6-1999

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HIV Education Prison Project

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HIV Hepp Education Prison Project News

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About Hepp

HEPP News, a forum for correctional problem solving, evolved out of ongoing discussions among HIV specialists based at the Brown University AIDS Program about the need for HIV updates designed for practitioners in the correctional setting. The board of editors includes national and regional correctional professionals, selected on the basis of their experience with HIV care in the correctional environment and their familiarity with current HIV treatment. HEPP News targets correctional administrators and HIV/AIDS care providers including physicians, nurses, outreach workers and case managers. Published monthly and distributed by fax, HEPP News provides up-to-the-moment information on HIV treatment, efficient approaches to administering such treatments in the correctional environment, national and international news related to HIV in prisons and jails, and correctional trends that impact HIV treatment. 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; please see last page for details.

The editorial board and contributors to HEPP News are well aware of the critical role prisons and jails play in the treatment and prevention of HIV. The goal of HEPP News is to provide reports of effective and cost-conscious HIV care that can truly be implemented within the correctional environment. We hope this newsletter achieves that goal.

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 beneath the authors' names.

All of the individual medications discussed in this newsletter are approved for treatment of HIV unless otherwise indicated. For the treatment of HIV infection, many physicians opt to use combination antiretroviral therapy which is not addressed by the FDA.

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Women in Prison: The Impact of HIV

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Consultant: Bristol-Meyers Squibb; Speaker's Bureau: Agouron, Bristol-Meyers Squibb, Glaxo Wellcome.
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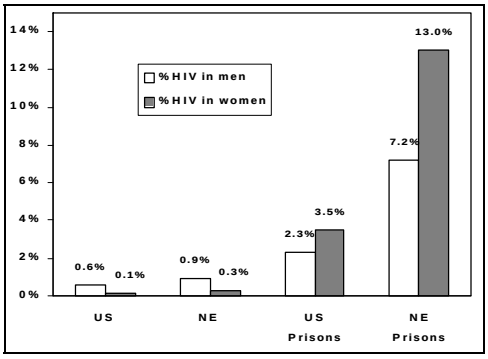
The low number of women in prisons (6.4% of the prison population and 10.8% of the jail population) obscures the disproportionate impact of HIV infection on incarcerated women. In fact, prevalence of HIV infection among women is roughly two times higher than the rate among incarcerated men, and it's 35 times higher than the rate of HIV infection in non-incarcerated women (see graph p.2)(1).

Nationally in 1996, 3.5% of women inmates were known to be HIV-infected, compared to 2.3% of men (2). The prevalence of HIV infection among incarcerated women is even higher in geographical regions where HIV infection is more concentrated; for example, in Northeastern United States prisons, 13% of women inmates were known to be HIV-infected compared to 7.2% of men (2). Furthermore, while the number of incarcerated HIV-infected men has stabilized, the number of incarcerated HIV-infected women is still increasing. From 1991 to 1996, the number of HIV-infected women prison inmates increased an alarming 63% (1,159 in 1991 to approximately 1,897 in 1999), while the number of HIV infected men inmates only changed from 6,150 to approximately 6,155 in the same time frame (2).

In some institutions, as many as one in four of the women in the institution are HIV infected. The diagnosis and management of HIV and AIDS characterizes the practice of correctional health care in those institutions. As a result, correctional institutions for women that have the highest HIV prevalence rates have been trendsetters in three realms: standardizing correctional HIV care (MCI Framingham, MA and York Correctional Institute in Niantic, CT) (3), modeling peer education (Bedford Hills Correctional Institute, Bedford Hills, NY) (4), and evaluating discharge planning programs (Adult Correctional Institute, RI) (5).

HIV Prevalence: Inmates vs. Non-Inmates



The proportion of inmates with HIV is much higher than the HIV infected proportion of the general population. The proportion of female inmates with HIV is exceedingly higher than the general population of women. *Extrapolated from the most recent data available, CDC, 1992; and BJS.*

Why is HIV So Prevalent?

The crimes for which women are incarcerated--most often drug use and drug-related crimes--are usually associated with a risk of HIV exposure. Indeed, the more often a woman is arrested for a criminal activity, such as sex work or drug use, the more likely she is to have been infected with HIV, and the more likely she is to accumulate real "prison time". Thus, there's a tendency for HIV prevalence to be higher among women serving prison sentences than among women who are awaiting trial and/or serving jail time (2).

Drug offenses. Drug use is linked to HIV risk. Nearly one in three women state prison inmates were serving time for drug offense in 1991, compared to one in five men (6). In many cases, sentencing for non-drug offenses

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What's Inside

Women in Prison: The Impact of HIV

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like larceny (to support a drug habit) may obscure the link between incarceration and HIV risk behaviors (6).

Sex trade and sexually transmitted disease. In some circumstances, sex work contributes to HIV risk. Many incarcerated women have traded sex for drugs or money, regardless of whether they were arrested or charged with prostitution (7). These women may have engaged in sexual activity with multiple high-risk partners (such as intravenous drug users). Additionally, there is a high prevalence of sexually transmitted diseases (STDs) among incarcerated women (8), which may physiologically increase women's risk of HIV infection (9).

