CD Summary

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THE CHANGING FACE OF THE AIDS EPIDEMIC

THE WINDS OF CHANGE have been blowing over the AIDS and HIV landscape for the last three years. In this relatively short time, the rapid introduction of intensive antiviral therapies, combined with an effective means of virologic monitoring, has resulted in an unprecedented improvement in the progress of HIV disease for many patients.

Treatment changes have accompanied a new understanding of the pathogenesis of HIV infection. Previous assumptions about viral latency associated with prolonged clinical asymptomatic period have proven wrong.[1] Far from being "dormant" during the long incubation period, HIV is now known to be a highly active virus, with rapid cycles of target cell infection—predominantly in lymphoid tissue. Ninety-four to 99% of the virus derives from a pool of activated CD4+ lymphocytes. Up to 140 generations of virus are produced each year in this pool, and these infected cells have a half-life of only 1.5–2.5 days. Resting lymphocytes and macrophages are a second infection pool, with a half-life of 10-30 days. And true viral latency may obtain in some circulating and tissue-based lymphocytes, which may live for many years, representing a long-term potential for reactivation of infection following antiviral therapy.

Treatment guidelines for HIV disease in adults have been revised recently to emphasize the use of combination antiviral therapy beginning at early stages of HIV infection.[2] Two nucleoside reverse transcriptase inhibitors combined with a protease inhibitor are recommended as initial therapy. High level viral inhibition (as indicated by an undetectable plasma HIV mRNA [viral load]) is the goal. Partial or ineffective inhibition of viral replication can lead to the development of resistant virus while producing ongoing damage to immune function. Sequential, ineffective therapy allows the evolution of resistant strains of HIV in a person that can severely limit the eventual benefit of any antiviral treatment regimen. The relationship of ineffective therapy to resistance makes adherence to medication regimens a high priority for health care support and case management systems. Specific guidelines for treatment of children, HIV-positive pregnant women and health care workers exposed to HIV have been recently released.[3,4]

OREGON TRENDS

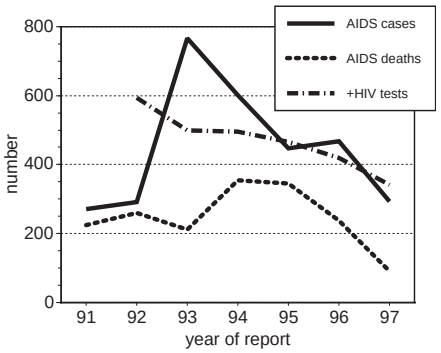
Since 1983, over 4,200 persons have been diagnosed with AIDS in Oregon; at least 2,514 have died. (Comparable figures for the U.S.: >612,000 cases; 379,258 deaths.) Surveillance data confirm that in recent years, AIDS-related morbidity and mortality have declined in Oregon (see figure). These are the fewest AIDS-related deaths since 1987, and the number of persons with new positive tests has decreased steadily from 594 in 1992 to 342 in 1997. (These numbers are based on anonymous HIV testing results.)

In Oregon, the majority of cases (99%) are adults. Eighty-nine percent of adult cases (503 cases) are white (non-Hispanic), 18% are female and 71% are men who report having sex with men. The number of newly diagnosed AIDS cases who report injection drug use increased in 1997 (13 cases to 24), but numbers are too small to confirm any local trend (see figure).

THE HIV OUTPATIENT STUDY

In a recently published study,[5] data gathered from HIV specialty clinics in nine US cities—including Portland—documented a decline in mortality from 29.4 per 100 person years in 1995 to 8.8 per 100 person years in 1997 (see figure, *verso*). Improved outcomes were not associated with sex, race, age, or risk factors for HIV transmission. Although there was a clear decrease in the incidence of three AIDS-defining opportunistic infections, these improvements were not associated with changes in the use of prophylaxis for these infections. Rather, they were correlated with the use

Tracking AIDS in Oregon, 1991–97

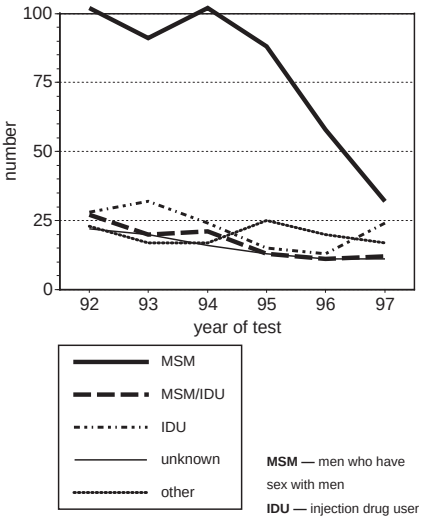


of combination antiviral therapy, with the addition of protease inhibitors making the most dramatic changes. By the end of 1997, over 80% of all study patients with <100 CD4+ lymphocytes/µl were being treated with protease inhibitors. The dramatic declines in death rates were also associated with a greatly improved quality of life for many patients on combination therapy.

