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HEPP NEWS

HIV & HEPATITIS EDUCATION PRISON PROJECT

Aug./Sept. 2001 Vol. 4, Issues 8&9

Sponsored by the Brown Medical School Office of Continuing Medical Education and the Brown University AIDS Program.

ABOUT HEPP

HEPP News, a forum for correctional problem solving, targets correctional administrators and HIV/AIDS and hepatitis care providers including physicians, nurses, outreach workers, and case managers. Continuing Medical Education credits are provided by the Brown University Office of Continuing Medical Education to physicians who accurately respond to the questions on the last page of the newsletter.

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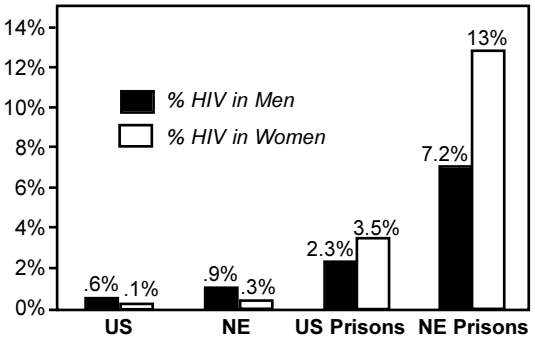
Bridging the communicable disease gap: Identifying, treating and counseling high-risk inmates

Marthali Nicodemus*, *HEPP News Staff Writer, Acting Executive Director of the GAIA Vaccine Foundation*
Joseph Paris, Ph.D., M.D.,** *CCHP Georgia Dept. of Corrections*

Recent outbreaks of communicable diseases in correctional settings have underscored the importance of identifying communicable diseases, educating inmates and staff, and treating where appropriate. In June 2001, an outbreak of HBV was reported in a state correctional facility in Georgia (1). In November 2000, the CDC reported an outbreak of TB in a state correctional facility in South Carolina (2). Concurrent syphilis outbreaks were identified in three Alabama men's state prisons in 1999 (3). These events all point to an important gap between awareness of infection (diagnosis) and medical intervention in correctional settings. This article describes the communicable disease gap in correctional settings, and addresses means of bridging that gap.

Figure 1. HIV Prevalence



Extrapolated from the CDC, 2000 and US Census Bureau, 2000; and Hammett TM, Harmon P, Marushcak LM. 199601997 Update: HIV/AIDS, STDs and TB in Correctional Facilities. July 1999. BJS, NCJ 176344.

THE NEED TO KNOW

Lack of information about an inmate's diagnosis of HBV, TB, STD, and/or HIV may be due to the inmate's failure to provide this information, unwillingness to be screened or inability to access screening for these diseases, or the failure of routine hepatitis, TB, STD and HIV screening protocols to detect communicable disease. Denial, fear of illness and concern about confidentiality are major deterrents for inmates. Concern about the cost of treatment may also contribute to delays in diagnosis. Furthermore, current guidelines for treating the disease may advise delaying treatment until medically necessary, diminishing the patient's and providers' sense of urgency about obtaining a diagnosis. While some individuals may not need active treatment under existing HIV and HCV guidelines, they are still likely to benefit from education about their medical condition and the risk of transmission to their families and communities after release from incarceration. Furthermore, as illustrated by outbreaks of communicable diseases in correctional settings, inmates who have communicable diseases sometimes continue to participate in risky activities while incarcerated. Diagnosis and appropriate medical intervention may reduce the risk of communicable disease transmission to other inmates and correctional staff.

PREVALENCE OF COMMUNICABLE DISEASES IN PRISON

According to the National Commission on Correctional Healthcare's "Health Status of Soon-to-be-Released Inmates" project, the diseases that are particularly prevalent in prisons are HBV, HCV, HIV, sexually transmitted diseases (STDs), including syphilis, chlamydia and gonorrhea, and airborne diseases such as TB (4,5,6). A summary of this report's findings is provided in the next four paragraphs.

HIV: 98,000 to 148,000 soon-to-be-released inmates were infected with HIV at the time the study was carried out (1998). This number represents 12% to 18% of the total infected population in the US. HIV infection is more prevalent among incarcerated women than incarcerated men, however the total number of infected women is small (due to lower overall numbers of incarcerated women). (See Figure 1 and Table 1.)

STDs: Syphilis infection is highly prevalent in correctional settings: in 1999 it was estimated that 558,000 inmates were infected with syphilis (RPR+) compared to 186,000 inmates infected with chlamydia and 77,500 inmates infected with

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gonorrhea. In a 1999 study in New York City it was found that although the rate of syphilis infection among the general population had reached a record low, prevalence among incarcerated women was 25% (7). These high numbers for STD infection are not reserved for adult inmates: a study recently conducted at two juvenile detention facilities in Texas found that 22.2% of female and 8.7% of male participants were infected with chlamydia (8).

