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Menstrual Irregularities in HIV+ Women

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There are several interesting factors relating to the menses when HIV infection is involved.

When irregularities of the menses is involved, studies have shown that the factor's relating to them are primarily from the pituitary gland which secretes several hormones including those that control body growth. Earlier studies attributed the irregular menstrual cycle to the ovaries. The fewer CD4 cells present and the higher the viral load have a significant effect on irregularities in menstruation.

HIV infected women experience a reduction in CD4 cells and elevated viral loads when exposed to other sexually transmitted diseases, thus influencing an irregular menses.

Vaginal levels of a number of cytokines (chemicals that are involved in growth regulation) are elevated around menses in HIV+ women. As cytokines increase there is an increase in HIV in the female genital tract but not at other sites. This allows for a higher risk of female to male transmission of HIV during sex. Also, if the male partner is uncircumcised the foreskin will harbor a warm, moist environment for the virus giving it a longer time to migrate into the ureter's mucosal membrane, hence infecting the man.

Overall, 47% of HIV+ women have abnormal Pap smear results, which is another factor affecting irregular menstrual cycles.

Irregularities of the menses could be a factor as to why HIV+ women have a lower fertility rate than non infected women.

If a woman becomes pregnant, when she reaches her time for labor and delivery, her CD4 counts drop and viral load increases. It may take months to regain the levels she had prior to delivery hence she is further compromised in her health post partum and in many cases will experience irregularities in her menses.

Women who are drug users may have a low albumin level produced from the liver, which can measure nutritional status. When a woman is nutritionally deprived, estrogen levels will alter causing amenorrhea.

Although breastfeeding is discouraged in Industrial countries, Developing countries (which home 90% of HIV infected people) have little choice but to breastfeed. If a mother is nutritionally deprived, her nutrients will go into her breast milk and leave her even more compromised. It turns out to be a vicious cycle that only proper nutrition can correct.

An irregular menstrual cycle plays a major role in the lives of women who are HIV+. It's the greatest difference between an HIV+ man and a woman. There is very little information on the subject to inform women with. It's an area where research needs to become pro active and develop more clinical trials.

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In this issue...

Instead of seeing the rug being pulled from under us, we can learn to dance on a shifting carpet. (Thomas Crum)

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Your Goal is to find out Who You Are. (A Course in Miracles)

The New Epidemic – HIV and Hepatitis C Coinfection

Richard S. Ferri, PhD, ANP, ACRN, FAAN*

WHAT IS HEPATITIS C?

Nearly 4 million Americans, or 1.8 percent of the US population, have the hepatitis C virus (HCV). An estimated 8,000 to 10,000 deaths occur annually due to hepatitis C in the United States. Infection with the hepatitis C virus is one of the leading causes of chronic liver disease in the United States. HCV infection is responsible for nearly 20 percent of all acute viral hepatitis cases, 60 to 70 percent of chronic hepatitis cases, and 30 percent of cirrhosis, end stage liver disease, and liver cancer cases

The mechanism by which HCV invades the body is not fully understood, and the progression of HCV disease is highly variable. Approximately 80 to 85 percent of individuals exposed to HCV will develop chronic hepatitis; the remaining 15 to 20 percent will spontaneously clear the virus from their bodies. Twenty percent of people chronically infected with HCV will develop liver cirrhosis. This can take up to 10 to 30 years to develop. Fifteen percent who develop cirrhosis will also develop hepatocellular carcinoma (liver cancer). An estimated 20 to 30 percent will develop liver failure.

The incubation period of HCV averages 6 to 7 weeks after exposure. Individuals may develop flu-like symptoms such as fever, malaise, and fatigue. However, many people do not develop any symptoms. Most people infected with HCV are asymptomatic or mildly symptomatic as compared with those infected with hepatitis B (HBV); they may not realize that they have been exposed and are infected. Therefore, clinicians need to do careful screening.

HIV/HCV COINFECTION

All persons who are HIV-positive should be tested for HCV infection. Co-infection with HIV in people who have HCV may delay the clearance of HCV from the body because of an impaired immune response. The timeline for the development of cirrhosis and liver failure is also markedly shortened in the presence of co-infection. While HCV does not affect the natural history of HIV infection, HIV does affect the natural history of

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HCV infection. Also, people who are co-infected with HIV and HCV face some unique challenges in the areas of disease management and lifestyle changes.

HOW IS HEPATITIS C TRANSMITTED?

