ABSTRACT

The number of human immunodeficiency virus (HIV)-positive inmates in federal and state prisons and local jails has remained steady during the last several years. The rate of acquired immunodeficiency syndrome in incarcerated populations remains 5 times greater than that of the general US population. Because of this, managing seropositive prisoners at any stage of disease has become a higher priority, but still ranks second behind security. This article addresses some of the challenges faced by the prison HIV management team, including security issues, the stigma of HIV among prisoners, the advantages and disadvantages of the timing of treatment initiation, and the value of telementoring to improve access to patients and HIV specialists. Because HIV-positive inmates are living longer, asymptomatic lives, this epidemiologic shift begat increased longitudinal costs associated with increased comorbidities, toxicities, and treatment costs, and a decrease in costs for treating acute episodes. As the mortality rate of this population has declined, the prison physicians must consider the patients’ lives and challenges they will face when they return to the community after incarceration.

Compared with the general population in the United States, the rate of acquired immunodeficiency syndrome (AIDS) is 5 times higher in the state and federal prison populations. Of particular interest, however, is the dramatic decline in the number of AIDS-related deaths in incarcerated individuals, from 1010 in 1995 to 242 in 1999 (or 100 and 20 per 100,000 inmates, respectively). Much of this decline is related to the introduction of medications, such as the protease inhibitors, that successfully reduce viral load in HIV-positive patients.

The impact of these epidemiologic trends is that inmates are living longer, asymptomatic lives with HIV disease. The overall cost of managing these patients has not changed significantly because the cost of treating acute episodes has been replaced with increased longitudinal costs associated with increased rates of comorbidities and toxicities. As will be discussed later, the availability of HIV medications and their effect on survival has a huge impact on both health care decisions within the prison system and the potential legal ramifications of access, sometimes limited, to these medications.

HIV Testing of Prisoners

HIV testing of prisoners is done for a variety of reasons. Up to 45% of HIV testing is done based on inmate request, while 47% is based on clinical indication of need, such as when a prisoner has *Pneumocystis carinii* pneumonia or other symptoms of pneumonia that suggest HIV infection. About one third of testing is done as a result of a court order, such as cases of prostitution, and 39% occurs as a result of involvement in an incident, such as a fight, during the incarceration period. Only 3% of facilities test all inmates in custody, while 16% of facilities test only high-risk groups. Nineteen percent enforce mandatory testing on entrance, and this figure is rising. Only 3% make HIV testing on exit mandatory, and 7% of facilities do random testing.

Housing of HIV-Positive Prisoners

Many refer to HIV- positive prisoners as the disenfranchised HIV-positive community. However, in many respects, these individuals receive good care while incarcerated, often better than when they were in the community. They have a home where medical staff can monitor them, they have a place to sleep, 3 meals a day, and clothes. In addition, their medications are given to them free of charge.

The concept of separate housing for the HIV positive is a double-edged sword. In a north Florida prison, eg, HIV-positive inmates are housed in a special unit, but prisoners have to petition to live there. The stigma of HIV infection is somewhat lower inside this special unit, and the prisoners can participate in clinical trials if they reside there. The unit also provides specialized, state-of-the-art care for HIV disease, which can change daily, but results in overall uniformity of treatment for these patients.

Some of the obstacles and barriers encountered with specialized housing for HIV-positive inmates are discrimination suits and security concerns. Any prison or jail that chooses to offer separate housing for HIV-positive inmates should be prepared for litigation. Because security is the primary priority in prisons and jails and health care is a secondary priority, optimal health care delivery can sometimes be hindered. Thus, having the medical staff work closely with security personnel is important to ease the delivery of health care and to protect the medical staff. Procedures as straightforward as drawing blood for HIV testing can be met with violent response from the prisoners. Finally, some facilities may find that offering varying levels of security in the same unit is difficult.

Guidelines for HIV Therapy

The Department of Health and Human Services (DHHS) updated their guidelines for the treatment of HIV disease in January 2001 and again in August of 2001. For inmates, other issues must be taken into consideration when deciding on the appropriate time to start therapy.

Early initiation of highly active antiretroviral therapy (HAART) has several benefits, including easier control and maintenance of low viral replication, the delay or prevention of immune system compromise, lower risk of resistance with complete viral suppression, and decreased risk for HIV transmission. Resistance is a significant problem when treating HIV-positive inmates because of the recidivism rates on discharge from incarceration.