ADAP AND CHIP

In the Pallela study,[5] patients with private insurance were more often prescribed protease inhibitors than persons with Medicare or Medicaid coverage, and this was associated with a higher mortality in the latter groups. To provide Oregonians with access to medications, the

Positive HIV Tests at Public Clinics by Risk Factor, Oregon, 1992–97



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PERIODICALS
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PAID
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Health Division administers two coordinated programs, the AIDS Drug Assistance Program and the Community Health Insurance Programs, both funded by the federal Ryan White CARE Act. These programs provide access for persons with HIV to a broad range of critical medications, supporting and enhancing the services provided by many community-based services organizations and the enhanced access to medical care provided by the Oregon Health Plan and other Medicaid managed care systems.

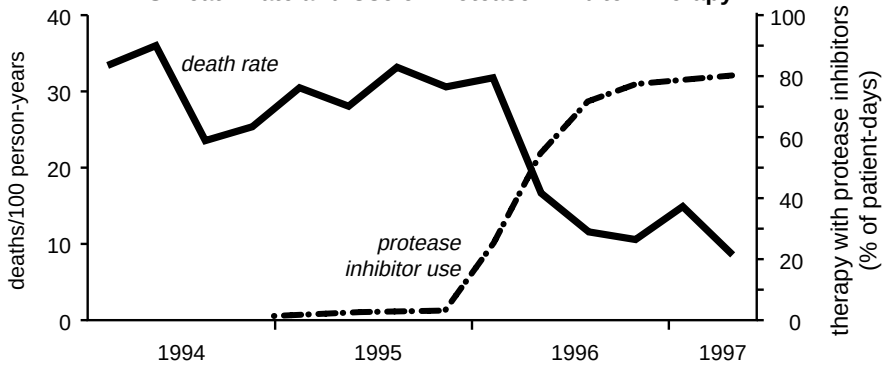
IMPROVEMENTS COME AT A PRICE

While unquestionably good news for patients, the dramatic changes in the history of HIV infection has many implications for those who attempt to monitor and stem the epidemic. Historically, surveillance efforts have focused on counting deaths as well as the number of persons whose illness had progressed to the stage where it met certain "AIDS-defining" criteria. With that progression greatly slowed, we have all but lost the ability to measure the incidence of HIV infection. The actual impact of HIV infections on health care systems in Oregon cannot be measured accurately, making it is very difficult to confidently plan service delivery and prevention efforts. Expanding reporting requirements to include HIV infection per se would improve our ability to document the impact of HIV on women and minorities, as well as the continued burthen on injection drug users and men who have sex with men. Any expanded surveillance requirements should take advantage of new testing technologies, including urine and saliva sampling and rapid test systems. It is quite possible that future funding for AIDS-related services and prevention will depend on meeting performance criteria for expanded HIV reporting.

More persons living longer with HIV infection increases the cost of care—currently in the range of $11,000 to $14,000 per patient-year. Other financial wrinkles are less obvious. When persons who had been severely ill recover to the point where they return to part-time or full-time employment, as many have, they may no longer qualify for disability payments. Moreover, for some patients, access to medical insurance is contigent on disability status, creating a potential Catch-22. A renewed committment to confidentiality and strong anti-discrimination measures for the housing market and the workplace are also essential.

Persons living longer and healthier with HIV infection are also potentially infectious to others for a longer time. Sustained prevention efforts with HIV-infected clients and their partners will be necessary. Programs to support adherence to complicated medication regimens will also be crucial to long-term success. Prevention efforts may be most effective when they are closely linked with the delivery of services and coordinated by effective case management. This will also create the ability for epidemiological resources to be integrated with prevention and clinical care delivery such that gaps in services can be documented by effective evaluation and outcomes tools. Future challenges can be expected as basic science, technology, health care economics and social forces influence the lives of persons with HIV and their caregivers.

AIDS Death Rate and Use of Protease Inhibitor Therapy



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