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HIV & Hepatitis Education Prison Project

HEPP REPORT
INFECTIOUS DISEASES IN CORRECTIONS
HIV & HEPATITIS EDUCATION PRISON PROJECT
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SPONSORED BY THE BROWN MEDICAL SCHOOL OFFICE OF CONTINUING MEDICAL EDUCATION.

ABOUT HEPP

HEPP Report, 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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In accordance with the Accreditation Council for Continuing Medical Education Standards for Commercial Support, the faculty for this activity have been asked to complete Conflict of Interest Disclosure forms. Disclosures are listed at the end of articles. All of the individual medications discussed in this newsletter are approved for treatment of HIV and hepatitis unless otherwise indicated. For the treatment of HIV and hepatitis infection, many physicians opt to use combination antiretroviral therapy which is not addressed by the FDA.

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VACCINATIONS FOR HIV-INFECTED INMATES

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Inmates in this country represent a large reservoir of individuals at risk for vaccine-preventable diseases. Vaccinations are one of the most cost-effective interventions available, with the potential for decreasing morbidity and mortality by preventing or modifying life-threatening disease. According to a recent report to congress[1], 11.5 million Americans were released from jails and prisons in 1998. Therefore, immunization efforts targeting inmates have the potential to dramatically impact the health of the incarcerated, those who work with them, and the overall public health of this nation.

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Not all vaccines are safe for use in immunocompromised individuals. As a rule, immunocompromised people should not receive vaccines based on live-attenuated organisms. Because of the disproportionately high prevalence of HIV in jails and prisons, the use of live attenuated vaccines must be carefully considered, as some individuals may not be aware of their own advanced HIV infection. On the other hand, the widespread use of highly active antiretroviral therapy (HAART) has resulted in immune reconstitution for many HIV-infected inmates. This may augment the response to vaccination in these patients. This article will review the principles, efficacy, safety and recommendations for immunizations in HIV-infected individuals.

HOW VACCINES WORK

The purpose of vaccination is to prevent disease in the susceptible host. This is done by stimulating the host's immune system to recognize the antigens on microorganisms and produce antibodies or T cell responses capable of fighting off the microorganisms (immunization).

Vaccines can be classified as live attenuated vaccines or inactivated vaccines (see Table 1). Live attenuated vaccines contain microorganisms that replicate and stimulate the host's immune system but are weakened (attenuated) so they are generally unable to produce disease in the immunocompetent individual. In contrast, inactivated vaccines either contain organisms killed by heat or chemicals, or "subunits" of these organisms such as proteins from the cell wall. With inactivated vaccines, there is no risk of acquiring vaccination-related disease. Recombinant vaccines are a form of inactivated vaccine derived from genetically engineered proteins. These vaccines do not contain any microorganisms or their products. Although they are not technically vaccines, toxoids are modified bacterial toxins incapable of producing disease, but able to stimulate the immune system to prevent the disease caused by the bacteria.

Vaccination can stimulate CD4 lymphocytes to become activated. Once in the activated state, CD4 lymphocytes are more at risk to become infected by HIV. Thus, vaccination can theoretically cause more cells to become infected by HIV. In the beginning of the AIDS epidemic, there were concerns that vaccination might

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WHAT'S INSIDE

Vaccinations...

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accelerate the progression of HIV. Some early studies demonstrated that after receipt of the influenza vaccine or tetanus toxoid, there was a transient increase seen in the HIV viral load of vaccinated individuals.[2] However, an abstract presented at this year's IDSA meeting found that among patients on HAART with undetectable HIV viral loads who received the influenza vaccination, there was no increase in HIV viral load.[3] Thus, in the era of HAART, sustained viral suppression resulting from effective treatment may diminish the likelihood of post-vaccination viral rebound.

Because HIV-infected persons have altered immune systems, there are special safety concerns when considering vaccination. Live attenuated vaccines can be problematic due to the potential for prolonged viral replication in immunocompromised individuals. In 1992, an AIDS patient developed measles pneumonitis from the measles vaccine.[4] In a separate case, a military recruit with asymptomatic HIV infection developed disseminated vaccinia from the smallpox vaccine.

There are also concerns about the efficacy of vaccinations in HIV-infected individuals. Because the immune system can affect the response to vaccines, there may be a lack of or reduced response in HIV-infected individuals. A recent study suggests that viral load suppression is a predictor of response to vaccinations, regardless of the CD4 count. In this retrospective study, 41 HIV-infected patients received three doses of the hepatitis B vaccine and had follow-up hepatitis B serologies performed. Fifty to 60 percent of those patients who had HIV viral loads <400 copies/mL showed an antibody response, regardless of their CD4 counts. In those patients with CD4 counts above 200 and HIV viral loads >400 copies/mL, only 24% showed a serological response. The worst outcomes occurred in patients with CD4 counts <200 and HIV RNA >400 copies/mL, where no patients showed a response.[5] Although this study involved a small number of patients and the data are preliminary, it certainly raises concerns about the efficacy of and ideal time to offer vaccinations to patients with advanced immunodeficiency and those with HIV viral loads >400.