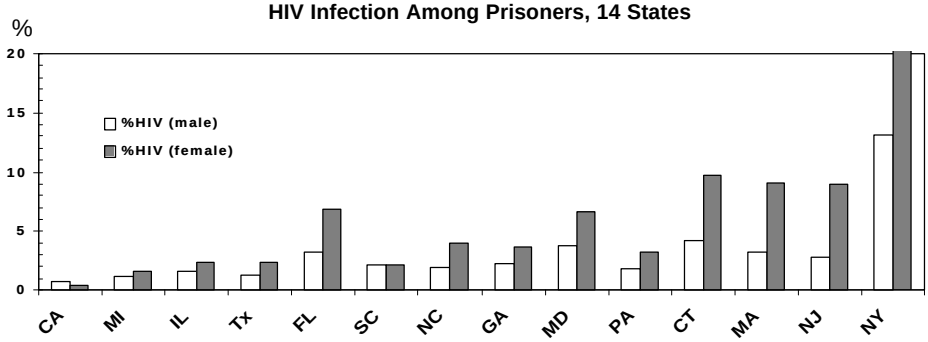
Sexual abuse. Histories of sexual abuse put incarcerated women at increased risk of HIV infection (10, 11). Browne and colleagues and a number of other researchers found a high rate of histories of sexual abuse among incarcerated women. In Browne's study 59% of a diverse sample of women incarcerated in a large state maximum-security prison had experienced childhood sexual molestation (12). Childhood sexual abuse has a particularly profound effect on potential HIV exposure. Stevens and colleagues, working at the Massachusetts Correctional Institution at Framingham, discovered that women who informed researchers of a history of childhood sexual abuse were 4.5 times more likely to have participated in three HIV risk behaviors (sex work, drug use, and non-condom use) and 2.8 times more likely to be HIV infected than women who did not report this history (10).

Implications for Clinical Care

Preliminary new data regarding gender differences in HIV-1 viral load is currently available. Several studies have indicated that women may have lower viral loads than men with similar T-cell values (16, 17), and that women may progress to AIDS faster than men with similar viral loads (17). Other studies have not shown this. In addition, viral load may be lower in individuals of color compared to whites (16). These differences have led some authors to consider that recommendations for treatment be re-evaluated for women. It is important to determine whether the response to treatment differs in women compared to men, and in people of color compared to whites, prior to developing new treatment recommendations that are gender or race specific.

The management of HIV infection among women differs quite dramatically from the management of HIV infection among men in two clinical areas: gynecology and obstetrics. Management of HIV infection in the pregnant woman will be covered in detail in a separate newsletter and is also briefly addressed in the "Ask the Expert" section this month (see p.6).

HIV Infection Among Prisoners, 14 States



States with the highest HIV prevalence rate include NY (20.5%), NJ (9.0%), MA (9.1%), CT (9.7), and FL (6.8%). In those states with voluntary testing, (all but Michigan and Georgia) the prevalence rates may actually be higher than those shown here, due to the reluctance of HIV infected individuals to come forward to be identified as HIV seropositive in the correctional setting. *Maruschak L. HIV in prisons and jails, 1996. Bureau of Justice Statistics.*

Gynecologic Disease and Management

HIV-infected incarcerated women have high rates of cervical cytologic abnormalities, sexually transmitted diseases and certain gynecologic infections. A 1995 study by Stevens and colleagues of 88 women incarcerated in a Massachusetts prison found that 68% of a sample of HIV-infected women had had at least one recent gynecological infection. Candida and trichomonas infections were the most common diagnoses (10). A recent national survey of all women incarcerated in city and county jails showed rates of syphilis, chlamydia and gonorrhea of 35%, 27%, and 8%, respectively (8). Because many incarcerated women have a history of sexual trauma, it is important to screen for gynecologic infections but the practitioner's approach to gynecologic exam must be careful and sensitive (see Spotlight p.5).

Gynecological care in the correctional setting presents health care providers with a critically important context for assessing and enhancing the health of a population largely inexperienced with primary care, and for curbing HIV transmission. Providers have an opportunity to:
(1) diagnose and treat gynecological infections and STDs that may be associated with HIV infection,
(2) reduce the spread of HIV by treating gynecologic infections that may facilitate HIV transmission and by discussing tools for risk reduction with HIV-infected women, and
(3) refer women of unknown HIV status for HIV testing upon diagnosis of associated gynecological infections and STDs.

Management of HPV and Cervical Cytologic Abnormalities in the Correctional Setting

The correctional HIV provider should be aware of the association between HIV, human papilloma virus, and abnormal cervical cytology. The management of abnormal Pap smears in the correctional setting may need to be more vigilant as this population of women has had limited medical care prior to incarceration and may also have little access after release (see Heppigram p.7). Therefore, a more proactive approach may be necessary for HIV-infected women prisoners compared to women in community settings who otherwise engage in routine primary care.

Women infected with HIV have higher rates of human papilloma virus (HPV) expression in cervical secretions and a higher prevalence of cervical cytologic abnormalities than do HIV uninfected women (21). A recent study by Conley and colleagues demonstrated that the incidence of HPV-associated vulvovaginal lesions was 16 times greater in HIV-infected women compared to HIV-uninfected women (22). In addition, immunosuppression has been associated with increased pathological consequences of (HPV) infection, including invasive cervical cancer (21).

