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HIV & Hepatitis Education Prison Project

HEPP REPORT

HIV & HEPATITIS EDUCATION PRISON PROJECT

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INFECTIOUS DISEASES IN CORRECTIONS

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ABOUT HEPP

HEPP Report, a forum for correctional problem solving, targets correctional physicians, nurses, administrators, outreach workers, and case managers. Published monthly and distributed by email and fax, HEPP Report provides up-to-the moment information on HIV/AIDS, hepatitis, and other infectious diseases, as well as efficient ways to administer treatment in the correctional environment. Continuing Medical Education credits are provided by the Brown University Office of Continuing Medical Education. HEPP Report is distributed to all members of the Society of Correctional Physicians (SCP) within the SCP publication, CorrDocs (www.corrdocs.org).

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FALL CONFERENCE UPDATES 2003

THE INTERSCIENCE CONFERENCE ON ANTIMICROBIAL AGENTS AND CHEMOTHERAPEUTICS (ICAAC)

Chicago, Illinois
September 14-17, 2003
Rick Altice, M.D.*

A symposium at ICAAC entitled "Prisons as Amplification Systems for Infectious Diseases" covered HIV, Hepatitis C Virus, MRSA and tuberculosis. Other pertinent sessions focused on management issues for HIV and treatment of HIV/HCV coinfection. What follows are some of the highlights from this year's conference.

Triple NRTI therapy is best used with other ART, such as TDF or EFV.

Triple NRTI Therapy

In one late-breaker session, more unfavorable data was presented concerning the use of triple NRTI therapy. ACTG 5095 demonstrated that the fixed dose combination of AZT+3TC+ABC (Trizivir®) was inferior to the fixed dose of AZT+3TC plus EFV and inferior to Trizivir® plus EFV. This study was halted prematurely when the Trizivir® arm had significantly higher failure rates, regardless of whether the baseline viral load was above or below 100,000 copies/mL.[i]

Data was presented comparing two once-daily strategies in persons who were antiretroviral agent naive, the triple NRTI combination of 3TC+ABC+TDF (N=102) vs. 3TC+ABC+EFV (N=92). An unplanned interim analysis led to discontinuation of the triple NRTI arm. Baseline characteristics were similar in the two arms, with a median CD4=252 and VL=4.53 log (~30,000 copies/mL). Approximately 20% of subjects in each arm had a baseline VL >100,000. Compared to the EFV-containing arm, the triple NRTI arm had a higher virologic non-response rate (49% vs. 5.4%) and lower proportion achieving a VL <50 by 16 weeks of treatment (29% vs. 95%). For 36 of the 50 virologic non-responders who had genotypic information available, 23 (64%) had both the K65R and M184V mutations. Thirteen (36%) had only a M184V/I mutation.

Multiple hypotheses were proposed for this dismal outcome for triple NRTI therapy. It is unlikely that efficacy of the once-daily ABC+3TC is the culprit because the EFV-containing arm performed well and other studies in which ABC was found to be effective when used once daily. A drug interaction study demonstrated no effect of TDF on ABC serum levels[ii], however the reverse has not yet been studied, nor have intracellular pharmacokinetics been explored. Irrespective of the etiology, it is clear that the triple NRTI regimen of 3TC+ABC+TDF should not be used. These studies provide further evidence that triple NRTI regimens are inferior to those containing an NNRTI or a PI, and should generally be avoided.

ABC Once-Daily Dosing

Data was presented further supporting the use of once-daily ABC. Intracellular levels of ABC metabolites have a half-life of over 20 hours[iii] and a placebo-controlled, randomized trial in 770 patients receiving once-daily 3TC and EFV with either once or twice-daily ABC demonstrated that the regimen using once-daily ABC was not inferior to the one where ABC was given twice-daily. In this study, the baseline median CD4 was 262 and the median VL was 4.9 log, with 44% of subjects having a VL >100,000. Overall, 67% of subjects had a VL <50 at 48 weeks (irrespective of baseline VL) with the rate of discontinuation and ABC hypersensitivity syndrome (7-9%) being equivalent in both arms. Therefore, once-daily dosing of ABC may be safely used with the usual precautions of hypersensitivity reactions.

T-20

The full 48 weeks of data were presented on the TORO (T-20 vs. Optimized Regimen Only) trials

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WHAT'S INSIDE

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that compared a geno/phenotype-guided optimized background (OB) alone vs. OB+T-20 in highly experienced HAART patients. At 48 weeks, VL <400 copies/ml was achieved in 30% of those receiving OB+T-20 vs. 12% of those receiving OB alone. The median time to VL failure was 32 weeks in the T-20 arm compared to 11 weeks receiving OB only.[iv] In those who received T-20, adverse effects included injection site reactions, a six-fold increase in the incidence of bacterial pneumonia and a two-fold increase in eosinophilia.[v] For patients treated with T-20, a non-detectable VL was most likely to be achieved if the patient had a baseline CD4 >100 cells/mm3, a HIV VL <100,000 copies/ml, had prior use of <10 antiretrovirals, and there are at least two active agents in the OB.