The risks of early HAART include drug-related reduction in quality of life, greater cumulative drug-related adverse events (AEs), earlier development of
drug resistance if viral suppression is suboptimal, and limitation of future antiretroviral treatment options. The definition of quality of life for incarcerated persons is different from that in the community. Health care in prisons is administered based on a determination of the minimum level of care that will allow the prisoner to get up every day, walk back and forth to the cafeteria, and eat 3 meals a day. That is the standard of care.

Some prison clinicians may choose to delay HAART for any of several reasons. For example, HAART causes lipid changes and vascular disease. Hypertriglyceridemia can reach levels of well over 1000 mg/dL. Osteoporosis and hypersensitivity reactions have also been observed. The AEs affecting the central nervous system, such as wild dreams, dizziness, and a feeling of dysphoria, can ironically be desired by inmates. As well, these types of AEs result in issuance of a lower bunk bed, which is an important status symbol in this population. The clever prison physician can use medications particularly known for causing these AEs as leverage to encourage prisoners to take their medications. Body composition abnormalities are also observed with HAART. Historically, the most notable change in body composition was wasting; more recently, peripheral lipoatrophy and increased visceral fat are now common and may signal to other prisoners that the person has AIDS, again attaching a stigma to the patient. Treatment may also be more successful if delayed to avoid adherence fatigue and risk for resistance. The possibility of impressive immune recovery exists, even with delayed therapy, although reconstituting the immune system is much more difficult after it has reached a critical level of depletion. Thus, delaying therapy may avoid the negative effects on quality of life, drug-related AEs, and development of drug resistance as well as preserving the maximum number of available and future drug options when HIV disease risk is highest. The risks, on the other hand, are the possibility of having greater difficulty suppressing viral replication and the possible increase in HIV transmission.

Prison clinicians may choose to avoid HAART altogether if the anticipated incarceration period is less than 6 weeks or if, on release, the prisoner will not be able to continue HAART. The 6-week cutoff was chosen based on 4 weeks' duration of therapy, the return visit to a chronic care clinic, and a 2-week turnaround time for laboratory results. The recidivism rate is estimated at 4% annually and is usually caused by lack of money or resources in the community, adjustment disorders, or a return to behaviors of poor judgment, such as returning to the communities and situations that led to the original incarceration. In those situations, the prisoner-turned-patient may be dealing with other issues and taking medications may not be a top priority.*

One way to increase the chances of successful HAART postincarceration is to plan for the inmate's parole. Medicaid funding should begin well in advance of parole as it can take 30 days or even up to 1 year to obtain. Ryan White funding is also available and the application should be submitted in advance. Pharmaceutical companies have risen to the challenge and are now generously offering 30-day supplies of HIV medication to these individuals. Because prisoners are not paying for meals, housing, and medications while in prison, having the first month of medications supplied at no charge is critical in the immediate postincarceration period as the daily health care and living conditions may be substandard for these individuals when they are released in the community.

Another important point is that resistance testing of HIV patients is the standard of care in the community but has only recently been implemented in the prison system. Resistance testing should be done, according to DHHS guidelines, as it can greatly affect the success or failure of HAART.

The HIV Health Care Team

Like HIV management in the general community, the best approach for the prison population is through an HIV health care team consisting of a primary care physician (PCP), an HIV specialist, a pharmacist, a dietician, a social worker/case manager, and an HIV test counselor and HIV nurse case manager, which may be a combined position in some facilities. The only difference between the HIV health care teams for the community and the prison system is the need for security staff in the prison system. The prison security staff is not concerned with whether patients

*The book Code of the Street: Decency, Violence and the Moral Life of the Inner City by Elijah Anderson can provide insight into the challenges faced by prisoners once they are released.
get their medications. Their sole purpose is to maintain the safety of prison employees and the prisoners. However, the correctional officers can play an important role in case management because they interact with the prisoners on a daily basis and are often the first to recognize early signs and symptoms of HIV disease progression. They also become familiar with which inmates require medications on a regular basis. If they are compassionate, they can alert the prisoner or the medical staff when medication regimens are not being followed or if the disease progresses. Further, the medical staff must rely on the security staff to bring inmates to the medical facility.

The PCP is the leader of the medical management team and initiates antiretroviral therapy based on DHHS or managed-care guidelines. Ironically, the prison PCP can be from any specialty, with some facilities having a PCP who is a pediatrician, a surgeon, or an infectious disease specialist. The medical strategy is often a cookbook approach to HIV management based on published guidelines, which is clearly not always the best approach. However, the PCP is part of the HIV health care team and consults with the HIV specialist.