Routine Pap Smears

After two normal pap smears during the first year, clinical guidelines for screening for cervical cytologic abnormalities, as outlined by the CDC, include performing Pap smears annually for all HIV-infected women. Some clinicians perform Pap smears more frequently (on a six-month basis) if the CD4 count is less than 400/mm3. These clinical guidelines may need to be modified as indicated for individual patients. For example, a provider may decide not to perform Pap

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LETTER FROM THE EDITOR

Dear Colleagues and friends,

Welcome to the June Issue of HEPP News. As many of you know, this month's topic (the treatment of HIV infected incarcerated women) is near and dear to my heart because of my work running the ID clinic at MCI Framingham in Massachusetts from 1992 until 1996, followed by an 18 month "stint" with Rick Altice in the HIV clinic at the York Correctional Institution for Women in Niantic, CT. Since this issue is one of two that we have planned on the topic of HIV care for incarcerated women, it does not discuss the treatment of sexually transmitted diseases nor does it give detailed information on the treatment of pregnant HIV infected women. These topics will be covered in future issues.

The statistics provided in the main article in this issue are probably familiar to many of you. Women are much less likely to be incarcerated than men, so the total number of HIV infected women in prison is much lower than the total number of HIV infected men. However, incarcerated women, as a population, are disproportionately affected by HIV. The reasons for the high prevalence of HIV infection among women inmates are discussed in the main article, along with some guidelines for their care. Our HEPPigram provides a guideline to the treatment of abnormal Pap smears, and Dr. Becky Stephenson, from the University of North Carolina (Chapel Hill), who provides HIV care for women in the NC DOC, addresses some difficult treatment decisions in the "Ask the Experts" section.

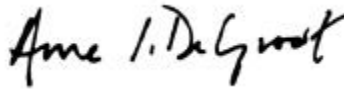
Our role as HIV providers for women in the correctional setting is critically important, since we are often providing care to women who are accessing HIV care -and medical care- for the first time. Rick Altice found that two thirds of women incarcerated in CT received their first ever antiretroviral therapy in prison. Many of our patients will not have had a recent Pap smear, even though they fall in a high risk group for cervical cancer. Due to the public health implications of missed diagnoses, development of HIV resistance and inadequate HIV therapy, the correctional HIV provider must be well prepared, willing, and able to carry out his or her task.

After reading this issue, for your continuing medical education credits, you should be able to explain the high prevalence of HIV infection among incarcerated women, know which antiretroviral agents are appropriate for use in treating pregnant women, know which treatment action to consider when reading a Pap smear or reviewing colposcopy results, and recall some differences between treating HIV infected women and treating HIV infected men.

Many of you have written asking HEPP to address the issue of Hepatitis in the correctional setting. You'll be pleased to hear that our local expert, Dr. Anne Spaulding, will discuss considerations for patients who are co-infected with hepatitis B or C, and HIV, in the next issue. In the meantime, please take a moment to fill out the HEPP News comments form. We recently compiled the responses we have received, and we're happy to see that you like what we've done so far. You are a network of 1300 HIV providers, covering more than 800 institutions in all 50 states, taking care of more than 1.6 million inmates!

Again - welcome to HEPP News. Keep the feedback coming, and tell us how we can make HEPP News more useful for you.

Sincerely,



Anne S. De Groot M.D.

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SAVE THE DATES

2nd Conference on Global Strategies for the Prevention of HIV Transmission from Mothers to Infants

September 1-5, 1999
Montreal, Canada
Sponsored in part by: International AIDS Society, AmFAR, Office of AIDS Research, NIH, Canadian Assoc. for HIV Research, CDC.
Contact: Global Strategies Conference.
Phone: 514.868.1999 Web: http://www.global-strategies.org

1999 National Conference on Women & HIV/AIDS

October 10-12, 1999
Los Angeles, California
Contact: Gina Giovinazzi
Phone: 609.423.7222, ext. 233
Email: ggiovinazzi@talley.com

3rd Annual HCV Conference: The World and Hepatitis C

August 21-23, 1999
Oakland, California
Topics: Sessions on Corrections Department and Veterans Administration issues, new research, substance abuse, harm reduction, alternative therapies.
Contact: KREBS Convention Management Services
Phone: 415.920.7000
Fax: 415.920.7001
Web: http://www.hcvglobal.org

Women in Prison: The Impact of HIV

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smears at the recommended frequency for a woman who has had prior negative Pap smears and whose HIV disease is in a very advanced stage with opportunistic processes which confer a poor overall clinical prognosis.

Adequacy of Pap Smear in Screening for Cervical Abnormalities

There are conflicting reports about the accuracy of the Pap smear as a screening tool for cervical cytologic abnormalities in HIV-infected women, with some reports supporting its efficacy (23) and other reports suggesting it is insufficient as a diagnostic tool (24). In response to the latter concern, Goodman and colleagues performed a prospective study in a correctional institution and urban gynecology clinic in Massachusetts. The study compared Pap test results with the findings of colposcopy and directed biopsy. Goodman found that Pap tests returned a false negative result for 37% of the 102 HIV-infected women enrolled in the study, compared to 21.4% among the 82 HIV-uninfected women (24). These authors advised that women with significantly abnormal cervical cytology have yearly colposcopies to eliminate the risk of cervical cancer. These findings however do not reflect current ACOG recommendations that support Pap smear screening alone, with colposcopy reserved when cytologic abnormalities are detected.