HCV in HIV-Coinfected Patients

Several studies using viral kinetic decay curves demonstrated reduced clearance of HCV in coinfected patients as compared to HCV-infected individuals who were not HIV-infected. Two studies with small sample sizes using standard interferon therapy found that among those patients who did not experience a drop in HCV VL of 99% after 12 weeks of treatment, no patients achieved a sustained viral response (SVR).[vi,vii] Among those patients who did experience a 2 log decline in HCV VL at 12 weeks, 58-66% achieved a sustained viral response. One worrisome outcome was that nearly 40% of subjects who achieved an end-of-treatment response relapsed. This finding may lend support to a longer duration of treatment for coinfected patients.

One potentially significant presentation provided support for treatment with pegylated-interferon + ribavirin (RBV) even in the absence of early virological response at 12 weeks. In 10 patients who failed to achieve an end-of-treatment virological response, liver biopsies demonstrated a decrease in mean histological activity index (HAI) score from 7.9 to 3.9. Although larger studies are needed to confirm this finding, patients who do not respond virologically may very well benefit histologically with reduced inflammation. Hopefully, longitudinal studies will support a delay in progression to cirrhosis.[viii]

One HCV treatment study in HIV-infected patients provided some information about what not to do. This study treated 154 subjects with pegylated-interferon alone for 12 weeks. If the HCV VL reduction was <2 log, patients were randomized to receive placebo or the addition of RBV. The late addition of RBV had minimal impact on the ability of patients to achieve an SVR. The SVR of 14% is lower than seen in any other trial involving coinfected patients and is likely due to the lack of use of RBV at the time of initiation with interferon therapy.[ix]

Report from the Central and Eastern European Conference on Drug Infection Services in Prison

Popowo, Poland
September 18-21, 2003
*Thomas Kerr**, PhD.*
*Ralf Jürgens***, LL.M, Dr jur.*

Several countries in Central Eastern Europe and the former Soviet Union are in the midst of epidemics of injection drug use (IDU) and HIV/AIDS. During Russia's transition to democracy and a free market economy, rates of poverty and IDU soared. As of 2001, there were 177,000 registered cases of HIV/AIDS in the country. Similar HIV/AIDS epidemics have been observed in neighboring countries such as Ukraine, where 400,000 individuals are believed to be living with HIV/AIDS.

As IDU continues to drive the HIV/AIDS epidemic in Central and Eastern Europe and the former Soviet Union, and as drug users are over-represented in prisons, high rates of HIV infection among prisoners are a growing concern. In Ukraine, where 69% of HIV infection is linked to IDU, it is estimated that 7% of the prison population is HIV-infected. In Latvia, 20% of HIV infections - half of the new cases diagnosed each year - are found among prisoners. In Poland it is estimated that 20% of all people living with HIV/AIDS in the country have spent time in prison or pre-trial detention. In a two-week period in Lithuania in May of 2002, the number of new HIV-positive test results among prisoners equaled the entire number of cases of HIV previously identified in the entire country. Between May and August of 2002, 284 prisoners (15% of the total Lithuanian prison population) were diagnosed as HIV-infected.

As in North American settings, illicit drug use persists in prisons in Central and Eastern Europe and former Soviet Union despite considerable efforts to prevent the entry of these drugs. However, prison authorities in these countries are following a global trend by recognizing the importance of health services that address drug-related harm, including harm reduction programs such as peer outreach, methadone maintenance therapy, and needle exchange.

In September 2003, the Central and Eastern European Network of Drug Services in Prison (CEENDSP), in partnership with the European Commission, the Open Society, and the Polish Prison System, hosted the conference "Dealing with Drug Use in Prison: Reviewing the European Experience and Sharing Good Practice." Created in January of 2003, the CEENDSP network aims to assist with the development of effective drug services in Central and Eastern European prisons through the dissemination of information, expertise and knowledge. The conference afforded participants opportunities to discuss challenges associated with drug use and HIV/AIDS in prisons, and to learn from the many success stories in the region. Panel discussions focused on an array of issues confronting prison systems, such as meeting the principle of equivalence (i.e. ensuring equal levels of health care delivery in the community and prisons), and increasing collaboration between non-governmental organizations and prison systems. In addition, participants gleaned information on new developments in prison health services, including the implementation of methadone and needle exchanges programs (NEP) within correctional facilities.