Table 1. Classification of Vaccines

Inactivated or Engineered Vaccines and Toxoids	Live Attenuated Vaccines
Inactivated polio vaccine (IPV)	Varicella-Zoster virus vaccine (VZV)
Hepatitis A vaccine	Mumps, Measles, and Rubella vaccine (MMR)
Hepatitis B vaccine	Smallpox vaccine (Vaccinia)
Influenza vaccine	Typhoid vaccine
Tetanus-Diphtheria (Td) vaccine	Yellow Fever vaccine
Pneumococcal vaccine	Oral polio vaccine
H. influenza vaccine (HiB)	
Meningococcal vaccine	
Rabies vaccine	

When to Vaccinate

Many experts recommend vaccinating HIV-infected individuals early in the course of HIV disease because of concerns that declining immune status will reduce the response to vaccination.[6] Although the CD4 lymphocyte count is a surrogate marker for immune status, the minimal CD4 lymphocyte count needed to evoke an immune response is unknown. At low CD4 T-cell counts, HIV-infected adults may not respond to the initial vaccine series and may need additional (booster) doses of vaccine. If patients are to be placed on HAART, some experts recommend delaying vaccination for a few months after the initiation of therapy since immune reconstitution from HAART may result in a better antibody response.

Which Vaccines May Be Used

Pneumococcal Disease

HIV-infected individuals are at a significantly increased risk for both pneumococcal disease and pneumococcal bacteremia. Many observational studies in the U.S. have demonstrated a decrease in morbidity and mortality among HIV-infected patients who receive the vaccine.[6] The pneumococcal vaccine is safe to give to the HIV-infected person because it does not contain live organisms (bacterial polysaccharide vaccine). Therefore, the CDC recommends vaccinating all HIV-infected individuals with CD4 lymphocyte counts >200. The CDC recommends considering vaccinating HIV-infected individuals with CD4 lymphocytes <200 although clinical evidence is lacking. The ACP and AAP recommend revaccination with a single dose for children >2 years and adults who are at highest risk for serious pneumococcal infection and for individuals likely to have a rapid decline in antibody levels, provided five years have elapsed since the first dose. Revaccination every five years may be prudent in HIV-infected populations. Although this vaccine is safe, the efficacy in advanced HIV-infected patients may be reduced. In cases where the first vaccination was given when the CD4 lymphocyte count was <200, revaccination can be considered if the CD4 count is >200 as a result of HAART, as recommended by the USPHS and IDSA.

Influenza Vaccine

Influenza vaccine is derived from killed virus. The vaccine is updated every year based on circulating flu strains. It is safe for administration to patients who have HIV and should be given annually to those who are HIV-infected. The only contraindication to influenza vaccination is a history of an anaphylactic hypersensitivity to eggs or previous vaccination. This vaccination should preferably be administered every year before influenza season begins (October through November) but there is still a potential benefit to those who receive this vaccination later in the influenza season (until March).[7,8]

Hepatitis A and Hepatitis B Vaccines

Both the hepatitis A and B vaccines are safe in HIV-infected individuals. Hepatitis A vaccination is recommended for men who have sex with men, injection drug users, and persons with chronic liver disease including hepatitis C.[7]

The CDC recommends vaccinating all patients who are infected with hepatitis C against hepatitis A and B because of the increased risk of fulminant hepatitis in these patients. In some correctional institutions where there is a high prevalence of

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Letter from the Editor

Dear Correctional Colleagues:

As HEPP Report approaches its sixth year of publication, it seems the appropriate time to reflect on what we're facing in correctional health care, as well as what we've accomplished. What we're currently facing is sobering. There are 42 million people living with HIV/AIDS, worldwide, approximately two million more than last year. Five million new infections worldwide - 40,000 in the U.S. - occurred in 2002, according to the recently released biannual report from UNAIDS and the World Health Organization. By the end of 2001, there were 850,000 to 950,000 people living with HIV/AIDS in the U.S.

What we face in prisons and jails reflects these numbers - and more. The Bureau of Justice Statistics reports a total of 25,088 state and federal inmates known to be HIV positive - and the number of actual cases is probably higher. In percentages: 2.2% of state prison inmates and 0.8% of federal prison inmates were known to be infected. What do these numbers mean? Overall, the rate of confirmed AIDS among the nation's prison populations is four times the rate in the general population (0.52% in incarcerated communities vs. 0.13% in the general population).

We've also made heartening strides in correctional health care. While there are still more accomplishments to be made - more widespread testing, more infectious disease specialists in correctional health care, more comprehensive treatment for all prison populations - we believe that correctional health care has come a long way in the last five years.

Even as we look at the enormity of this entire picture, we still believe the best way to accomplish our mission of improving the level of health care in prisons and jails is to give correctional health care workers the tools to do it. With that in mind, this month's issue discusses immunizing HIV-infected patients including vaccines are safe and recommended for HIV-positive patients (including HIV-positive pregnant women). Considering the large number of HIV-infected inmates, vaccination may be the safest and most cost-effective way to prevent a number of vaccine-preventable diseases like HAV, HBV and influenza.