Use of Exogenous Hormones

In providing gynecologic care, it is common to prescribe estrogens, progestin, and combinations of both for various conditions, in particular, for symptoms of estrogen depletion caused by natural, surgical, or premature menopause. When HIV infection is present, attention must be given to potential interactions between exogenous hormones and HIV drug therapies. Of particular concern are interactions with medications that are metabolized in the liver, including certain antibiotics, diphenylhydantoin, barbiturates, bronchodilating agents, corticosteroids and protease inhibitors. Another general concern is the effect of exogenous hormones on individual immune function. Differences in male and female immune response are mediated by sex hormones (in particular estrogens, progesterone, and testosterone) (25). Therefore, although testosterone replacement therapy has become an accepted treatment for hypogonadism and wasting in HIV-infected men (26), providers should exercise caution when administering less-studied female hormone replacement therapy to HIV-infected women.

Conclusion

HIV disproportionately affects incarcerated women. This has resulted in an increased need for comprehensive services for HIV-infected women prisoners. Correctional management of HIV-infected women must take into account the reasons for incarcerated women's acute vulnerability to HIV; these may include drug use, histories of physical and sexual abuse, and poverty. By testing for HIV infection and screening for gynecologic infections among incarcerated women, correctional health care providers can play a critical role in public health strategies for treating and reducing the spread of infectious diseases. Correctional management of HIV can also be viewed as an opportunity to create a network of interconnected services that address the needs of incarcerated HIV infected women. These services might include physical and sexual abuse recovery programs, drug treatment, and mental health services provided in conjunction with routine clinical management of HIV infection. Overall, incarceration provides a critical opportunity for the education, diagnosis, and medical care of HIV-infected women and high-risk HIV seronegative women; as well as a public health opportunity to reduce the spread of HIV infection.

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CORRECTIONS:

Last month's reference for the main article should have read as follows. We apologize for any inconvenience this may have caused.

Page 1: reference 7 should be the following website: www.cdc.gov/nchstp/hiv_aids/stats/
Page 3: reference 8 should be: Hammett TM, Harmon P, Rhodes W. The burden of infectious disease among inmates and releasees from correctional facilities. Unpublished paper prepared for the National Commission on Correctional Health Care, December 1998.
Page 3: reference 10 should be reference 11, except in the inset box, "The Inside View," where it is correct.

Spotlight: *Pamela Dole, Correctional Gynecology Provider*

Speaker's Bureau: Agouron; Bristol-Meyers Squibb; Merck.

Pamela Dole has worked in corrections in both New York State at Bayview and works with nurse practitioner students from the University of Connecticut at York Prison in Mystic,CT. Her interest in caring for sexually traumatized women grew out of listening to clients and clients needs through her work. She realized some of her clients had difficulty keeping or completing appointments due to fear and anxiety from past or recent experiences of sexual victimization. The correctional setting, according to Dole, poses an especially difficult problem for victimized women because it exaggerates their feelings of invaded privacy and loss of control.

Dr. Dole is participating in a benchmark forensic project to decrease violence against women by educating nurses in Kimberly, South Africa. She feels further research is necessary to fully comprehend the impact of interpersonal violence on health seeking behaviors. Dole believes the key to caring for traumatized women is making the gynecologic exam a participatory process, "It can't be something done to them. . .it comes down to working from our hearts or places of compassion." She contributed the following piece for HEPP News.

Examining Sexually Traumatized Incarcerated Women

As many as 60% of incarcerated women have histories of sexual abuse. It is therefore appropriate to keep these histories in mind when approaching the clinical examination of the patient in the correctional setting. Some of the issues that interfere with medical care, as reported by sexually abused women, include trust, authority, control, disclosure and not wishing to have her body touched during examinations (18). Given these themes, incarcerated women present with unique challenges to the health care provider, who should not miss this opportunity for education, healing and health care through sensitive modalities.

The first step in caring for sexually traumatized incarcerated women is to get the inmate to keep gynecology appointments. The inmate's desire to remain in control and her fear of the examination will often lead her to refuse care. As a result, gynecological care refusals need to be brought to the attention of the medical director or nurse manager, as persistent refusals can lead to progression of underlying disease. Refusals may be viewed as an invitation for education, which is the first step to creating a caring and trustful relationship with the inmate.

If the patient is to remain within the facility for several weeks before being reassigned, the provider should begin with an interview only and reschedule the examination. This approach can be extremely beneficial in increasing trust and adherence over time. Inmates will feel respected for their feelings while becoming acquainted with the provider in a non-threatening situation.

The initial interview and history should include a routine OB/GYN history as well as information about incest and child molestation, sexual assaults and domestic violence issues. Often inmates have never been questioned regarding sexual abuse and may initially deny these questions; however, questioning may precipitate flashbacks after the patient has departed from the clinic. Asking questions regarding sexual abuse during a second visit often produces an emotional release from years of shame and secrecy, allowing the patient to make her first disclosure of sexual victimization. It is important to provide reassurance that anxiety about GYN exams and the embarrassment surrounding the secrets of their childhood and/or adult sexual abuse are common feelings. Whenever possible the provider should avoid doing a pelvic examination under duress and empower the inmate to chose a time when she is ready to participate in the Gynecological examination. This provides the possibility for increased communication and trust while assisting the inmate to begin the healing process.