Needle Exchange Programs

NEPs have long existed in community settings, and independent evaluations have led to endorsements of NEPs by the U.S. National Institutes of Health Consensus Panel, U.S. National Research Counsel, American Public Health Association, the American Medical Association, the World Health Organization, the U.S. National Academy of Sciences, among others. In recent years, NEPs have been implemented in various correctional settings, including both men's and women's facilities. While many prison-based NEPs were initially implemented on a pilot basis, there has been a growing acceptance of these initiatives, and the number of NEPs in prisons has increased steadily. NEPS now exist in prisons in Switzerland, Belarus, Germany, Spain, Moldova, and Kyrgyzstan. In the past year alone, the number of prison-based NEPs in Kyrgyzstan increased from one to 11. Methods used to distribute syringes in prisons have included dispensing machines and distribution by health care staff, community agencies, or peers trained to provide outreach services.

Scientific evaluations have consistently shown that the provision of syringes in prison does not lead to increases in drug consumption, injecting, or improper syringe disposal. Moreover, these studies have not documented that syringes have been used as weapons. Syringe sharing and new cases of HIV and hepatitis have decreased

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Letter from the Editor

Dear HEPP subscriber:

In 1988, the World Health Organization established World AIDS Day to focus global attention on HIV/AIDS. Although there have been some successes, 15 years later the pandemic continues to spread virtually unabated in much of the developing world.

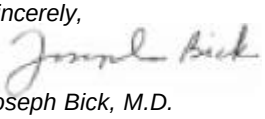
Tragically, techniques known to be effective in slowing the spread of HIV are too often underutilized. Funding for proven HIV prevention strategies such as condoms and needle exchange often becomes bogged down in moralistic wrangling. Both within the correctional environment and beyond, homophobia and laws regulating consensual sexual activities can function to deter at-risk individuals from being tested, utilizing effective prevention techniques, and seeking HIV treatment.

Stigmas associated with addiction and illicit drug use also result in policies that limit effective prevention. Inadequate resources allocated to drug treatment and harm reduction strategies create a Hobson's choice, increasing the likelihood that many of those incarcerated for drug-related crimes will never break free from the cycle of addiction and incarceration. The sexual partners of those with ongoing HIV/hepatitis risk behaviors are also vulnerable, as are children born to mothers who acquire HIV through sharing needles or having unprotected sex with an at-risk partner.

The Centers for Disease Control and Prevention (CDCP) have set a number of straightforward goals for this nation's approach to the HIV/AIDS epidemic. Among them are: (1) Decreasing the number of persons at high risk for acquiring or transmitting HIV by delivering targeted, sustained and evidence-based HIV prevention interventions, (2) Through voluntary testing, increasing the proportion of HIV-infected people who know they are infected, (3) Increasing the proportion of HIV-infected people who are linked to prevention, care and treatment services, and (4) Strengthening the capacity to monitor the epidemic.

What better place to implement these goals than in jails and prisons? As correctional health care providers, we know firsthand that our patients represent the largest group of HIV-infected and at-risk individuals. In our ongoing effort to provide a forum to address the HIV prevention, diagnosis, and treatment needs of this nation, this month's issue of HEPP Report brings you our Fall 2003 Conference Update. Next month will feature a comprehensive review of the management of end stage liver disease, a spotlight on the growing problem of methicillin resistant Staphylococcus aureus (MRSA) in the correctional setting, and highlights from the annual American Association for the Study of Liver Diseases meeting.

Sincerely,



Joseph Bick, M.D.

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Faculty Disclosure

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.

Fall Conference Updates... *(continued from page 2)*

in prisons where NEPs have been implemented.

There is still more work to be done in addressing drug-related harm in correctional facilities. However, significant steps are being taken to meet the World Health Organization's Guidelines on HIV Infection and AIDS in Prisons, which state: "All prisoners have the right to receive health care, including preventative measures, equivalent to that available in the community without discrimination." The examples given at the CEENDSP conference in Popowo confirm that the implementation of harm reduction programs, such as NEPs, can be achieved in a variety of settings, including prisons. Hopefully, these success stories will help to inform the delivery of prison-based health care throughout the world.