In this issue, we also provide coverage of reports from IDSA, ICAAC and NCCHC that could have a bearing on the work we do with infected populations in prison. After reviewing this issue, readers should be able to identify vaccines that are safe and effective for HIV populations.

As we wrap up our fifth year of publishing HEPP Report, we want to thank you for your continued support and as always encourage your feedback, comments, and contributions. Best wishes for the holiday season and the New Year from all of us at HEPP.

Sincerely,

Elizabeth Herbert

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Published monthly and distributed by fax, HEPP Report 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.

Vaccinations...

(continued from page 2)

hepatitis C, it may be cost-effective to vaccinate all HIV-infected inmates for hepatitis A.

Hepatitis B vaccination is recommended for all sexually active adults and individuals in long-term correctional facilities. Hepatitis B vaccination is neither recommended nor has been shown to be effective in HbsAg positive individuals. Because of the high prevalence of past hepatitis B infection among inmates, it may be cost-effective to screen for hepatitis B prior to routine vaccination. Levels of hepatitis B surface antibody >10 IU/ml are considered protective against hepatitis B. People who do not respond should be revaccinated with an additional one to three doses.[8]

The CDC has recommended an alternative accelerated hepatitis B dosing schedule for adults. After the first dose, the second dose should be administered one to two months later, and the third dose can be administered as early as four months after the first.[9]

Tetanus Diphtheria (Td) Vaccine

The tetanus diphtheria (Td) vaccine is an inactivated toxoid and is, therefore, safe to give to immunocompromised patients. Even though many inmates will have been vaccinated as children, they should receive booster doses every 10 years.

Varicella-Zoster Virus (VZV) Vaccine

Because of the concern for acquiring live viral infections and transmission of vaccine-derived varicella to susceptible populations, varicella-zoster virus vaccine is generally not recommended in HIV-infected adults regardless of their immune status. HIV-infected patients who have not had chickenpox should also avoid contact with and exposure to varicella (chickenpox) or zoster (shingles).[10] Recommendations for treating HIV-infected patients who are exposed to VZV are the same as for pregnant women (another group of patients at risk). Within 96 hours of an exposure to a patient with varicella or zoster, HIV-infected adults may receive a prophylactic dose of varicella-zoster immune globulin (VZIG). There are no data supporting the use of antivirals such as acyclovir in this population to prevent varicella or zoster.

Measles, Mumps, and Rubella (MMR) Vaccine

Most HIV-infected individuals will have received MMR as children, and revaccination is therefore not routine. The CDC recommends MMR vaccine be given to HIV-infected persons who have not previously been vaccinated, who are not severely immunocompromised (CD4 counts >200). Because of the low prevalence of these diseases in the U.S. and the potential for decreased efficacy and disseminated disease, the risks of the vaccine may outweigh the benefits. Severely immunosuppressed patients exposed to measles should receive immune globulin (IG) prophylaxis regardless of their vaccination status.

Polio Vaccine

Two types of polio vaccine are available. The oral polio vaccine is a live virus vaccine. Because of the risk of polio virus replication in immunocompromised patients, it should not be administered to HIV-infected persons, their household contacts, or nursing personnel who are in close contact with HIV-infected patients. The inactivated polio vaccine (IPV) is a suitable alternative for non-immune immunocompromised persons.

HIV-infected Pregnant Woman

When vaccinating HIV-infected pregnant women, the potential risk to the fetus and to the mother must be considered. In general, inactivated vaccines (influenza), bacterial vaccines (pneumococcal vaccine), and toxoids (Td) are safe in pregnancy.

Pregnant women in their second and third trimesters are at increased risk for serious complications from influenza and should be vaccinated before flu season. Hepatitis B vaccine is recommended for pregnant women who are at risk for hepatitis B infection.

Pneumococcal vaccination is safe and is recommended in pregnancy for HIV-positive patients who have not been vaccinated in the past 5 years. In general live virus vaccines are not recommended for HIV-infected pregnant women because of the risk for congenital varicella or rubella and the risk of disseminated disease in the mother.[7]

Conclusion

HIV-infected individuals in correctional institutions can benefit from receiving vaccines to prevent pneumococcal disease, flu, diphtheria and tetanus, and hepatitis A and B. The immune status of the HIV-infected individuals may influence both the safety and efficacy of the vaccine. HIV-infected patients should generally avoid live-virus or live-bacterial vaccines. Inactivated vaccines are safe and should be offered to those who are at risk for disease. Patients with non-suppressed HIV viral loads and those with advanced disease may not respond or may have a blunted response to vaccination. In general, vaccines should be avoided during pregnancy, if possible. If vaccination must take place during pregnancy, only inactivated vaccines should be used. Further research is needed to evaluate the efficacy and the safety of vaccines in HIV-infected patients effectively treated with HAART.