TB: Active tuberculosis disease (TB) was detected in 12,000 US inmates in 1999, which accounts for 35% of total cases of TB disease in the US. This TB case rate was more than 50 times that of non-incarcerated individuals (9). Active screening and appropriate medical intervention can have a dramatic effect on the incidence of TB in correctional settings, as demonstrated by the significant decline of TB cases, from 225/100,000 to 26/100,000, in the New York State Department of Corrections over the past decade (10). In other settings, factors such as failure to identify active TB and to adequately treat latent TB infection (LTBI) in inmate populations, difficulties obtaining previous TB treatment records and lack of continuity of care between institutions may contribute to ongoing outbreaks of TB such as the one recorded in Broad River, South Carolina, last year.

Hepatitis: In terms of sheer numbers, the two diseases that most disproportionately affect inmate populations are hepatitis B (HBV) and hepatitis C (HCV). In 1999 it was estimated that 155,000 inmates being released were infected with HBV. Up to 1.25 million inmates being released were estimated to be infected with HCV. (See Table 1.)

Risky Behavior in Correctional Settings

Very little information is available about the transmission of communicable diseases inside US prisons and jails. Studies performed outside of the United States have demonstrated that inmates participate in a number of high risk behaviors while incarcerated, including intravenous drug use (IDU), which is the risk behavior that contributes most to new HIV, HBV and HCV infections. In a study conducted in England, for instance, 58% of IDU inmates admitted to injecting drugs while incarcerated, and 73% of those injecting in prison shared needles (11). A study in Canada also found that the overwhelming risk association for HIV and HCV was IDU, either inside or outside prison (12). Two Australian studies have found proof of both HCV and HIV transmission occurring within prison walls. It was determined that IDU was the probable cause for inmates contracting HIV and HCV, while lacerations from barbers' shears and physical assault were the likely means of HCV infection in other cases (13,14). It is unknown, however, whether conditions in British, Canadian and Australian institutions compare to conditions in US facilities.

Table 1. **Hepatitis and HIV Disease Prevalence *****

Hepatitis and HIV Prevalence in US Populations†			
	HCV	**HBV**	**HIV**
Chronic Infections	3.9 million	1.2 million	0.8 million
New Infections Per Year	35,000	120,000	40,000
Deaths Per Year	8,000	5,000	18,000
Hepatitis and HIV Prevalence Among Inmates Released From Prisons & Jails*			
Number of Infected Inmates Released	640,000-1.4 million	155,000**	98,000-145,000
Representing __% of US Population with Disease	16-33%	12.4-15.5%	12-18%

** Burden of disease among releasees in 1996, CDC, NIJ, Abt survey. †CDC, Harold Margolis, Hepatitis Branch. **Hammet et al. noted an extreme lack of HBV data on correctional populations. These numbers are rough period prevalence estimates based on studies done in CA (1994) and NY (1987-1997) correctional systems. ***The total number of incarcerated persons in the US, numbering about 2 million, is composed of long-term prisoners, some with intermediate sentences of a few years only, and some held for a few days or weeks. This leads in some cases to the same infected person being released several times a year, thus inflating the yearly number of infected released persons. These considerations apply to HIV, HBV and HCV.*

Other factors that may contribute to the transmission of blood-borne, sexually transmitted and airborne diseases in prisons and jails include overcrowding, poor or delayed access to healthcare and treatment, recidivism and frequent transfers from one prison to another (15). Some correctional institutions have a policy of segregating HIV+ prisoners from seronegative inmates. While this practice may have some benefits, including being able to manage HIV+ prisoners' healthcare more efficiently, it also concentrates individuals who are at higher risk of opportunistic infections and disease. In 1999/2000, for instance, the CDC determined that segregation and concentration of HIV+ inmates in one dormitory had contributed to the outbreak of TB in a state correctional facility in South Carolina (2).

Communicable Disease Flags

Risky behaviors can be associated with infection by more than one communicable disease. For instance, acquiring an STD is linked to unprotected sexual contact, which should point to the associated risk of HIV infection. In the same way, it is highly probable that an inmate who is being treated for IDU has been exposed to unsafe sex (trading sex for drugs or money, for instance), meaning possible exposure not only to blood-borne viruses like HBV and HCV, but also to HIV and other STDs.

Identifying communicable disease "flags" that signal the need to institute a screening protocol is one way to reduce disease transmission and improve patient education. Every medical encounter can be viewed as an opportunity to pick up on these signals, allowing providers to intervene with appropriate medical intervention and/or education (see HEPPigram page 6).

If limited resources for communicable disease screening are available, histories of high risk behavior and some laboratory tests can be used to identify higher-risk individuals, and testing can be confined to those determined to have the most at-risk profile (see HEPPigram). Childhood sexual abuse and sex work have both been associated with high risk of HIV infection, for instance (16). Screening for these two "flags", along with other indicators, can decrease the number of potential HIV test candidates.