The National Commission on Correctional Health Care (NCCHC) PreColloquium: Managing Infectious and Contagious Diseases in the Correctional Setting

Austin, Texas
October 4-8, 2003
Julia Noguchi, MA

On October 4, 2003 an expert panel opened the fall meeting of the NCCHC with a colloquium sponsored by HEPP Report and the Brown University AIDS Program. Dr. Joseph Bick of the California Department of Corrections and Dr. Anne De Groot of Brown University engaged the audience with a lively discussion on MRSA, SARS, smallpox, anthrax and tuberculosis, which are just a few examples of diseases caused by transmissible agents that can rapidly spread in congregate living environments. Dr. Bick followed with a comprehensive update on HIV-management.

Dr. Karl Brown, Infectious Diseases Supervisor at Rikers Island jail in New York City, gave an in-depth overview of sexually transmitted diseases (STDs). Using a case study of a patient with syphilis as a platform for his discussion, Dr. Brown focused on screening and treatment of STDs. STDs, though highly prevalent in the correctional setting, often go untreated since patients may be unaware of their infection. This can have serious implications as STDs cause significant morbidity and can increase the risk of HIV acquisition and transmission. Diagnosis of STDs is usually made based on history and symptoms at presentation. Infection can usually be confirmed with lab studies, such as inexpensive urine tests that can diagnose gonorrhea and clamydia. Effective treatments are available for most STDs.

Dr. Cindy Weinbaum of the CDC and Dr. Brian Pearlman of the Atlanta Medical Center covered viral hepatitis from A to C. While Dr. Pearlman addressed natural history, treatment and side effects, Dr. Weinbaum honed in on prevention and control in the correctional setting. Some important facts to bear in mind: the higher prevalence of chronic HBV in U.S. jails and prisons (2%), compared to that in the U.S. general population, (0.5%); 20-40% of inmates are HCV-infected versus 1-2% in the U.S. general population; illicit drug use remains the primary mode of transmission of HBV and HCV, with 18% of jail inmates reporting injection drug use (IDU). Dr. Weinbaum also reviewed long-term complications of hepatitis, noting that HCV is now the most common cause of liver transplantation in the U.S. Dr. David Thomas of the Nova Southeastern University College of Osteopathic Medicine concluded with a cogent summary peppered with enough wit to last us until May 2004, when NCCHC's spring meeting will convene in Chicago.

The 41st Annual Meeting of the Infectious Disease Society of America (IDSA)

October 9-12, 2003
*David Alain Wohl****, M.D.*

Infectious disease specialists from around the world convened in San Diego to attend symposia, oral presentations and poster sessions on diverse infectious diseases-related issues. This year the usual fare of lyme disease, HIV, tuberculosis and infection control had to compete for attention with SARS, bioterrorism, and multidrug bacterial resistance.

The IDSA conference serves as an opportunity for the presentation of new data, as well as for clinical reviews. As there are now numerous other conferences dedicated to HIV and to HCV, not much new was presented at IDSA on these infections. However, there were a few notable presentations highlighted below that are relevant to correctional HIV care. In addition, there were some wonderful overviews, including a riveting discussion of perinatal HIV transmission by Cathy Wilfret, M.D. of the Elizabeth Glaser Foundation and a "top ten" list of HIV-related publications in 2003 by Bill Powderly, MD of Washington University. Audio and video tapes can be ordered at http://www.idsociety.org/me/am2003/toc.htm.

HAART Works in Prison

In a poster presentation of significant interest to HEPP readers, Sandra Springer of Yale University and her colleagues conducted a retrospective review of Connecticut Department of Corrections' prison inmate records from 1997-2002 to gauge the effectiveness of combination antiretroviral therapies in prison (abstract 665). Over 1,000 HIV-infected inmates receiving HAART for at least six months were studied. More than 80% were male and half were African-American. The overwhelming majority had a history of substance abuse, the mean age was 39 years, and the average time in prison was 478 days. Ninety-eight percent of inmates receiving HAART were prescribed therapy in accordance with Department of Health and Human Services (DHHS) guidelines; an impressive 57% had an HIV VL below the limits of detection during their incarceration. Forty-six percent were receiving a PI-containing regimen, 32% were on an NNRTI, 8% were receiving a PI + NNRTI, and 14% were on only NRTIs. There was considerable modification of HAART during the study period across all regimen types.

The authors also examined the change in CD4+ cell count and HIV viral load among those inmates who were released and re-incarcerated. The benefits of HAART during incarceration were largely lost during the period of release, with a mean decrease in CD4 count of -81/uL and an increase in viral load of +1.57 log. This study provides a message that is double-edged: HIV-infected inmate patients respond well to antiretroviral therapy while incarcerated; however, the benefits of treatment often evaporate following release. The challenge to maintain in-prison gains following release into the free world is clear as data accumulate indicating that post-release, many HIV-infected persons fare poorly.

