4, 5 and 6. We apologize for any inconvenience this error may have caused you. Please call Sandra Kriletich at 415-476-6430 if you received an incomplete issue, and she will arrange to replace it with a corrected version.
Recent Reports

The Reemergence of Tuberculosis

Despite efforts to halt its spread, tuberculosis (TB) ranks as the leading cause of death among all infectious diseases worldwide, according to a review of the disease's history, pathogenesis, epidemiology, and costs of treatment.

Although physicians understood its contagious nature by the late 19th century and effective TB-fighting antibiotics were developed in the 1940s, the underlying molecular basis of pathogenesis remains poorly understood. Observing the rapid course of TB in HIV-infected people, researchers now recognize that the health of the immune system plays a significant role in preventing progression from latent to active disease after infection.

Until the mid-1980s, antibiotic use had reduced the annual risk of infection in the U.S. at a rate of 10 percent per year. The 18 percent increase in TB cases since 1985 can be explained by several factors: the HIV epidemic; increasing numbers of injection drug users and homeless people, who live under conditions that promote the spread of the disease; the prevalence of people facing the combination of HIV disease, homelessness, and drug use; and diminishing financial support for city and state TB control programs.

As a result of HIV-related immunosuppression, the fatality rate from multidrug-resistant (MDR) TB is as high as 80 percent, onset of disease after infection is quicker, and disease progression may be more rapid. Poor compliance with drug regimens that must continue over long periods of time leads to the development of MDR TB. To ensure patient compliance with necessary drug regimens, treatment programs should guarantee hospitalization, as is done in some African countries, or provide direct supervision of outpatient care.

To reverse these trends, government must allocate resources to prevent the spread of drug-resistant TB and ensure compliance with treatment regimens. Failure to act undercuts the fundamental principle of infectious disease control: early intervention minimizes tragic outcomes.

HIV-Related Tuberculosis

An update on tuberculosis and HIV disease states that most HIV-related TB cases are due to reactivation of latent TB infection, and notes that there is a clear association between the HIV pandemic and increased TB incidence around the world.

The degree of HIV-related immunosuppression affects the symptoms and progression of TB. As HIV disease progresses, TB results in atypical X-ray patterns, spreads beyond the lungs, and results in anergy, which leads to reduced reactivity to a TB test in a TB-infected person. Symptoms common to both diseases confound clear-cut diagnosis, making it necessary to use HIV antibody and tuberculin skin testing, and sputum smear and culture for clinical evaluation.

People with HIV infection in whom any mycobacteria are found should immediately receive treatment while awaiting confirmatory TB culture results. Although adverse reactions to treatment may be greater among HIV-infected people, research demonstrates that treatment is effective and lifelong prophylaxis is unnecessary. The increase in treatment resistant strains, however, complicates this treatment profile.

Global prevention efforts are of the utmost importance. Preliminary evidence shows that prophylaxis is effective when given to TB-infected people with HIV disease who show no signs of active TB. National and international health organizations have issued guidelines urging that these individuals receive isoniazid for 12 months. This treatment must be linked to narcotic drug treatment programs in order to increase compliance with long-term drug regimens. In addition, the Bacille Calmette Guerin (BCG) vaccine, when given early in life, is partially effective in preventing TB among people who live in endemic areas. [Editor's note: The future of the BCG vaccine in response to the U.S. epidemic, however, is unclear.]
HIV Disease Prevention Update

Jewett JF, Hecht FM. Preventive health care for adults with HIV infection. *Journal of the American Medical Association*. 1993; 269(9): 1144-1153. (Harvard University and University of California San Francisco.)

Clinicians can apply a number of preventive measures to improve the health and quality of life of people with HIV disease, according to a review of preventive interventions.

T-helper cell levels are the primary marker of disease progression and should be used to make clinical decisions along with other diagnostic measures to identify those at risk for specific preventable or treatable opportunistic infections. These measures may include ophthalmologic and lymph node examinations, toxoplasma titers, screening for hepatitis B, syphilis and other sexually transmitted diseases, and TB testing.

Risk for some commonly occurring diseases, such as pneumococcal pneumonia, *H influenzae* pneumonia, influenza, and hepatitis B may be lowered through vaccination. Evidence clearly shows that primary and secondary prophylaxis of selected opportunistic infections prevents illness or its recurrence. The strongest evidence for HIV-related prevention exists for PCP.

Although the efficacy of most health promotion interventions has yet to be established, researchers hypothesize that they may slow HIV-related disease progression. Among these interventions are exercise, nutritional supplements, health education, smoking cessation, and drug abuse counseling. Specific psychological interventions may also ameliorate the course of HIV disease.

T-Cell Counts and the AIDS Definition


Researchers analyzed T-cell data for 762 HIV-infected men in San Francisco over a period of six years beginning in 1984. They estimated the correspondence between an absolute T-helper cell count of 200—a component of the new AIDS definition —and two other measures: the proportion of T-helper cells to all lymphocytes and the ratio of T-helper cells to T-suppressor cells, and applied these results to the study sample to determine the number of new AIDS cases resulting from each. In this population, a T-helper cell count of 200 as well as a proportion of 13 percent of all lymphocytes and a T-helper/T-suppressor ratio of .23 all resulted in a doubling of AIDS cases.

The T-cell criteria were also used to predict progression from asymptomatic to symptomatic disease, but these findings are limited by heterogeneous progression rates and a broad distribution of T-cell measures at which symptoms occur. This last point is exemplified by two observations: 18 percent of subjects who met a clinical definition of AIDS would have been excluded using T-helper cell criteria alone; and 50 percent of subjects with AIDS-defining T-helper cell levels were not simply free of AIDS-defining conditions, but were asymptomatic.

Next Month

Because AIDS is mysterious, life-threatening, epidemic, and seemingly inexorable, it takes clients on a spiritual as well as physical and psychological journey. Spirit and its more conventional cousin religion, however, are often uncomfortable guests in psychotherapeutic practice. In the June issue of *FOCUS*, John Fortunato, MA, a pastoral psychologist, former health care chaplain, and the author of several books and articles including *AIDS: The Spiritual Challenge*, examines the therapist’s role in responding to spiritual issues in particular hope.

When does the quest for spiritual answers require therapists to reach beyond the counseling session? When should therapists refer clients to pastoral counselors? Also in the June issue, Thaddeus A. Bennett, MDiv, and Mark Henrickson, MDiv, MA describe the goal of pastoral counseling in terms of HIV disease.