Disclosures:

**Bristol Myers Squibb Speaker's Bureau*

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SPOTLIGHT: Conference Update - 2002

*Compiled by HEPP Report Co-Chief Editor Joseph Bick**

Selected news from the 42nd Interscience Conference on Antimicrobial Chemotherapy (ICAAC) held September 27-30, 2002 in San Diego; the 26th annual meeting of the National Commission on Correctional Health Care (NCCHC) held October 19-23, 2002 in Nashville; and the 40th conference of the Infectious Diseases Society of America (IDSA) held October 24-27, 2002 in Chicago.[1]

SEXUALLY TRANSMITTED DISEASES

NCCHC: The recently released report to Congress entitled "Health Status of Soon to be Released Inmates" highlights the unique opportunity that correctional health care professionals have to diagnose and treat sexually transmitted diseases. Data presented by Kennedy et. al. from seven juvenile detention centers revealed an average infection prevalence of 7.1% for chlamydia (CT) and 2.6% for gonorrhea (GC). The same group reported that for incarcerated adult women <25 years-old from three U.S. cities, the prevalence of CT was 15-22% and that of GC was 8-9%. Infections were detected utilizing the urine ligase chain assay. Both CT and GC can be eradicated with a single dose of an antibiotic.

NCCHC: Varghese, Lincoln et. al. from the Hamden County Correctional Center in Massachusetts presented an economic analysis of an HIV testing and counseling program that demonstrated that routine testing of inmates is effective in identifying new cases of HIV, and has the potential to prevent future infections and decrease health care expenditures.

NCCHC: Newman et. al. presented an epidemiological analysis of CT and GC in women incarcerated by the Federal Bureau of Prisons (FBOP). This study demonstrated that in the FBOP, limiting screening to women <31 years of age diagnosed more than half of the cases at a fraction of the cost of screening all women.

IDSA abstract #29: This CDC study of the HIV counseling and testing database evaluated the rate of return of HIV test results. In 2000, of 1,641,488 people tested, 15,037 were HIV-infected. Test results were two times more likely to be returned to people if they were incarcerated at the time of testing. This data reinforces the importance of jail and prison-based testing programs.

IDSA abstract #653: 293 HIV-infected individuals with genital HSV were randomized to receive either twice-daily oral valacyclovir or placebo. At six months, 80% of those receiving valacyclovir were recurrence-free, opposed to 38% of those receiving placebo. Genital ulcer disease is known to increase the risk for transmission of HIV. Thus, the use of prophylactic oral acyclovir or valacyclovir in those with a history of recurrent genital HSV has the potential to both decrease recurrence of HSV and transmission of HIV.

ICAAC: 1494 heterosexual couples discordant for HSV-2 infection at 96 sites worldwide were randomized so that the HSV-infected individual received either daily valacyclovir or placebo. The partners of 3.8% of those receiving placebo vs. 1.9% of those receiving valacyclovir developed infection with HSV. This study suggests that HSV-2 infected partners of those who are HSV-2 negative should be offered prophylaxis.

IDSA abstract #662: This San Francisco study found a high incidence of proctitis in a cohort of men who have sex with men. Most cases were due to syphilis, NG, CT, and/or HSV. As active proctitis is known to increase the risk for acquisition of HIV, it should be promptly diagnosed and treated.

IDSA abstract #655: This study from Seattle found that 33/100 asymptomatic undergraduate men were culture positive for human papillomavirus (HPV).

IDSA: Exciting news was presented concerning a vaccine to prevent acquisition of HPV. (See also NEJM 11/21/02). Approximately 450,000 women worldwide develop cervical cancer annually, with a mortality of ~50%. In the developing world, cervical cancer is one of the leading causes of cancer deaths. In the U.S., ~15,000 cases of cervical cancer occur each year resulting in 5,000 deaths. The vaccine discussed is directed at HPV type 16, which is responsible for about half of the cases of cervical cancer. The vaccine was tested on women 16-23 years-old at 16 sites nationwide. Women were followed on average for 18 months. Of 768 women vaccinated, none developed HPV type 16 infections or precancerous lesions. Of the 765 who received placebo, 41 developed persistent HPV 16 infection and 9 developed precancerous tissue changes. Vaccinated women developed antibody titers against HPV 16 that are ~60 times greater than those seen in naturally occurring infection. An international phase 3 study is underway utilizing a tetravalent vaccine with serotypes 16, 18, 31, 45. Together, these four serotypes are responsible for 80% of cervical cancer.

IDSA abstract #21: The prevalence of flouroquinolone (FQ) resistant GC is known to be high in Asia and Hawaii. This CDC study of NG at four sites in northern and southern California found an overall prevalence of resistance to FQ of 4.9%. Higher resistance rates were seen in Asians, IDU, and those with recent antibiotic use. Therefore, FQ can no longer be considered first-line therapy for NG in CA or for patients who acquired GC there.

NCCHC: Clark, Sylla, and Gaylord presented a one-year report on the L.A. County jail condom distribution program. This initiative, which provides condoms and risk reduction education to self-identified gay, bisexual, and transgendered inmates, has been well accepted by staff and inmates and lead to no disciplinary issues.

HEPATITIS

IDSA abstract #793: The HCV seroprevalence among incoming inmates to the NYS prison system in 2000-2001 was 23% among women and 13.4% among men. The rate of HIV co-infection was 5.6% in women and 2.3% in men. Even among non-IDUs, the prevalence of HCV was 14% in women and 9% in men. This data suggests that inmates should be counseled and screened for HCV even in the absence of identified high-risk behaviors.