Beneficial Strategies

HIV: The benefits of diagnosing and treating are multiple. Routine recommendations for HIV testing by primary health care providers has been shown to improve the incidence of requested testing, the identification of infected individuals and earlier diagnosis of infection, leading to earlier entry into care (17). Inmates who are eligible for treatment may experience fewer opportunistic infections (18), fewer hospitalizations (19) and may be less likely to transmit HIV if still participating in HIV risk behavior (20).

HCV: HCV treatment guidelines for correctional facilities will be published by the CDC in late 2001 or early 2002. Because of the prevalence of HCV infection among inmates and the lack of official treatment protocols guiding HCV treatment in corrections, emphasis has shifted to identifying infected individuals and providing education about means of limiting further spread of HCV. As Dr. Robert Greifinger, MD, recently said: "It's almost distracting to talk about treatment. The much larger issue is prevention (21). "It is hoped that education about HCV may help motivate HCV-infected individuals to take precautions against transmitting HCV in communities to which they return, and to seek appropriate HCV treatment in the community if it they are unable to participate in HCV treatment while incarcerated.

HBV: The CDC has recommended that all adults at risk of HBV infection be vaccinated (inmates and staff in correctional institutions

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Letter from the Editor

Dear Colleagues,

I am sure many of you are having as much difficulty focusing on the task at hand in the aftermath of the Sept 11 terror as I am. Our world, as we knew it, changed forever on that day. Here at HEPP News, our hearts go out to the families of the innocent victims of the attack. We also honor the firefighters, police, rescue workers and volunteers for their selfless efforts. We need to be inspired by them to focus and continue to carry out our duties. The goal of HEPP News is to provide our readers with up to date HIV and hepatitis information and the tools they need to carry out their duties in the correctional health care setting. In the words of Mayor Guliani, "the show must go on".

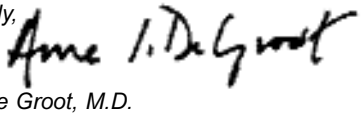
This issue of HEPP reviews communicable diseases in correctional settings, in preparation for our symposium entitled "Bridging the Gap" scheduled for November 10 in Albuquerque, New Mexico at the National Commission on Correctional Health Care (NCCHC) conference. We have summarized recent reports of communicable disease outbreaks and recent data on the prevalence of communicable disease in correctional settings in the main article, and dedicated our Spotlight feature to a study performed by Grace Macalino and colleagues in Rhode Island. The HEPPigram provides information on clinical "flags" that should prompt health care providers to screen for HCV, HIV, and HBV in the correctional setting, and the HIV 101 provides information on the signs and symptoms of acute HIV infection.

Next month we will discuss recent studies on the immunotherapy of HIV and bring you updates on new HIV drugs from recent conferences. In a future issue we will summarize CDC guidelines for the diagnosis and treatment of hepatitis in correctional settings. The formalized guidelines are expected to be released in late 2001 or early 2002.

CME credit is available both on line and by fax for readers of this issue. After reviewing this issue of HEPP News, health care providers should be aware of the prevalence (and incidence) of communicable diseases in correctional settings, should be familiar with signs and symptoms of acute HIV infection, and will recognize clinical "flags" that indicate the need to test for communicable diseases.

As always, we encourage you to write us and give us your feedback. Thank you for your continuing efforts to improve correctional health care and willingness to address the task at hand.

Sincerely,



Anne De Groot, M.D.

Published monthly and distributed by fax, HEPP News provides up-to-the-moment information on HIV and hepatitis treatment, efficient approaches to administering treatment in the correctional environment, national and international news related to HIV and hepatitis in prisons and jails, and changes in correctional care that impact HIV and hepatitis treatment.

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Bridging the Gap...

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are included in the high-risk category) (22). Again, limiting vaccination to higher-risk inmates (those with a history of IDU, for example) would lower costs (23).

STDs: Jail intake represents an important opportunity for STD screening. However, the rapid turnover of inmates can limit the efficacy of STD diagnosis and treatment. A number of rapid tests for STD infections have been developed (24). In Chicago, these methods for rapid STD diagnosis and treatment led to the identification of most of the city's STD cases and successful treatment before release (25,26).

EXISTING PROTOCOLS

Currently, different prisons have different protocols on testing and treating communicable diseases. One example of a protocol addressing HCV comes from the Pennsylvania Department of Corrections (27). Inmates who are HCV positive or request an HCV test are also tested for HIV, if at high risk. Those who are HCV positive are educated about HAV and HBV vaccines, and those who have more than 12 months left on the minimum sentence and are not excluded from treatment for other medical reasons and are HIV negative are then offered HCV treatment. If the inmate accepts, the treatment proceeds. (See April 2001 HEPP News, available on line at http://www.HIVcorrections.org, for a full discussion of HCV treatment protocols). According to Dr. Fred Maue, MD, chief of clinical services in the Pennsylvania DOC, 10,135 inmates there have been tested as of May 31 2001, and 5,429 tested positive for HCV infection. Of those, 292 have completed treatment and 378 are receiving treatment. Of those not receiving treatment, 40% are still under evaluation, some were excluded because of medical, psychiatric, drug and alcohol abuse and sentencing reasons, and 20% refused treatment after having met the criteria for receiving it (28). Every inmate has received one-on-one education about HCV with a trained healthcare provider.