Some inmates may not be ready to disclose their 'secrets.' Tell tale signs and symptoms may provide clues to the clinician. Some of these may include histories of the following: chronic pelvic pain, dysmenorrhea, menorrhagia or gastrointestinal illnesses (in the absence of pathology), panic disorders, eating problems, substance abuse, and failure to maintain good women's health screening (19, 20). During an examination the clinician may observe the following: stalling to disrobe, statements like 'how long will this take?' or 'I hate these exams,' twitchy toes during the examination, pulling back while trying to insert the speculum, arching of the back, and dissociation from the exam itself. Should these signs occur, the provider might wish to stop the exam, allow the patient to sit up on the table and cover herself, and then ask whether she would be more comfortable talking about her discomfort with the examination and reschedule the actual exam for another day.

At the time of the second exam, having the patient sit on the table in her hospital gown, ready for the exam, and discuss how she is feeling is often helpful. At this point the provider should let the patient decide whether or not to proceed to the examination is beneficial. Rarely does it take more than three visits to complete the examination.

Once an inmate has chosen to have the Gynecologic exam completed, it is important to assist her in remaining relaxed and to prevent disassociation. The most common mistake made by clinicians is to tell the inmate to relax rather than provide her with specific methods. One method is to ask the patient to count her respirations. The provider can also ask the patient to tell a story, or blow bubbles, which assist her to breathe. Laughing together is marvelous way to reduce stress. Other techniques may include guided imagery, centering, and the use of classical music (avoid the use of music with words).

It is important to avoid revictimizing the inmate by a rough and insensitive exam. During a gynecologic exam especially, women feel vulnerable and embarrassed. Slow, gentle and supportive pelvic exams are essential. The inmate may wish to be examined by a female health care provider. Women who develop a rapport with their health care provider are more apt to participate in their healthcare, thereby reducing emergent situations and long term costs.

Resources

RESOURCES:

GENERAL HIV WEBSITES:

INTERNATIONAL ASSOCIATION OF PHYSICIANS IN AIDS CARE (IAPAC)
http://www.iapac.org

JAMA (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION) HIV/AIDS INFORMATION CENTER
http://www.ama-assn.org/special/hiv

THE BUREAU OF JUSTICE STATISTICS
http://www.ojp.usdoj.gov/bjs

CDC HIV/AIDS STATISTICS
http://www.cdc.gov/nchstp/hiv_aids/stats

THE CORRECTIONS CONNECTION
http://www.corrections.com

WOMEN AND HIV WEBSITES:

HIV/AIDS TREATMENT SERVICE
http://www.hivatis.org

HEALTHSQUARE
http://www.healthsquare.com

THE BODY: WOMEN AND HIV
http://www.thebody.com/whatis/women.html

WOMEN'S HEALTH CENTER
http://www.fwch.org

HIVWOMEN
http://www.hivwomen.com

FAMILY HEALTH INTERNATIONAL
http://www.fhi.org

MEDSCAPE: WOMEN AND HIV
http://hiv.medscape.com/medscape/hiv/clinicalmgmt/cm.v09/public/index-cm.v09.html

TELEPHONE NUMBERS:

NATIONAL CLINICIANS' PEP HOTLINE:
888. 448.4911

NATIONAL HIV TELEPHONE CONSULTATION SERVICE:
800.933.3413

ANTIRETROVIRAL PREGNANCY REGISTRY AT PHARMA RESEARCH CORPORATION:
800. 358. 4268

Ask The Expert

One of your HIV infected patients returns to your prison clinic after a period of release to the community. She has a CD4 T cell count of 230; a viral load of 30,000; and she has been adherent to her first antiretroviral regimen that includes AZT, 3TC, and efavirenz since her release from the institution 3 months ago. She now tells you that she is approximately 12 weeks pregnant, and she would like to reduce the likelihood of HIV transmission to her child as much as possible.

What Would You Do?

Becky L. Stephenson, MD
Clinical Assistant Professor, University of North Carolina
HIV Services Co-Director, NC Department of Corrections

I would use two major principles to guide my decisions for this particular scenario. In accordance with the recently updated guidelines for HIV-Infected Adults and Adolescents, the first would be to provide treatment for the mother's own health and to prolong her life. The second major principle would be to reduce transmission of HIV to the baby. Although preventing transmission to the baby is very important, it is inappropriate to give substandard therapy to the mother for fear of untoward effects on the baby.

The fact that this patient's viral load is 30,000 indicates she has resistance to her current regimen. Her CD4 count is nearing the definition of AIDS (CD4 count of 200), which indicates significant immune destruction. Most experts would agree that she needs treatment. It is difficult to tell which, if not all, of the three antiretroviral agents represent resistance. It is extremely likely that she is completely resistant to 3TC and EFV. A new regimen is likely to be successful if most or all of the agents are changed. Thus, DDI, D4T and nelfinavir would be my first choice.

Unfortunately, this choice does not include AZT. AZT is the only antiretroviral to date that has been shown to reduce perinatal transmission of HIV. In 1994, the Pediatric AIDS Clinical Trial Group protocol 076 showed that AZT chemoprophylaxis reduced HIV transmission from 25% to 8%. This involved giving AZT to the mothers during the second or third trimester, during labor and delivery and to the babies during the first 6 weeks of life. Because of this data, current guidelines indicate that AZT needs to be a part of the antiretroviral regimen of the pregnant HIV positive woman.

In situations where the choice does not include AZT, the recommendation is to add AZT per the 076 protocol. Unfortunately, as AZT and D4T are antagonistic, it is not recommended that they be given together. Thus, my second choice would be to keep AZT and add DDI and NFV. This would eliminate D4T and allow for the incorporation of AZT into her antiretroviral regimen and provide her with two new antiretrovirals.