IDSA abstract #517: This study of HCV prevalence among the urban poor in San Francisco demonstrated a prevalence of HCV of 69%. Patients were recruited from hotels, shelters, and free lunch sites. Among those infected with HCV, a history of treatment was rare with <2% of patients entering into treatment each year.

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Conference Update...

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IDSA abstract #527: Among HIV-infected patients vaccinated for HAV, only 60% developed a protective antibody titer. Those with CD4 >200 were two times more likely to respond to vaccination.

ICAAC and IDSA: Both had numerous abstracts looking at use of 3TC, adefovir, and/or tenofovir in the treatment of chronic hepatitis B infection. All three agents have the potential to decrease HBV viral load and liver inflammation. In a minority of patients, loss of e antigen positivity can be achieved. Studies are ongoing utilizing combination therapy targeted at HBV in mono-infected and HIV co-infected patients.

HAART: Treatment-naïve patients

ICAAC: Follow-up data was presented from Gilead 903 demonstrating that at 48 weeks, 80% of those receiving efavirenz (EFV) plus 3TC plus either d4T or tenofovir had HIV VL <50 copies. Previously, ACTG 384 established that in terms of time to virologic failure, AZT/3TC/EFV is superior to AZT/3TC/NFV, d4T/ddI/NFV, or d4T/ddI/EFV in treatment-naïve patients. Considered together, these studies further support the use of an EFV/3TC backbone coupled with abacavir, AZT, ddI, d4T, or tenofovir in the treatment of HAART-naïve patients.

ICAAC H-1076: BMS A1424-034 data was presented comparing AZT/3TC/EFV to AZT/3TC/atazanavir (BMS's new once-a-day protease inhibitor.) As compared to other PI regimens, atazanavir (ATZ) has been shown to lead to minimal lipid changes. ATZ can cause asymptomatic elevations in indirect bilirubin.

Previous studies suggested that virologically, ATZ has efficacy similar to nelfinavir (NFV), while NFV has been shown to be less effective in naïve patients than EFV. Surprisingly, A1424-034 found that both the ATZ and EFV arms had comparable efficacy in achieving HIV VL of <400 and <50. It should be noted however that both arms were significantly less successful than has been seen in prior EFV studies. (HIV VL <400: 70% in the ATZ arm, 64% in the EFV arm; HIV VL <50: 32% in the ATV arm, 37% in the EFV arm). Although a true once daily PI is a welcome addition, further study is needed before ATZ can be considered to be virologically equivalent to EFV.

ICAAC H-165: Through four years of follow-up, HAART-naïve patients receiving Lopinavir-ritonavir (LPV-rtv) demonstrated sustained virologic response (intent to treat analysis: 70% HIV VL <50; on treatment analysis, 97% VL <50). Of those with viral load rebound, no PI resistance mutations have been demonstrated. LPV was well tolerated.

ICAAC H-161: 554 treatment-naïve patients were randomized to 300 mg po qd or 150 mg bid of 3TC coupled with once-daily EFV and twice-daily AZT. At 48 weeks, both arms demonstrated equivalent antiviral efficacy, adverse events, and frequency of the 184 mutation. 3TC has now been approved for once-a-day dosing, and a new 300 mg formulation is available.

ICAAC H-166: Fosamprenavir is a prodrug of amprenavir (APV) that is well tolerated, has no food restrictions, and is dosed as two pills bid as compared to eight bid for APV. The NEAT trial was reported at ICAAC, and demonstrated comparable virologic efficacy for fosAPV/3TC/ABC as compared to NFV/3TC/ABC.

HAART: Treatment-experienced patients

ICAAC: Toro 2 studied HAART-experienced patients in Europe and Australia who are resistant to medications in all three classes and/or have a history of prolonged use of HAART. This study evaluated the addition of T-20 (fusion inhibitor) by bid injection vs. placebo to an optimized background of three to five other agents. The T-20 arm demonstrated a 1.70 decrease in the HIV VL as compared to a .76 drop in the optimized background arm alone.

HAART: Side effects

ICAAC H-1074: This study looked at the result of substituting ABC or AZT for d4T in patients with either lipoatrophy (as determined by self-report or physical examination) or elevated serum lactate (>3.2 without symptoms, >2.2 with symptoms). Patients were studied by dexa scan, CT, self-report, and anthropomorphic measurements. Patients who switched from d4T demonstrated increased fat in arms and legs by dexa scanning; decreased lactate levels; and significant improvements in lipoatrophy (by self report) with increased fat in face, legs, arms, and buttocks.

ICAAC: Previously, the Gilead 903 study demonstrated equivalent virologic efficacy of EFV/3TC/TFV vs. EFV/3TC/d4T. At ICAAC, further analysis of this study was presented which showed that the d4T arm had an increased incidence of elevated serum lactate, hyperlipidemia, (cholesterol, fasting triglycerides, LDL), and neuropathy as compared to the TFV arm.