According to the DHHS guidelines, HIV care should be provided by an expert, and multiple studies support this concept. However, the definition of an HIV specialist is not universal among various institutions. The Medicaid definition states that an HIV specialist must have an active ongoing caseload of at least 25 patients with HIV infection or AIDS over the preceding 24 months, either in regular practice or as a part of a supervised postgraduate training program. The New York State AIDS Institute requires its HIV specialists to have experience equal to 20 patient-years and 6 hours of HIV-related continued medical education (CME) per year, while the Moore Options Program, a Medicaid program in Baltimore, Maryland, defines an HIV specialist as a physician with 50 active HIV patients, 50 HIV-related CME credits per year, and an agreement to chart audits. For comparison, the Tennessee Medicaid program calls the following individuals HIV specialists: physicians associated with an AIDS center of excellence, who must also have an active roster of 50 HIV-infected patients seen at least 2 times per year. These physicians must also acquire at least 20 CME category 1 credits per year. The American Board of Internal Medicine defines an HIV specialist as “anyone certified in the discipline of infectious diseases,” which is clearly too general.

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<th>Table 1. Patient Demographics</th>
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<td><strong>FLDC</strong></td>
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<td>Treatment naive?</td>
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<tr>
<td>% male</td>
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<tr>
<td>% black</td>
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<td>% drug users</td>
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<tr>
<td>Baseline CD4</td>
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<td>Viral load</td>
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FLDC = Florida Department of Corrections; ACRU = AIDS Clinical Research Unit.


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<th>Table 2. Does Adherence Make a Difference? Study Results at 48 Weeks of Treatment</th>
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<tr>
<td><strong>FLDC</strong></td>
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<tr>
<td>% patients with &lt; 400 copies of virus</td>
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<td>% patients with &lt; 50 copies of virus</td>
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<td>mean increase in CD4+ cells</td>
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FLDC = Florida Department of Corrections; ACRU = AIDS Clinical Research Unit.

Providing HAART: The Most Effective Method

Providing HIV medication to prison inmates can be done in several ways. The most liberal method is the keep-on-person (KOP) approach, in which a 1-month supply of medication is given to the prisoner with instructions on when and how to take the medication. This approach assumes the prisoner will faithfully execute these instructions. Directly-observed therapy (DOT) is used to give each dose of medication directly to the prisoner at each dosing interval. A variant of DOT is called watch-take, in which 1 pill at a time is given to the prisoner at the appropriate dosing interval and a staff member checks the inside of the prisoner’s mouth to ensure the medication has been swallowed. However, some researchers question whether the watch-take or even DOT methods are really necessary.

One researcher presented study results at the 8th Conference on Retroviruses and Opportunistic Infections showing the effect on clinical outcomes when HIV drugs are given DOT versus KOP. In this study, 2 groups of HIV-positive patients were followed, one from the Florida Department of Corrections (FLDC) and the other from the AIDS Clinical Research Unit (ACRU), a clinical trial of various antiretroviral therapies. As shown in Table 1, the patient demographics of the 2 groups were similar. The FLDC group took their medications using the watch-take method. The results showed substantial differences in outcomes after 48 weeks of treatment, as shown in Table 2. Clearly, despite lower CD4 cell counts and higher viral loads, patients receiving DOT/watch-take had both a more rapid and a greater overall decline in viral load during treatment. This was associated with a greater increase in CD4 cells and less serious toxicities, which were surprising given the higher amount of medication to which they were theoretically exposed. Therefore, the method of medication delivery clearly does make a difference.

Telementoring vs Telemedicine

One of the technologies that PCPs in prisons can use to contact an HIV specialist is telementoring. Telementoring can be useful in addressing issues such as acute seroconversion, failure to respond to HAART, considering resistance tests, inconsistencies between the CD4 count and the viral load, pregnancy, structured treatment interruptions, HIV-associated complications, and medication side effects. For all of these situations, the HIV specialist can provide the expertise needed without spending time traveling to a secure facility. From a personal standpoint, I use telementoring with about 350 patients in Maryland correctional facilities. Telementoring also allows the HIV specialists to talk directly to patients while the nursing and medical staff are present. This relationship can also benefit prisoners when released because they will know who to contact and where to go for follow-up care. Approximately 60% of the inmates I have seen and developed a professional relationship with make their first follow-up appointment at the Johns Hopkins Moore Clinic.

Conclusion

Management of HIV in incarcerated populations presents certain obstacles, but a full understanding of how the system works allows the infectious disease specialist, as the prison PCP or the HIV specialist, to work around the obstacles and improve outcomes. Careful consideration of each patient’s situation will direct whether, or when, to initiate HAART. Full use of new technologies such as telementoring can dramatically broaden health care opportunities in facilities with limited budgets or litigation concerns over specialized housing for HIV-positive inmates.

References