I would also eliminate efavirenz. Efavirenz is currently listed as an FDA category C drug. In a study of 60 pregnant monkeys given efavirenz, three of the 20 who were delivered by caesarian section had gross malformations: one had anencephaly and unilateral anopthalmia, one had microophthalmia, and one had cleft palate. The control group was negative for gross abnormalities. It is recommended that women who use efavirenz avoid pregnancy. Because of the potential teratogenicity, I would stop efavirenz in this pregnant woman as soon as possible and counsel about potential birth defects and monitor with ultrasound.

Other antiretroviral options would include ritonavir and indinavir. I would not recommend indinavir because of the potential for hyperbilirubinemia and renal stones which could be harmful to the baby. Nor would I use ritonavir because of the gastrointestinal side effects, which could worsen the hyperemesis of pregnancy. Unfortunately, none of these antiretrovirals are very well studied in pregnant women.

Preventing transmission is a priority for most women and health care providers. Most perinatal transmission is thought to occur immediately before delivery or during breast-feeding. Thus, I would not recommend breast-feeding. Premature rupture of membranes, high maternal viral load, and ZDV resistance are also known to increase perinatal transmission.

A recent meta-analysis reported in the New England Journal of Medicine in April of 1999 found that cesarean sections may prevent perinatal transmission. The risk of HIV transmission was found to be lower in women who underwent cesarean section before the onset of labor and the rupture of membranes and received zidovudine prophylaxis. There are many problems with this study, therefore there are no current recommendations regarding cesarean sections and pregnant HIV infected women. I would offer cesarean section if the viral load was not well controlled on highly active antiretroviral therapy and use antiretroviral therapy as the mainstay in reducing perinatal transmission.

The pregnant patient's therapy should be monitored just the same as if she were not pregnant. I would obtain a viral load 4-6 weeks after initiating the new antiretroviral regimen to evaluate the effect of the therapy. I would also continue checking CD4 counts and viral loads every 3 months thereafter as I do for all my patients.

In summary, treatment of a pregnant HIV infected woman is a work in progress. AZT should be offered to all pregnant women with HIV and should be incorporated in their antiretroviral regimen. Even when women have previously taken AZT, it has still been shown to reduce transmission in their infants. I would use antiretroviral therapy as the mainstay in preventing perinatal transmission. I would only use cesarean section if there were failure to adequately suppress the viral load before delivery. These are difficult decisions and should be discussed with the pregnant women, her partner, health care provider and her obstetrician-gynecologist. If the child is HIV negative, the children will need follow-up since the effects of antiretrovirals exposure are unknown in adolescence or even adulthood. I would also register the mother in the pregnancy registry to record safety data of antiretrovirals in pregnancy (Pregnancy Registry: 800.358.4268).

News Flashes

Report From the 8th Canadian Conference on HIV/AIDS Research, Victoria, B.C.

Researchers from the Toronto Hospital Immunodeficiency Clinic assessed the risk of elevated triglyceride (TG), cholesterol and glucose levels in HIV-positive patients taking protease inhibitors. The research said increased lipid levels were observed with all PIs. They found that subjects taking protease inhibitors had significantly higher TG and cholesterol levels than those taking other antiretrovirals. Ritonavir and ritonavir/saquinavir showed the most significant increases in cholesterol and TG levels. The second highest lipid increase was seen with nelfinavir, followed by indinavir, and saquinavir. Blood glucose levels were also higher in the PI-treatedgroup than in those treated with other antiretrovirals. (Abstract B213)

Number of U.S. Inmates Increases Again

At midyear 1998, Federal and State prison authorities and local jails held in their custody 668 persons per 100,000 U.S. residents. On June 30, 1998, 1,277,866 prisoners were under Federal and State jurisdictions, an increase of 4.8% since midyear 1997. Approximately 452 per 100,000 U.S. residents were incarcerated in a State or Federal prison, up from 303 per 100,000 residents in 1990. Compared to U.S. resident population, the incarceration rate was about 16 times higher for men than for women. *Source: Prison and Jail Inmates at Midyear 1998, a Bureau of Justice Statistics Bulletin. Available at: http://www.ojp.usdoj.gov/bjs/*

HIV Virus Projected to Persist for Decades Despite HAART

Johns Hopkins University researchers have found that HIV can hide in viral reservoirs for up to 60 years, quashing hopes of eradicating the virus with existing treatments. Calling the finding "far from bleak," National Institute for Allergy and Infectious Diseases Director Dr. Anthony Fauci said, "I want to caution people not to think it's such horrible news and that these drugs [antiretroviral therapy] don't do any good. They are still extremely important in improving the quality and duration of life" (Finzi D et al. Nature Medicine, May 1999; 5(5):512-517. Baltimore Sun, 4/27)

Treatment Updates *A new feature of HEPP News*

Updated Clinical Guidelines Available Online

The AIDS Treatment Information Service website has posted the most recent version of the "Guidelines for Use of Antiretroviral Agents in HIV-Infected Adults and Adolescents," with new information on all antiretroviral agents, including the recently approved reverse transcriptase inhibitor abacavir, or Ziagen. To view them, go to http://www.hivatis.org/

Amprenavir - New Protease Inhibitor on the (Cell) Block

In April, the FDA approved the protease inhibitor amprenavir (Agenerase, Glaxo-Wellcome) for use in treating HIV infection. Amprenavir's approval comes 2 years after the release of nelfinavir and may be the last available drug of this class for the next few of years. The drug in combination with other antiretrovirals has been studied in over 700 patients, both antiretroviral naïve and experienced, and has provided viral load reductions and CD4 cell count increases that are comparable to other protease inhibitor regimens.