DOT-on-Wheels

Dr. Rick Altice presented results from a randomized controlled trial of modified directly observed therapy (DOT) vs. self-administered therapy (SAT) of HIV medications among urban HIV-infected substance abusers (abstract 652). Subjects assigned to DOT had all medications pre-packaged into dose packs that were then delivered to five sites around New Haven, Connecticut by a mobile community health van for patient pick-up. Subjects were usually observed either taking their meds or given packs to take with them if observation was not possible. In addition, these subjects received a programmable pager that reminded them to meet the van, go to medical appointments and take medications. Of the 112 subjects

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randomized, two-thirds were male, 58% were African-American, 30% used cocaine, 65% used both cocaine and heroin and 31% were homeless. Almost three-quarters had depression based on screening exam. Median CD4+ cell count was 249/uL and the median viral load was 142,000 copies/mL.

At six months, those randomized to the DOT program had a greater increase in CD4+ cell count (112/uL versus 11/uL), more significant reduction in viral load (-1.71 log versus -0.46 log) and much better self-reported adherence. These results demonstrate the success of a novel and aggressive adherence program tailored to meet the needs of a hard-to-reach population. The appeal of applying this intervention to released former inmates is obvious, especially in light of the findings of the previously described study.

Acute HCV Among Prisoners

In another report from New England, Alysee Wurcel and colleagues described their efforts to identify acutely HCV-infected prison inmates in Massachusetts (abstract 592). The authors developed a program which evaluated inmates with <1 year history of injection drug use (IDU) who developed elevated liver transaminases. Over a period of 18 months, 15 patients were identified as having acute HCV (11 women, 10 Caucasian, 5 Latino). Most (11) had definitive recent HCV as evidenced by documented seroconversion or a known prior negative HCV serology. The remaining four patients were considered to have probable recent HCV infection based on development of clinical jaundice and elevated transaminases in the absence of evidence of prior HBV or HAV infection. This report highlights the opportunity for disease detection within correctional facilities. The authors recommend HCV testing of all inmates with recent initiation of IDU and elevated liver transaminases. It should be noted that other correctional infectious disease experts recommend that all prison inmates should be screened for HCV, given its extremely high prevalence in the nation's prisons.

HIV/HCV Co-infection and Mental Illness

Dina Hooshyar in North Carolina conducted an interesting retrospective review on the prevalence of mental illness and substance abuse among HIV-infected patients attending a university infectious diseases clinic where a standardized mental health and illicit drug use screen is administered to all patients (abstract 618). Among the 1,018 patients), 33% women, 63% African-American), 209 (20.5%) were HCV-co-infected. A comparison of those who were HCV seropositive versus those who were HCV seronegative revealed that co-infected patients had lower CD4+ cell counts (292/uL versus 386/uL, p=0.001), a higher prevalence of psychiatric diagnoses such as depression and anxiety or panic disorders (68% versus 58%, p=0.014) and substance abuse (48% versus 30%, p<0.0001). In a regression analysis adjusting for gender, race, CD4+ cell count, viral load, HCV-infected patients were almost twice as likely to have a psychiatric diagnosis (OR=1.8 [95% CI, 1.3, 2.5]) and had more than double the risk of substance abuse (OR=2.2 [95% CI, 1.5, 3.2]). These results indicate that screening for mental illness and substance abuse is a must for all HIV-infected persons, especially those with HCV. Further, these data are ominous given the aversion of many providers to prescribe HCV therapy to those with significant mental illness.

Isolated HBV Core Seropositivity - Is it Significant?

HBV serologies, the bane of most medical students, are commonly misunderstood. Those who routinely order the tests know that it is not uncommon to come across a patient with HIV infection who has isolated IgG anti-HBc but no HBV surface antigen (HBsAg) or surface antibody (HBsAb). The significance of this result has been debated. To help clear the air, Janel Dockter and her group in Boston tested HIV-infected patients known to be HBsAg and HBsAb negative for any evidence of IgG anti-HBc (abstract 601). In addition, these patients were also tested for HBV viral load. Of the 90 patients tested, 48 (53%) were IgG anti-HBc seropositive. Interestingly, patients also infected with HCV were more likely to have isolated anti-HBc than those without HCV (85% versus 28%, p<0.001). CD4+ cell count did not seem to play a role in isolated anti-HBc. HBV DNA PCR detected virus in only one of the 48 subjects with isolated anti-HBc.

The study demonstrates that persons with HIV and HCV co-infection who do not have evidence of HBV infection by HBsAg and HBsAb testing will frequently have isolated anti-HBc. Such patients are also rarely viremic. There is debate as to whether those with isolated HBc Ab should be vaccinated. This isolated core probably represents loss of HbsAb.