New protocols for treating latent TB infection were developed by the CDC and published in June, 2000. Updated protocols reflecting concerns about PZA/Rifampin toxicity (see Newsflash in this issue) and guidelines for appropriately identifying and treating latent TB infection in correctional settings can be obtained from the CDC Division of Tuberculosis Elimination, at www.cdc.gov/nchstp/tb/pubs/mmwrhtml/mmwr_updates.htm (29). HIV treatment protocols are revised by a committee of experts every year: updated protocols available online at the Health Resources and Services Administration website, www.hab.hrsa.gov, and at an AIDS Education website, www.aegis.com.

EDUCATION, EDUCATION, EDUCATION

Education is not only arguably the most effective way to achieve prevention of transmission, it is also one of the cheapest. A study by the CDC published this year found that HIV prevention programs in prison that included testing and counseling not only saved society a lot of money (while prevention programs can seem expensive, treatment after infection costs a lot more), it reduced the risk of infection for uninfected inmates by 20%, and transmission from infected inmates by 25% (30). Another study in San Francisco found that prerelease risk reduction counseling reduced sex- and drug-related risk behavior of inmates after release, and improved the use of community resources (31). Peer-led education has been convincingly demonstrated to be the most effective form of education for inmates.

Treatment and education programs may need to be gender-specific, since female prison populations often have different disease dynamics than their male counterparts. For instance, about 10% of women who enter jails in the US are pregnant. The prevention of mother-to-child HIV transmission is a particularly important intervention for correctional facilities. Infants of mothers with acute (and chronic active) HBV infection are also at risk of contracting the disease.

CONCLUSION

Because of the complex relationship between various communicable diseases, and the high prevalence of infection among prison populations, effective management programs have to be coordinated efforts that screen for various risk-associated behaviors and medical conditions. Prison and jail-based programs, in the context of overall public health interventions, are extremely effective for the following reasons: they have the potential of identifying and reaching a high number of those infected with communicable diseases and those at risk of infection, and they effectively bring treatment and prevention strategies directly to a population that is at highest risk in a setting that may be more conducive to learning than educational programs located "on the street (32,33)." Communicable diseases impact more than the correctional population, as inmates eventually return to their communities. Will correctional facilities act as incubators or educators? That is the question of the new millennium.

**Nothing to disclose.*
***Speaker's Bureau: Merck & Co., Roche, and Schering-Plough*

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SPOTLIGHT: Bloodborne Pathogens in RI: Is the greatest threat inside or out?

HEPP News writer Betsy Stubblefield* interviewed Grace Macalino, PhD, Assistant Professor at the Brown University Department of Community Health

What is the risk of contracting a bloodborne disease while serving a prison term? How does this compare to the community risk? At the Adult Correctional Institute (ACI) of Rhode Island, this question may be first on the list of fears among any of the 15,000 people that pass through ACI intake every year. Yet studies may show that the real threat lies on the "outside," which makes prisons and jails an essential intervention site for disease prevention in the "free" community. Through cooperation with the medical department at the ACI, two Brown University studies investigate the real risk of becoming infected with bloodborne diseases behind closed doors.

Two Studies

Over the past three years, Macalino and her colleagues have conducted a blind sero-survey of all sentenced inmates entering the ACI. Blood is drawn at intake by the ACI for mandatory testing for HIV. For the first part of the study, researchers send half of the excess sera samples from sentenced inmates to off-site laboratories to blind-test for Hepatitis B and C (HBV and HCV) as well as Human T-Lymphotropic Virus (HTLV I/II).

The other half of the sera samples are reserved (linked with demographic data) for the second part of the study, or incidence measurement. This part requires new blood samples from inmates who have continuously been at the ACI for a minimum of 11 months. Macalino chose this timeframe to account for those individuals who might have been in the seroconversion window. At 11 months, eligible inmates are consented, pre-test counseled, and a phlebotomist draws blood from these volunteers. The blood is tested for HBV, HCV, and HTLV I/II infection. Outreach workers return within a month to counsel and disclose test results.

This study has been highly successful, accepted both among inmates (consent rate of 78%) as well as the administration at the ACI. According to Macalino, study participants may be more receptive to her study because the outreach workers are not affiliated with the correctional administration.

Because the first part of the study is a blinded sero-survey, all sentenced inmates are tested, resulting in an unbiased sample. However, because the second part of the study requires consent, it is possible that the inmate sample is biased. Additionally, the results from this study can only be extrapolated to those who are incarcerated for at least 11 months, leaving questions about transmission of these infections in more transient correctional populations still unanswered.