Disclosures:

**Nothing to disclose.*

References:

1. This article contains discussion of off-label use of some drugs; not all have been approved for that use by the FDA.

Resources & Websites

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CME activity
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HIV in Prisons, 2000
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Viral Hepatitis Education for Correctional Facilities
Hepatitis educational curriculum for correctional health care providers and inmates.
http://www.cdc.gov/ncidod/diseases/hepatitis/spotlights/ncchc.htm

Infectious Diseases Society of America (IDSA)
http://www.idsociety.org/

American Association for the Study of Liver Disease
http://www.aasld.org/

Conference Reports
AASLD, ICAAC, IDSA
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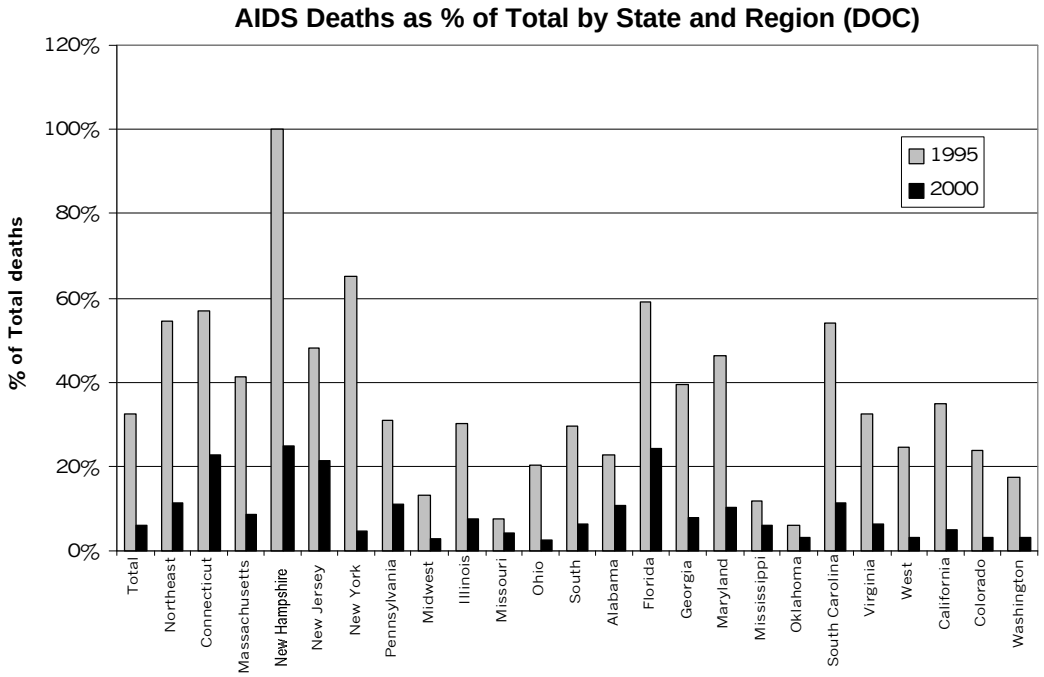
World AIDS Day 2002: Correctional Update

World AIDS Day was commemorated around the globe on December 1st to celebrate progress made in the battle against the epidemic, and focus attention on remaining challenges. The problem of HIV/AIDS in prisons and jails is still overlooked by World AIDS Day community efforts, and we feel it is important to both celebrate the strides made in HIV/AIDS care in correctional settings, and recognize our ongoing challenges. The first table below gives us heartening news: the marked decline in the percentage of AIDS deaths in U.S. correctional facilities by state. The second table shows us the progress still to be made: the prevalence data in the 25 correctional facilities in the U.S. holding the largest number of inmates with confirmed AIDS. The following tables were created with data from the Bureau of Justice Statistics Bulletin "HIV in Prisons, 2000" (October 2002).



Some facilities holding the largest number of prisoners with confirmed AIDS				
Number of inmates on June 30, 2000	**State**	**Total**	**With confirmed AIDS**	**% of all inmates**
Total		56,021	1,995	3.6
CA Men's Colony	CA	6,683	63	0.9
CA State (Corcoran)	CA	5,840	51	0.9
Osborn CI	CT	1,818	64	3.5
Central FLA Reception Ctr	FL	2,174	140	6.4
Washington CI	FL	1,178	78	6.6
Everglades CI	FL	1,537	61	4.0
Apalachee CI	FL	1,611	60	3.7
Union CI	FL	1,703	54	3.2
Okeechobee CI	FL	1,147	50	4.4
Taylor CI	FL	1,006	48	4.8
Martin CI /Work Camp	FL	1,057	42	4.0
Lake CI	FL	1,055	39	3.7
Wheeler CF - CCA	GA	1,002	50	5.0
Reception Diagnostic Ctr	IN	668	50	7.5
Elayn Hunt Correctional Ctr	LA	2,151	43	2.0
Louisiana State Pen.	LA	5,116	41	0.8
Roxbury CI	MD	1,906	67	3.5
Metropolitan Transition Ctr	MD	1,604	40	2.5
Mississippi State Pen.	MS	4,986	49	1.0
Mohawk CF	NY	1,408	111	7.9
Albion CI	NY	1,342	41	3.1
Attica CF	NY	2,211	40	1.8
Broad River CI	SC	989	217	21.2
Stiles Unit	TX	2,856	452	15.8
Estelle Unit	TX	2,973	44	1.5

Source: Data are from the 2000 Census of State and Federal Adult Correctional Facilities. A total of 1,504 facilities reported data on confirmed AIDS.