Conclusion

Despite the emergence of new infectious diseases challenges, HIV and HCV continued to be a major focus at IDSA. Although little new data was presented, there were some interesting results that will help providers in correctional facilities better understand and manage HIV. Unfortunately, the high prevalence of HIV and HCV within correctional settings did not translate into a major focus on correctional HIV/HCV issues. One can hope that future conferences will include more research from prisons and jails, better reflecting the significant role that correctional health care professionals play in this nation's management of these diseases.

Disclosures:

**Consultant and Speaker's Bureau: Agouron, Abbott, Bristol-Myers Squibb, Boehringer Ingelheim, DuPont, Roche, GlaxoSmith Kline, Ortho Biotech, Merck*
***Nothing to disclose*
****Nothing to disclose*
*****Grant/Research Support: Roche Speaker's Bureau: GlaxoSmithKline, Gilead Sciences, Merck, Roche, Abbott*

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iv. Trottier B et al. Durability of response of enfuvirtide through 48 weeks in the TORO trials. 43rd Annual ICAAC. September 14-17, 2003. Chicago, IL. Abstract H-835.

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vi. Soriano M et al. Clinical implications of the slower clearance of HCV-RNA under interferon (IFN) plus ribavirin (RBV) in patients coinfected with HIV and Hepatitis C virus (HCV). 43rd Annual ICAAC. September 14-17, 2003. Chicago, IL. Abstract H-1718.

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viii. Kottilil S et al. Virological, biochemical, and histological response to peginterferon-alpha-2b and ribavirin among HIV/HCV co-infected individuals. 43rd Annual ICAAC. September 14-17, 2003. Chicago, IL. Abstract V-1724.

ix. Khalili M et al. Efficacy and safety of Peginterferon alpha-2a (40kD) treatment of patients with HIV/HCV: results of a multicenter trial. 43rd Annual ICAAC. September 14-17, 2003. Chicago, IL. Abstract

HIV 101: Adult Immunization Schedule

The following are recommended as a standard of care.

FIGURE 1: Recommended Adult Immunization Schedule by age group – United States, 2003-2004*

VACCINE	AGE GROUP (yrs.)		
	19-49	50-64	≥65
Tetanus diphtheria (Td)	1 dose booster every 10 years.		
Influenza	1 dose annually	1 dose annually	
Pneumococcal (polysaccharide)	1 dose		1 dose
Hepatitis B	3 doses (0,1-2,4-6 months)		
Hepatitis A	2 doses (0,6-12 months)		
Measles, Mumps, Rubella (MMR)	1 dose if MMR vaccination history is unreliable; 2 dose for persons with occupational or other indications.		
Varicella	2 doses (0,4-8 weeks) for persons who are susceptible		
Meningococcal	1 dose		

For persons with medical/exposure indications | Catch-up on childhood vaccinations | For all persons in this age group

FIGURE 2: References

A. For women without chronic diseases/conditions, vaccinate if pregnancy will be at second or third trimester during influenza season. For women with chronic diseases/conditions, vaccinate at any time during the pregnancy.
B. Although chronic liver disease and alcoholism are not indicator conditions for influenza vaccination, administer 1 dose annually if the patient is aged >50 years, has other indications for influenza vaccine, or requests vaccination.
C. Asthma is another indicator condition for influenza but not for pneumococcal vaccination.
D. For all persons with chronic liver disease.
E. For persons aged <65 years, revaccinate once after 5 years have elapsed since initial vaccination.
F. Persons with impaired humoral but not cellular immunity may be vaccinated.
G. For hemodialysis patients use special formulation of vaccine (40 mg/mL) or two 1.0 mL 20 microgram doses administered at one site. Vaccinate early in the course of renal disease. Assess antibody titers to hepatitis B surface antigen (anti-HBs) levels annually. Administer additional doses if anti-HBs levels decline to ≤10 mIU/mL.
H. No data have been reported specifically on risk for severe or complicated influenza infections among persons with asplenia. However, influenza is a risk factor for secondary bacterial infections that might cause severe disease in asplenics.
I. Administer meningococcal vaccine and consider Haemophilus influenzae type b vaccine.
J. In the event of elective splenectomy, vaccinate >2 weeks before surgery.
K. Vaccinate as close to diagnosis as possible when CD4 cell counts are highest.
L. Withhold MMR or other measles-containing vaccines from HIV-infected persons with evidence of severe immunosuppression.