In a second study, Macalino and colleagues are measuring prevalence of the same bloodborne pathogens among recidivist men. The design is similar to an earlier study conducted with women inmates at the ACI (Rich JD, Macalino GE, Dickinson B, Flanigan T. CDC HIV Prevention Conference: Community incidence and intake prevalence in a population of incarcerated women. Atlanta, GA, August, 1999). Macalino's recidivist study will estimate "community" incidence of these infections by comparing the results of serial samples obtained at intake. Since inmates are often in the correctional system for short periods of time, Macalino attributes this incidence (i.e., negative on an earlier intake and positive on a later intake) to transmission in the community.

The Numbers

The incidence and seroprevalence study

Ultimately, Macalino hopes her data will reveal the transmission rate of HIV, HBV, HCV and HTLV I/II within the prison. Her preliminary results from the 675 participants at intake found prevalence rates of 1.3% HIV, 19.8% HBV, 24.7% HCV, and 1.2% HTLV I/II. Preliminary analysis found no seroconversion to reveal infection with HIV, HCV or HTLV I/II. They did find, however, two cases of conversion to HBV infection, although further tests are necessary to confirm this finding.

Macalino and colleagues also noted injection drug use (IDU) among study participants, and found the highest rate of IDU among those patients infected with HIV: 66.7% (6) reported drug use. For those with HBV, IDU was 38% (51); for HTLV I/II, 50% (4); and for HCV, 46% (78).

Research is possible within corrections, provided that researchers establish open communication and awareness among all interested or involved staff and inmates.

The recidivist study

In the study of recidivist women at the ACI (Rich, et al), 2.4% (25) returned from the community infected with HIV. The numbers are much higher for Hepatitis: 34% (140) had HBV, and 36% (150) had HCV. Nine women (2.2%) had HTLV I/II. Extrapolating to measure in person-years, the study found that HCV had the highest rate community incidence (18.2/100 person-years), followed by HBV (12.2/100 person-years), HTLV II (0.9/100 person-years) and HIV (0.31/100 person-years).

Because of these results, colleagues of Macalino recently received a grant to evaluate the feasibility of Hep B vaccines in prison. The recidivist study for this project is still in progress and no results exist yet. The project will eventually have community incidence data for both the men's and women's facilities.

Hopeful for an Impact

Macalino anticipates that transmission rate within the prison will be much less than on the outside. Still, any positive results will indicate to the ACI administration that education and prevention should be an essential component of their staff training and inmate health-education programs. These studies can provide information on whether funding and educational efforts should be directed at inmates during incarceration or upon release. Macalino said that ACI Medical Director Anne Spaulding has been very receptive to the study, stating that it is "better to know than not to know" the transmission rates within the prison.

Revealing a common sentiment about research in hard to reach populations, Macalino said "My frustration is that you hope that you're going to make change [but it is not a guarantee]. This is a high risk population—a hidden population. They are not going to be in most studies or accessing care, and there is chronic history of feeling overlooked and mutual distrust." She is optimistic, however, stating that research is possible within corrections, provided that researchers establish open communication and awareness among all interested or involved staff and inmates.

**Nothing to disclose.*

HEPPIGRAM: "Flags" For Communicable Disease Testing

Type of Visit and Finding	Testing & Education Recommended		
	HBV	HCV	HIV
GYNECOLOGICAL			
■ STDs (include Herpes, Syphilis, etc.)	+++	++	+++
■ Trichomonas vaginalis	++	+	+++
■ Vaginal Yeast Infection	+	+	+++
■ History of Childhood Sexual Abuse[1, 2]	++	++	+++
MENTAL HEALTH			
■ Schizophrenia[3]	+	+	+++
■ Bipolar Disorder[3]	+	+	+++
■ Post-Traumatic Stress Disorder	++	++	+++
■ History of Childhood Sexual Abuse	++	++	+++
GENERAL HEALTH			
■ IV Track marks	+++	+++	+++
■ Icterus	+++	+++	++
■ Signs of acute HIV (see HIV 101)	+++	+++	+++
■ Signs of chronic HIV (including thrush, scars from shingles, OHL, lymphadenopathy, seborrhea)	+++	+++	+++
■ Positive TB test	++	++	+++
■ Hepatitis Infection (A or B)		+++	+++
■ Hepatitis Infection (A or C)	+++		+++
■ Shingles	+	+	+++
■ Seborrheic dermatitis	+	+	+++
■ Abnormal LFTs	+++	+++	+++
■ Severe fungal infection	+	+	+++
■ Uncontrollable psoriasis	+	+	+++

Level or strength of recommendation: +++ High recommendation; ++ Medium recommendation (suggesting indirect link between finding and diagnosis)**; + Low recommendation. Developed by HIV and Hepatitis Education Prison Project (HEPP News) Staff, September 2001.**

Inmates may present with any of the above symptoms at any time during their incarceration, not only at intake. There may be inmates who are infected with HIV, HBV, or HCV at the time of intake but have not yet seroconverted resulting in a negative testing outcome when they are actually infected with one or more of these viruses. Additionally, there are inmates who acquire these viruses while incarcerated and thus will exhibit these symptoms at a medical visit post-intake.