HIV 101

When to Immunize Inmates

Recommendations for Immunizations in HIV-infected Inmates		
Vaccine	**CD4 <200**	**CD4 >200**
Live		
MMR	No	Yes
Varicella (VZV)	No	No
OPV	No	No
Inactivated		
Pneumococcal	Yes	Yes
Tetanus-Diphtheria (Td)	Yes	Yes
Influenza	Yes	Yes
Hepatitis A	Yes	Yes
Hepatitis B	Yes	Yes
IPV	Yes	Yes

Recommendations for Immunizations in HIV-infected Pregnant Inmates		
Vaccine	**CD4 <200**	**CD4 >200**
Live		
MMR	No	No
Varicella (VZV)	No	No
OPV	No	No
Inactivated		
Pneumococcal	Yes	Yes
Tetanus-Diphtheria (Td)	Yes	Yes
Influenza	Yes	Yes
Hepatitis A	Yes	Yes
Hepatitis B	Yes	Yes
IPV	Yes	Yes

CDC's Recommended Adult Immunization Schedule, 2002-2003	
Tetanus, Diphtheria (Td)	1 dose booster every 10 years
Influenza	1 annual dose
Pneumococcal	1 dose for persons with medical or other indications. (1 dose revaccination for immunosuppressive conditions)
Hepatitis A (Havrix, Vaqta)	2 doses (0, 6-12 months) for persons with medical, behavioral, occupational or other indications, including hepatitis C infection
Hepatitis B (Engerix-B, Recombivax HB)	3 doses (0, 1-2, 4-6 months) for persons with medical, behavioral, occupational, or other indications, including hepatitis C infection
Hepatitis A/B combination (Twinrix)	3 doses (0, 1-2, 4-6 months) for persons with medical, behavioral, occupational, or other indications, including hepatitis C infection
Measles, Mumps, Rubella (MMR)	1 dose if MMR vaccination history is unreliable; 2 doses for persons with occupational or other indications

Save the Dates

North American AIDS Treatment Action Forum
December 8-11, 2002
New Orleans, Louisiana
Fee: $225
Call: Paul Woods, 202.483.6622 ext. 343
Email: pwoods@nmac.org
Visit: www.nmac.org/nataf/2002

American Correctional Association Winter Conference
January 11-15, 2003
Charlotte, North Carolina
Call: 800.222.5646 ext. 1922
Visit: www.aca.org

Hepatitis C Management for Prisoners
January 25-26, 2003
San Antonio, Texas
For abstract forms and more information, visit http://www.med.umn.edu/cme/html/hepcoordinators.html

National Hepatitis Coordinators' Conference
January 26-30, 2003
San Antonio, Texas
Fee: $125
Call: 800.776.8636
http://www.med.umn.edu/cme/brochures2002/hepcoord2003/hepcoordbro2003.html

10th Conference on Retroviruses and Opportunistic Infections
February 10-14, 2003
Boston, Massachusetts
Call: 703.535.6862
Email: info@retroconference.org
Visit: http://www.retroconference.org/2003

Management of HIV/AIDS in the Correctional Setting Satellite Video Conference
Hepatitis B & C with HIV Co-infection: A Diagnostic & Treatment Update
March 11, 2003
12:30-3:30 p.m. E.T.
CME & Nursing Credits Available
www.amc.edu/Patient/HIV/hivconf.htm
E-mail: ybarraj@mail.amc.edu
Call: 518.262.4674

Inside News

New Guidelines for Metabolic Complications Associated with HIV
The International AIDS Society-USA published its first comprehensive guidelines for metabolic complications associated with HIV and antiretroviral therapy. The guidelines appear in the Nov. 4 issue of the *Journal of Acquired Immune Deficiency Syndromes* and include recommendations for assessing, monitoring and treating metabolic problems in five areas: abnormal fat distribution, lactic acid disorders, bone disease, abnormalities in lipid metabolism, and insulin resistance with alternations in glucose metabolism. *www.kaisernetwork.org, 11/6/02*

FDA Accepts New Drug Application for HIV
The FDA has accepted North Carolina-based Triangle Pharmaceuticals' new drug application for the antiretroviral drug Coviracil. According to Triangle, the drug (a nucleoside reverse transcriptase inhibitor) could be approved for marketing in the U.S. as soon as the third quarter of 2003. *www.kaisernetwork.org, 11/6/02*

20-minute HIV Test Approved by FDA
The FDA has approved OraSure's easy-to-use 20-minute HIV test, OraQuick. According to the FDA, studies show OraQuick is 99.6 percent accurate. The test involves pricking a person's finger and gives results similar to common pregnancy tests. People who test positive need a lab test to confirm HIV infection. OraSure will begin selling the test at the end of this year and at first it will be available only in hospitals and large health clinics. *Associated Press, 11/8/02*