FIGURE 2: Recommended Adult Immunization Schedule by medical condition – United States, 2003-2004*

MEDICAL CONDITION	VACCINE						
	Tetanus-diphtheria (Td)	Influenza	Pneumococcal (polysaccharide)	Hepatitis B	Hepatitis A	Measles, mumps, rubella (MMR)	Varicella
Pregnancy		A					
Diabetes, heart disease, chronic pulmonary disease, and chronic liver disease, including chronic alcoholism		B	C		D		
Congenital immunodeficiency, leukemia, lymphoma, generalized malignancy, therapy with alkylating agents, antimetabolites, radiation, or large amounts of corticosteroids			E				
Renal failure/end-stage renal disease and patients receiving hemodialysis or clotting factor concentrates			E	G			
Asplenia, including elective splenectomy and terminal complement-component deficiencies		H	E,I,J				
Human immunodeficiency virus (HIV) infection			E,K			L	

For all persons in this group. | For persons with medical/exposure indications | Catch-up on childhood vaccinations | Contraindicated

**Notice to Readers: "Recommended Adult Immunization Schedule -- UnitedStates, 2003-2004". MMWR. 10 October, 2003 / 52(40); 965-969. Available at www.cdc.gov/mmwr/preview/mmwrhtml/mm5240a6.htm. Please visit website for additional references for Figures 1 and 2.*

Save the Dates

HIV/Hepatitis C Co-infection: Your Future, Your Choices
November 21, 2003
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Fax: 212.219.8473
Email: info@natap.org
Visit: www.natap.org.
The workshop is free of charge.

Advanced Course in Antiretroviral Therapy: From Laboratory to Patient
November 21-22, 2003
New York, NY
The agenda comprises topics of high relevance to modern clinicians. Attendees will have the opportunity to discuss these topics with opinion leaders in the field.
Contact:els.vanderwoude@vironet.com
Visit: www.virology-education.com

Inside and Out: HIV and Corrections
December 5, 2003
Radisson Hotel Marlborough, MA
A conference to increase knowledge, awareness, and understanding of HIV infection in correctional and post-correctional settings.
Contact: Andy Diamond
Call: 617.450.1264
Fax: 617.437.6445
Email: adiamond@aac.org

Harm Reduction Training Institute
December 12, 2003
New York, NY
This one-day training program will demonstrate and discuss techniques for working with crack users.
Call: Emily at 212.683.2334 Ext. 18
Fax: 212.213.6582
Email: hrc@harmreduction.org
Visit: www.harmreduction.org

The 11th Conference on Retroviruses and Opportunistic Infection
February 8-11, 2004
San Francisco, CA
Contact: Office of the Retrovirus Conference Secretariat
Call: 703.535.6862
Fax: 703.535.6899
Email: info@retroconference.org
Visit: www.retroconference.org

Inside News

Study: Durability and potency of Kaletra
The 43rd Interscience Conference on Antimicrobial Agents and Chemotherapy (ICCAC) held September 13-17, 2003 featured a poster (#-H-844) by Abbott on a five-year follow-up of Kaletra (Lopinavir/ritonavir) in antiretroviral-naïve HIV-infected patients. This was the first trial of LPV/r in HIV-infected patients, therefore providing the longest duration of follow-up for patients treated with LPV/r. This poster presents data on antiviral activity, immunologic parameters and safety through five years of follow-up. Antiretroviral-naïve patients receiving Kaletra exhibited sustained virologic response, with 67% of patients demonstrating HIV RNA <400 copies/mL and 64% demonstrating HIV RNA <50 copies/mL by intent-to-treat (NC=F) analysis. Through 252 weeks of follow-up, no protease inhibitor resistance mutations have been observed in subjects with sustained viral load rebound. Discontinuations due to LPV/r-related adverse events were 10/100, 10%.
www.natap.org, 9/27/03

Study: The Use of T-1249 (second generation fusion inhibitor) on Patients with T-20 Resistance
Final results were reported at ICCAC on the use of T-1249 on 51 patients with T-20 resistance. After 11 days, HIV viral load was decreased by a median of -1.26 log (ITT). Seventy-three percent of patients after 11 days had at least a one log reduction in viral load. Patients did not respond as well if they had remained on T-20 for a long period of time with dectectable HIV. Twenty-one out of 25 patients who remained on T-20 for less than 65 weeks with detectable viral load of >5000 copies/ml achieved at least a one log reduction in viral load. Sixteen out of 26 patients who remained on T-20 for greater than 65 weeks with detectable viral load of >5000 copies/ml achieved a one log reduction or greater in viral load. T-1249 was well-tolerated and exhibited potent short-term antiviral activity. Sixty-four percent of patients experienced injection site reactions. The study authors reported that baseline T-1249 susceptibility does not appear to predict short-term responses to T-1249.
www.natap.org, 9/27/03