REFERENCES:

1. Cohen M, Deamant C, Barkan S, et al. Am J Public Health. 2000 Apr;90(4):560-565
2. Bensley LS, Van Eenwyk J, Simmons KW Am J Prev Med. 2000 Feb;18(2):151-158
3. Otto-Salaj LL, Stevenson LY The AIDS Reader. 2001 Apr; 11(4): 197-208

HIV 101

Don't Miss the Diagnosis (HIV)*

Rebecca Nerenberg^, *HEPP News Staff Writer*

The diagnosis of acute HIV infection is missed approximately 75% of the time because of a low level of suspicion of HIV on the part of the provider (1).

■ Acute HIV infection is often mistaken for another disease or for a minor, passing illness.

■ Signs and symptoms of acute HIV infection mimic those of mononucleosis, influenza, viral hepatitis, or secondary syphilis (1,2).

■ 50 to 90% of patients experience symptoms of the acute infection syndrome, which usually develops 2 to 4 weeks after initial exposure to the virus (2).

■ Patients most commonly present with the following signs and symptoms: fever, fatigue, lymphadenopathy, pharyngitis, rash, and weight loss. Mylagia, arthralgia, and headache are also reported by patients experiencing acute HIV infection (see Table 1).

■ The skin rash that appears during acute HIV infection usually affects the trunk or face in a symmetric distribution and is described as an erythematous, nonpruritic, maculopapular eruption (2). Ulcerations may occur, especially in the oral and genital areas (2).

A patient who exhibits some or all of the signs and symptoms listed in Table 1 and exhibits recent risk for HIV infection should be tested for HIV infection. The duration of the symptoms is approximately 14 days after which time the immune system begins producing antibodies to the virus, the viral load in the body decreases and the symptoms are often resolved (3). The duration and severity of acute HIV infection is often a prediction of disease progression. Symptoms that are more severe and prolonged correlate with rapid disease progression (1, 3).

Blood tests commonly reveal an initial lymphopenia with depletion of CD4+ and CD8+ cells. This is a short-lived phenomenon followed by lymphocytosis (largely CD8+ cells), anemia, and thrombocytopenia (2). Hepatic transaminases and alkaline phosphatase levels are also associated with acute HIV infection but generally return to normal within three months (2). If the levels do not return to normal in this time, it may be a sign of co-infection with one of the hepatitis viruses (i.e. HBV, HCV).

Table 1. Frequency of Signs and Symptoms Associated with Acute HIV Infection (1, 2)

Sign/Symptom	% Patients Reporting Symptom
■ Fever	90
■ Fatigue	80 to 90
■ Rash	40 to 80
■ Lymphadenopathy	40 to 77
■ Weight Loss	70
■ Pharyngitis	50 to 73
■ Headache	32 to 70
■ Mylagia or Arthralgia	50 to 70
■ Nausea, Vomiting, or Diarrhea	30 to 60

Recognizing the signs of acute HIV infection is necessary to diagnose HIV infection and begin treatment. Traditional HIV tests depend on the presence of serum antibodies to proteins of the HIV virion. However, these antibodies often do not develop until after the symptomatic acute stage of HIV has passed. Direct detection of HIV RNA or DNA is the most rapid diagnostic test.

Treating HIV with antiretroviral therapy in the acute stage is extremely beneficial to the patient (1,2,3). Treatment can reduce viral replication, lowering the viral load and reducing the emergence of drug resistant HIV phenotypes (1). Patients who receive antiretroviral therapy during the acute stage of infection have experienced a rise in CD4+ and CD8+ cells to normal levels and the reduction of viral load to undetectable levels (2).

^Nothing to disclose.

**Adapted from:*
1. Perlmutter, BL, Glaser, JB, and Oyugi, SO. How to recognize and treat acute HIV syndrome. Am Fam Physician 1999 Aug; 60 (2):535-42.
2. Vergis, EN and Mellors, JW. Natural history of HIV-1 infection. Infect Dis Clin North Am 2000 Dec; 14 (4):809-25.
3. Kahn, JO, and Walker, BD. Acute human immunodeficiency virus type 1 infection. N Engl J Med. 1998 Jul 2; (1):33-9.