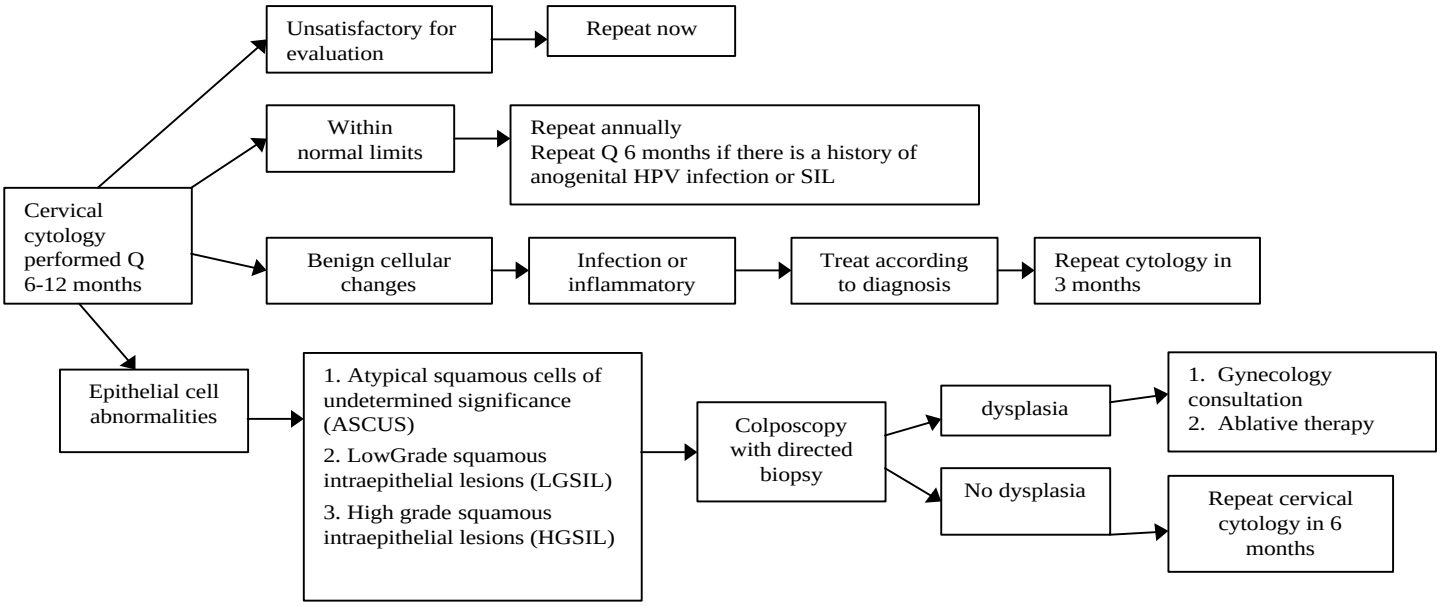
The dose of amprenavir is 1200 mg twice a day. Since the current capsules contain 150 mg each, dosing requires 8 pills BID. Amprenavir can be taken with or without food, but it should not be taken with a high-fat meal because the fat content may decrease drug absorption. The most frequently reported adverse events among patients in clinical trials of amprenavir were nausea (15%), diarrhea (14%), vomiting (5%), and rash (11%). Severe and life-threatening skin reactions, including Stevens-Johnson syndrome, have occurred in patients treated with amprenavir. Acute hemolytic anemia, diabetes melitus and hyperglycemia may also be associated with amprenavir.

Given the overlap of amprenavir and other protease inhibitors resistance patterns this agent may not prove to be a reliable component of salvage therapies for patients failing other protease inhibitor regimens. However, for some patients with few salvage options, amprenavir may well be worth considering. Whether amprenavir can effectively compete with other protease inhibitors as initial therapy remains to be seen.

(Contributed by David Alan Wohl, MD, *Speaker's Bureau: Roche, Bristol Myers Squibb, Glaxo, and Roxane.*)

HEPPigram *A feature of HEPP News providing concise solutions to correctional HIV-related problems.*

Approach to Cervical Cytologic Evaluation for HIV-Infected Women:



The increase in development and progression of cervical dysplasia is believed to occur because HIV-infected women have decreased tumor surveillance capacity because of their altered immunoregulatory mechanisms. Studies of the overall incidence of cervical cancer in HIV infected patients with squamous cell lesions are on going (personal communication, S. Cu-Uvin).

In the prison or jail setting, a more interventional approach is favored because
1) inmates do not necessarily remain in the correctional environment for prolonged periods; 2) should inmates be released to the community they may not be living in stable circumstances, and 3) it is unlikely that the individual will have her gynecologic issues addressed in the community while facing issues such as securing stable housing, meeting basic needs, providing for children and addressing issue related to treatment of her HIV/AIDS. Thus for women in the correctional setting who have squamous cell lesions, it is prudent to go directly to colposcopy with directed biopsy and offer treatment if necessary.