HIV Cases "Soar" in MD State Prisons
According to a recent U.S. Department of Justice Report, Maryland had the second-highest percentage of HIV-positive prisoners in the nation, second only to New York. Of the state's more than 23,200 prisoners, 4.3% (998 inmates) were known to be HIV-positive in 2000, a 21% increase from the 820 HIV-positive inmates the year before. Local AIDS officials attribute the growing problem to high rates of injection drug use and needle sharing among addicts in Maryland's urban areas. *www.aegis.org, 11/11/02*

HCV Viremia in HIV+, HCV-Seronegative Patients
A recent article in the *Journal of Acquired Immune Deficiency Syndromes* (2002; 31(2): 154-162) reviews a study that found that HCV viremia may occur in patients without detectable HCV antibodies. The study concludes that HCV infection appears to occur more frequently among HIV-infected, HCV-seronegative patients than previously thought. *www.natap.org, 11/18/02*

Trends in HCV and HIV in Inmates Entering CA Prisons
A report in the November 2002 issue of AIDS studies trends in HCV and HIV infection among inmates entering prison in California in 1994 and 1999. Among other trends, men were more likely to be infected with HCV than were women, but there was a 16% increase in HCV positivity among African-American men. And HIV seroprevalence decreased from 1994 to 1999 for both men and women, but compared with white and Latino inmates, African-American male and female inmates were more likely to be infected with HIV in 1999. *AIDS, November 2002*

Study Tests Pegasys/Ribavirin in African-Americans
Lennox Jeffers compared the efficacy and safety of Pegasys/Ribavirin combination therapy for treating African-American and Caucasian patients infected with the HCV genotype 1. The study followed 78 African-Americans and 28 Caucasians over 48 weeks (with a 24-week follow-up period). Investigators concluded that while African-Americans appear to tolerate the therapy better than Caucasians, African-Americans appear to have lower response rates. *www.natap.org, 11/11/02*

Maryland Officials Studying How to Test, Treat Inmates for HCV
Maryland correctional officials have created a task force to draft a new state policy for testing and treating inmates with hepatitis C. The state does not require inmates to be tested for HIV or HCV, and there is no set treatment policy for prisoners infected with HCV. While there are no statistics for how many inmates in MD are infected with HCV, the state has the second-highest rate of HIV infection among inmates, and the "close association" between HIV and HCV suggests that treating all HCV infected inmates would be expensive.
Associated Press, 11/12/02

Inmate's TB Prompts Widespread Testing
More than 150 inmates and correctional staff were tested for tuberculosis (TB) after the discovery of TB in an inmate at the state prison in Lansing, Kansas. Of the 154 people tested, 27 tested positive for TB infection, though none have developed full-blown TB, according to health officials. The infected inmate had been housed in several county jails, leading to the widespread testing.
Associated Press, 10/29/02

Syphilis Rate Rises in U.S.
Syphilis cases in the U.S. are on the rise for the first time in more than a decade, the CDC reports. The syphilis rate increased from 2.1 cases per 100,000 people in 2000 to 2.2 cases per 100,000 last year; more than two-thirds of the new syphilis patients were men. The trend suggests a potential resurgence in transmission of the AIDS virus, the CDC said.
MMWR, 11/1/02

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 June 30, 2003. The estimated time for completion of this activity is one hour and there is no fee for participation.

1. It is generally considered safe to vaccinate HIV-infected persons:
   (a) In all cases
   (b) In some cases
   (c) In no cases

2. An abstract presented at this year's IDSA meeting found that among patients on HAART with undetectable HIV viral loads and who received the influenza vaccination, there was no increase in HIV viral load.
   (a) True
   (b) False

3. Non-immune, HIV-infected patients can be safely immunized with the following vaccines:
   (a) Influenza, hepatitis A, hepatitis B, and VZV
   (b) Hepatitis A, hepatitis B, Pneumococcal, IPV
   (c) Pneumococcal, Influenza, DTP, and MMR
   (d) OVP, Influenza, hepatitis A, hepatitis B

4. Vaccines not recommended for HIV-infected individuals include:
   (a) VZV
   (b) OPV
   (c) Pneumococcal
   (d) A and B
   (e) None of the above

5. The following type of vaccines are not recommended for HIV-infected pregnant women:
   (a) Live attenuated virus vaccines
   (b) Toxoids
   (c) Bacterial vaccines
   d) Inactivated vaccines

6. The following types of patients may not respond or will have a blunted response to vaccination:
   (a) Pregnant women
   (b) HCV-positive patients
   (c) Patients with non-suppressed HIV viral loads
   (d) HAART-experienced patients

HEPP Report 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
HIV 101	5 4 3 2 1	5 4 3 2 1
Inside News	5 4 3 2 1	5 4 3 2 1
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2. Do you feel that HEPP Report helps you in your work? Why or why not?

3. What future topics should HEPP Report address?

4. How can HEPP Report be made more useful to you?

5. Do you have specific comments on this issue?

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