Resources & Websites

Acute HIV Websites:

AIEDRP: Acute HIV Infection and Early Disease Research Program
http://aiedrp.fhcrc.org/

IAPAC (International Association of Physicians in AIDS Care) Guidelines for Acute HIV Infection
http://www.iapac.org/guidelines/guidelines14.html

HIV ATIS Guidelines for Acute HIV Infection
http://www.hivatis.org/guidelines/adult/Apr23_01/text/acute.html

Hepatitis Packets Available:

NATAP: 15-page handbook on HCV and HIV/HCV Co-infection. Also available in Spanish. Contact JuLev@aol.com
Hepatitis C Awareness Project: 14-page packet on HCV targeted for and available to inmates and others. Contact pkbeckinor@aol.com

HIV Treatment Websites:

CARE Act Guidelines
http://hab.hrsa.gov/care.html

HIV and Hepatitis
http://www.hivandhepatitis.com/

amfAR Treatment Directory
http://www.amfar.org/cgi-bin/iowa/td/

CDC HIV/AIDS Treatment Information
http://www.cdc.gov/hiv/treatment.htm

The Body: An AIDS and HIV information resource
http://www.thebody.com

Rainbow/PUSH Coalition Website
http://www.rainbowpush.org

Save the Dates

Management of HIV/AIDS in the Correctional Setting: A Live Satellite Videoconference Series
Antiretroviral Therapy: Charting a Successful Course
October 16, 2001
12:30-3:30pm EST
Sponsored by the Albany Medical Center's AIDS Program
CME and CEU credits available
Call: 518.262.4674
Email: rosentjh@mail.amc.edu
Visit: www.amc.edu/Patient/HIV/hivconf.htm

Focus on Women: Challenges in the Prevention and Treatment of HIV/AIDS
Sponsored by AmFar
October 19, 2001
Cornell Club, New York, New York
Fee: $35
Call: 212.806.1627
Email: caroline.kelley@amfar.org

Infectious Diseases Society of America (IDSA): 39th Annual Meeting
Oct 25-28, 2001
San Fransisco, California
Email: sharwood@idsociety.org
Write: 99 Canal Center Plaza, Suite 210 Alexandria, VA 22314
Fax: 703.299.0204
Visit: http://www.idsociety,org

National Conference on Correctional Health Care
November 10-14, 2001
Alberquerque, New Mexico
Fee: Before Oct 1- $225 member/ $275 non-member;
after Oct 1- $275 member; $325 non-member
Call: 773.880.1460
Fax: 773.880.2424
Visit: www.ncchc.org

3rd International Hepatitis C: Update for the New Millennium
November 30-December 1, 2001
Houston, Texas
Fee: Physicians- before Oct. 29- $150; after Oct. 29-$165;
Other Health Care Professionals- before Oct. 29- $115; after Oct. 29-$135
Visit: http://www.uth.tmc.edu/cme/
Email: Kristen.K.Brockman@uth.tmc.edu
Call: 713.500.5127
CME and CEU credit available

News Flashes

Bridging the Gap: Meet HEPP News
Meet HEPP News! Editors Bick, Paar, Paris, and De Groot will be speaking at a preconference symposium on Saturday November 10, 2001 from 1:30-5:00pm at the *National Conference on Correctional Health Care* in Albuquerque, New Mexico. Additional speakers include Dr. Renee Kanan, Dr. Michael Wong, Dr. Rob Lyerla and others.The focus of this symposium is on *Bridging the Gap: Getting High Risk Patients into Treatment* and will address the issues surrounding the gap between those inmates who have an infectious disease and those who are actively receiving treatment. CME credit will be available. Information on the conference is available at http://www.ncchc.org.

Drug Resistant HIV on the Rise
Nat Med 2001 Sep; 7(9):1016-1020
By 2005 experts expect 42% of individuals living with HIV will be infected with drug-resistant strains of the virus, according to a mathematical model. The percentage of individuals with drug-resistant virus rose from none in 1996 (pre-protease inhibitors) to 28.5% in 1999. Experts say that the majority of new drug resistant cases are drug-acquired rather than sexually transmitted. Scientists are hoping that new drugs in development will combat the drug-resistant viruses.

Revisions in CDC Guidelines for the Treatment of Latent Tuberculosis Infection
MMWR 2001 August 31; 50(34):733-35
After more than 20 cases of severe liver injury associated with a 2 month rifampin-pyrazinamide (RIF-PZA) regimen for the treatment of latent tuberculosis infection (LTBI), the CDC has issued revised recommendations. The 2-month RIF-PZA treatment regimen is to be used with caution, especially for patients taking other medications associated with liver damage and is not recommended for people with alcoholism. For HIV-negative patients, 9 months of daily INH is the preferred form of treatment. Full guidelines available at http://www.cdc.gov/mmwr/PDF/wk/mm5034.pdf.

Roche Releases a New CMV Drug
In March, the FDA approved a new drug, Valcyte, manufactured by Roche to combat cytomegalovirus (CMV), a common opportunistic infection in HIV-positive patients. Valcyte (valganciclovir HCl tablets) is a 450mg tablet for oral administration. Valcyte is the only drug with oral administration in induction therapy and can be given once daily. The side effect profile is similar to Cytovene.