Source: Altice, F.L. "Management of HIV Infection in Correctional Settings." Clinical Practice in Medicine. Ed. M. Pusis. St. Louis, IL: D.O. Mosby, 1998. Ch. 15.

HIV 101

Recommended Antiretroviral Agents for the Treatment of HIV-Infected Pregnant Women

Antiretroviral Agent	FDA Pregnancy Category*	Placental Passage	Long-term animal carcinogenicity studies	Rodent Teratogen
Nucleoside Analog Reverse Transcriptase Inhibitors				
Abacavir (ABC,	C	Yes (rats)	Not completed	+
Didanosine (ddI, Videx)	B	Yes (human)	Negative (no tumors, lifetime rodent study)	-
Lamivudine (3TC, Epivir)	C	Yes (human)	Negative (no tumors, lifetime rodent study)	-
Stavudine (d4T, Zerit)	C	Yes (rhesus)	Not completed	-
Zalcitabine (ddC, Hivid)	C	Yes (rhesus)	Positive (rodent, thymic lymphomas)	+
Zidovudine (AZT, Retrovir)	C	Yes (human)	Positive (rodent, noninvasive vaginal, epithelial tumors)	+
Non-nucleoside Reverse Transcriptase Inhibitors				
Delavirdine (DLV, Rescriptor)	C	Unknown	Not completed	+
Nevirapine (NVP, Viramune)	C	Yes (human)	Not completed	-
Efavirenz (EFV, Sustiva)	C	Yes (cynomolgus)	Not completed	+
Protease Inhibitors				
Indinavir (IDV, Crixivan)	C	Yes (rats)	Not completed	-
Nelfinavir (NFV, Viracept)	B	Unknown	Not completed	-
Ritonavir (RTV, Norvir)	B	Yes (rats)	Not completed	-
Saquinavir (SQV, Invirase/Fortuvase)	B	Yes (rats/rabbits)	Not completed	-

These recommendations should be followed with the consultation of an expert on a case-by-case basis. Antiretroviral therapies are under constant study, so primary sources should be consulted, as the information provided above may become quickly outdated. (Sources: Merigan T, Bartlett J, Bolognesi D. Textbook of AIDS Medicine, Second Edition. Williams and Wilkins. Baltimore MD. 1999. Updated from the HIV/AIDS Treatment Information Service website: http://www.hivatis.org and the Antiretroviral Pregnancy Registry at Pharma Research Corporation, 800.358.4268)

This treatment is best done in collaboration with an HIV provider who has experience in this area, as information on drug treatment changes frequently.

* US Food and Drug Administration pregnancy categories are:
A: Adequate and well-controlled studies of pregnant women fail to demonstrate a risk to the fetus during the first trimester of pregnancy (with no evidence of risk during later trimesters).
B: Animal reproduction studies fail to demonstrate a risk to the fetus, and adequate, but well-controlled studies of pregnant women have not been conducted.
C: Safety in human pregnancy has not been determined; animal studies are either positive for fetal risk or have not been conducted, and the drug should not be used unless the potential benefit outweighs the potential risk to the fetus.
D: Positive evidence of human fetal risk is based on adverse reaction data from investigational or marketing experiences, but the potential benefits from the use of the drug in pregnant women may be acceptable despite its potential risks.

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1. For HIV infected women, cervical cytology should be repeated six months after the first test for all of the following cases EXCEPT:
   a) Test reveals atypical squamous cells of undetermined significance. Colposcopy reveals no dysplasia.
   b) Test reveals high grade squamous intraepithelial lesions. Colposcopy reveals no dysplasia.
   c) Test reveals benign cellular changes, and infection or inflammation.
   d) Patient has a history of anogenital HPV infection or SIL. Cervical cytology test results are within normal limits.

2. Which of the following medicines CANNOT be used for pregnant HIV infected women?
   a) zidovudine (ZDV,AZT)
   b) efavirenz (EFZ)
   c) nevirapine (NVP)
   d) didanosine (DDI)
   e) saquinavir (SQV)

3. Which of the following statements about HIV infected women and cervical cytologic abnormalities is FALSE?
   a) According to a 1997 NEJM article, HIV infected women have particularly high rates of cervical cytologic abnormalities, sexually transmitted diseases and certain gynecologic infections.
   b) The management of abnormal Pap smears in the correctional setting may need to be more vigilant as this population of women has had little medical care prior to incarceration and may also have little access after release.
   c) According to the CDC, pap smears should be preformed annually for all HIV-infected women.
   d) HIV un-infected women have higher rates of HPV expression in cervical secretions and higher prevalence of cervical cytologic abnormalities than do HIV infected women.
   e) None of the above.

4. Which of the following characteristics put incarcerated women at higher risk for HIV?
   a) involvement in sex trade
   b) drug use
   c) history of childhood sexual abuse
   d) a and b
   e) all of the above
   f) none of the above

5. True or False? Some studies have found that more than half of a population of incarcerated women were sexually abused as children, which may lead to HIV risky behaviors as adults.

   True False

6. Which of the following is TRUE about treating an HIV infected woman?
   a) Practitioners should watch for interactions between the patient's antiretroviral therapy and diphenylhydantoin.
   b) Testosterone replacement therapy has become an accepted treatment for wasting in HIV infected women.
   c) Differences in male and female immune response to HIV are mediated in part by sex hormones, therefore providers should exercise caution when administering female hormone replace ment therapy to HIV-infected women.
   d) a and c.
   e) all of the above

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