Study: Effect of Short-Term Monotherapy with UK-427,857 (first HIV attachment inhibitor) on Viral Load in HIV-Infected Patients
Fatkentheuer and colleagues reported for the first time results from a one-day study of monotherapy of the first HIV attachment inhibitor to be studied in HIV-infected patients. After HIV binds to the CD4 receptor on the CD4 cell, HIV binds to a co-receptor. CCR5 or CXCR4 are the two co-receptors that HIV uses to attach itself to the CD4 cell for entry into the CD4 cell, where HIV replication takes place. "427" is the first attachment inhibitor targeting inhibition of the CCR5 co-receptor to be studied in HIV-infected patients. The drug is active against HIV resistant to current HIV drugs. Efficacy against HIV with T-20 resistance has yet to be tested, but future studies are planned.
www.natap.org, 9/27/03

Drug Warning from the AETC National Resource Center: Early Virologic Failure in Patients treated with Didanosine + Lamivudine + Tenofovir
Susa Coffey, M.D.
Gilead Sciences has issued a "Dear Health Care Professional" letter to warn of high rates of early virologic failure in patients treated with a once-daily triple nucleoside reverse transcriptase inhibitor (NRTI) regimen consisting of didanosine + lamivudine + tenofovir. The letter describes interim results of a pilot study of didanosine (enteric-coated formulation, 250 mg) + lamivudine (300 mg) + tenofovir (300 mg), all dosed once daily in 24 treatment-naïve patients. At week 12, virologic failure (<2 log10 reduction in HIV RNA) was seen in 91% of study subjects. Resistance testing performed on 21 patients revealed the M184I/V mutation in 95%, and K65R + M184I/V mutations in 50%. Study enrollment was terminated upon discovery of this high rate of early regimen failure. This announcement reinforces data on high rates of early virologic failure and early emergence of NRTI-associated resistance mutations that were previously reported in several studies of other triple-NRTI regimens. These include reports on the combinations abacavir + lamivudine + tenofovir, abacavir + lamivudine + zidovudine, and abacavir + didanosine + stavudine. The combination of didanosine + lamivudine + tenofovir, like the other triple-NRTI regimens with demonstrated high failure rates, are not recommended for the treatment of patients with HIV infection. The letter is available on the U.S. Food and Drug Administration website.
http://www.fda.gov/oashi/aids/new.html,10/14/03

Immunization Resources

Information on viral Hepatitis A:
www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm

Information on flu season - 2003-2004
www.cdc.gov/nip/flu/

Integrating Hepatitis B Vaccination into STD and HIV/AIDS Programs:
www.cdc.gov/ncidod/diseases/hepatitis/spotlights/integration.htm

The CDC's National Vaccine Program Office:
www.cdc.gov/od/nvpo/pubs/adult4.htm

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 30,2004. The estimated time for completion of this activity is one hour and there is no fee for participation.

1. The most recent update of the NIH HIV treatment guidelines states that triple NRTI regimens are as potent as both protease inhibitor and non nucleoside reverse transcriptase inhibitor based regimens:
   a) True
   b) False

2. For patients beginning a new regimen which includes T-20, an undetectable VL is more likely to be achieved if:
   a) The baseline CD4 is <100, the HIV viral load is <10,000, there has been prior use of <10 antiretrovirals, and there is at least one active agent in the new regimen
   b) The baseline CD4 is >100, the HIV viral load is >100,000, there has been prior use of <10 antiretrovirals, and there are at least three active agents in the new regimen
   c) The baseline CD4 is >100, the HIV VL is <100,000, there has been prior use of <10 antiretrovirals, and there are at least two active agents in the new regimen

3. Health services that may help to reduce drug-related harm in prisons are:
   a) Peer outreach programs
   b) Methadone maintenance therapy
   c) Needle exchange programs
   d) All of the above

4. Scientific evaluations have shown that distributing needles in prisons:
   a) Usually leads to increased illicit drug consumption
   b) Is unlikely to result in prisoners using syringes used as weapons
   c) Commonly leads to improper syringe disposal
   d) Increases the incidence of needle sharing

5. Needle exchange programs in prisons are currently in operation in:
   a) France, Spain, Italy, Portugal, Holland, and Sweden
   b) Chile, Argentina, Brazil, Peru, the Falklands, and Panama
   c) Switzerland, Germany, Spain, Moldova, Belarus, and Kyrgyzstan
   d) All countries of the former Soviet Union

6. Data supports once a day dosing for all of the following antiretroviral agents except:
   a) abacavir (Ziagen)
   b) tenofovir (Viread)
   c) didanosine (ddI, Videx)
   d) azidothymidine (AZT)

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
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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