Ryan White CARE Act Funds for Discharge Planning
HRSA AIDS Bureau, August 2001
As of July 2001, HRSA AIDS Bureau (HAB) released a program policy that outlines the use of Ryan White CARE Act funds for use in the discharge planning of inmates. The purpose of the funding is to provide transitional primary care for inmates nearing release linking primary care within prisons to primary care in the community. This funding provides services not covered by the correctional system. The policy is available on the HAB website at http://hab.hrsa.gov/care.html.

Abnormal Cervical Cytology in HIV+ Women
J Acquir Immune Defic Syndr 2001 Aug 15; 27 (5): 4232-442
Scientists released a new study comparing the incidence, progression and regression rates for abnormal cervical cytology between HIV-positive and HIV-negative women. HIV-positive women were found to be at high risk for abnormal cytology with HIV status and HIV RNA level predicting the incidence of the abnormalities.

Hepatitis B Transmission Observed in Correctional Facilities
MMWR 2001 Jun 29; 50(25):529-32
Acute hepatitis B was serologically confirmed in a male (index patient) who had been incarcerated at a high security state correctional facility for 2.5 years. His only reported risk for infection was unprotected sex with his cellmate. Serologic testing revealed that the cellmate had chronic hepatitis B virus (HBV) infection yet the inmate was previously unaware of his condition. Additional cases of HBV infection were found in this facility underscoring the need for HBV vaccination in prisons and jails.

Hepatitis C Treatment in Prisons
Associated Press, September 4, 2001
Over 18% of inmates are infected with hepatitis C, an incidence rate of over ten times that of the general population. Testing for hepatitis C in prisons not common, however, due to prohibitive treatment costs ($14,000 per patient per year) and the time required for treatment success (up to 18 months). Because many inmates will or may be released in less than 18 months, they are often not treated for hepatitis C. Of over 800 infected inmates in New Jersey, only 10 are in treatment. The majority were turned down because of insufficient time left on their sentences to complete treatment.

Experimental HIV Drug Effective in Drug-Resistant Patients
Reuters, 9/26
Tenofovir, an experimental antiretroviral drug now under consideration for approval by the FDA, was tested for six months in patients with drug-resistant viruses. A "more significant reduction" in HIV viral load was seen when patients were treated with tenofovir in combination with other antiretroviral medications rather than with a placebo used in conjunction with other antiretrovirals.

Self-Assessment Test for Continuing Medical Education Credit

Brown Medical School designates this educational activity for 1 hour in category 1 credit toward the AMA Physician's Recognition Award. To be eligible for CME credit, answer the questions below by circling the letter next to the correct answer to each of the questions. A minimum of 70% of the questions must be answered correctly. This activity is eligible for CME credit through December 31, 2001. The estimated time for completion of this activity is one hour and there is no fee for participation.

1. What is the correct order of community incidence rates in Rhode Island from highest to lowest, according to the Macalino study?
   (a) HCV>HIV>HBV>HTLV II
   (b) HCV>HBV>HTLV II>HIV
   (c) HBV>HCV>HIV>HTLV II
   (d) HIV>HBV>HTLV II>HCV
   (e) HIV>HTLV II>HCV>HBV

2. Which of the following conditions was estimated to be the most prevalent in prisons in 1999?
   (a) chlamydia
   (b) gonorrhea
   (c) syphilis (RPR+)
   (d) herpes (active)
   (e) genital warts

3. Approximately how long after initial exposure to HIV do the symptoms of acute infection develop?
   (a) seven to ten days
   (b) two to four weeks
   (c) six to eight months
   (d) three to five days
   (e) two to four months

4. Why is an anti-HIV antibody test inappropriate to use in diagnosing acute HIV?
   (a) antibodies may not appear until after symptomatic acute infection has passed
   (b) anti-HIV antibodies are non-specific
   (c) the test is too expensive
   (d) patients with fever can not expect accurate test results
   (e) anti-HIV antibodies do not indicate active virus

5. Under what conditions should the RIF-PZA treatment for HIV-positive people with latent tuberculosis infection (LTBI) not be used?
   (a) when the patient is on acyclovir
   (b) when the patient is co-infected with hepatitis B virus
   (c) when the patients does not like the side effects
   (d) when the patient has a history of alcoholism
   (e) all of the above

6. A patient arrives in your general outpatient clinic complaining of a painful rash. He has a maculopapular rash on the right side of his chest. You think it is shingles. What will you screen for?
   (a) HIV
   (b) HBV
   (c) lyme disease
   (d) measles
   (e) drug reaction

HEPP News Evaluation

5 Excellent 4 Very Good 3 Fair 2 Poor 1 Very Poor

1. Please evaluate the following sections with respect to:

	educational value	clarity
Main Article	5 4 3 2 1	5 4 3 2 1
HEPPigram	5 4 3 2 1	5 4 3 2 1
HIV 101	5 4 3 2 1	5 4 3 2 1
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2. Do you feel that HEPP News helps you in your work? Why or why not?

3. What future topics should HEPP News address?

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5. Do you have specific comments on this issue?

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