Transmission of HCV occurs primarily through injection drug use, which accounts for 60 percent of all cases. HCV infection by injection drug use can occur in those who use just once or who use on a regular basis. Sexual intercourse with an infected person accounts for another 15 to 20 percent of cases. Several other methods of transmission account for the remainder of cases. These methods include: blood transfusions or solid organ transplants that occurred before the nation's blood supply was made safer by the introduction of bloodscreening for HCV antibody in July 1992; tattooing or body piercing with dirty needles and/or ink; inhaling (snorting) drugs such as cocaine or crystal meth; and occupational exposure by a contaminated needle stick or splashes to mucous membranes. Long-term hemodialysis patients and children born to HCV-positive women are also at risk for exposure to HCV. The incubation period of HCV averages 6 to 7 weeks after exposure. Individuals may develop flu-like symptoms such as fever, malaise, and fatigue. However, many people do not develop any symptoms. Most people infected with HCV are asymptomatic or mildly symptomatic as compared with those infected with hepatitis B (HBV); they may not realize that they have been exposed and are infected. Therefore, clinicians need to do careful screening.

WHAT ARE THE TREATMENT OPTIONS FOR HEPATITIS C?

Until the advent of highly active antiretroviral therapy (HAART), people with HIV/AIDS were dying from their disease and related illnesses before hepatitis C became a clinical management issue. However, now that people are living longer with HIV, the impact of co-infection with HCV has dramatically shifted. In the HAART era, co-infected individuals are at increased risk for morbidity and mortality from chronic liver disease. HCV is now recognized as one of the leading causes of death in people with HIV/AIDS.

The latest NIH treatment guidelines—*Use of Antiretroviral Agents in HIV-Infected Adults and Adolescents*—recommend offering HAART to patients with <350 CD4 T cells/mm**3** or HIV RNA >30,000 copies/mL on the branched chain DNA assay (bDNA) or >55,000 copies/mL on the reverse transcription polymerase chain reaction (RT-PCR) assay (the guidelines can be obtained online at: www.aidsinfo.nih.gov/). Earlier treatment of HIV infection remains controversial due to treatment toxicities, adherence issues, development of long-term complications, and the likelihood of developing drug-resistant mutations. Delaying HIV therapy offers a window of opportunity to treat HCV infection before initiating HAART in co-infected patients. This may reduce potential drug toxicities and interactions and any HIV treatment-related hepatotoxicity. Treatment for HCV is determined by a variety of factors that include the individual's general state of health, mental health status, and the treatment outcome potential of the disease stages of both HIV and HCV. The goals of HCV therapy are different than those related to HIV disease. The goal of HAART therapy is to lower HIV viral load to the lowest level possible for a given patient. The intended outcome is to prevent compromise of the immune system and evolution to AIDS. The goal of HCV treatment, on the other hand, is eradication of the virus—in other words, a cure. With HIV drug therapy, by comparison, although the amount of HIV can be suppressed to undetectable levels, the disease is still not cleared from the body. At present, while treatment for HIV is at the best it has ever been, there is no cure. Currently, combination therapy with pegylated interferon and ribavirin is the standard of care for chronic HCV, unless ribavirin is contraindicated. PEG-INTRON® (Schering-Plough) and the recently approved drug Pegasys® (Roche) are once-weekly pegylated interferons (Pegasys is discussed in more detail in the next section). Pegylation is the attachment of a polyethylene glycol (PEG) molecule to interferon that delays its clearance rate from the body. Pegylated interferon remains active in the blood for 7 days, thereby decreasing the number of injections required. This may help people to adhere to their course of treatment. Experts tend to favor the use of pegylated interferon with ribavirin because the combination's more convenient dosing may help. Pegasys proved to be the better agent.

Once-weekly Pegasys with daily ribavirin achieved an SVR in 56 percent of patients as compared to a 44 percent SVR response in the arm that used thrice-weekly standard

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I am me. In all the world there is no one exactly like me. There are perons who have parts like me, but no one who adds up exactly like me. Therefore, everything that comes out of me is authentically mine because I alone chose it. (Virginia Satir)

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interferon with ribavirin. SVR was also achieved in 46 percent of genotype 1 patients (the most difficult to treat) as compared to a 36 percent SVR in the standard dosing cohort. Of patients with cirrhosis, 44 percent had an SVR with Pegasys and ribavirin as compared to 33 percent of patients taking the standard treatment. Pegasys requires only one injection per week as compared to the three weekly injections used in standard interferon treatment. This reduced dosage may help patients to accept and adhere to treatment. Side effects appear to be less severe with Pegasys, and there is a reduction in flu-like symptoms and depression compared with standard interferon treatment. A new formulation of ribavirin, Copegus, was approved in 2003. Patients with genotypes 1 and 4 and with a body weight less than 75 kg should take 1,000 mg orally per day in a divided dose. Patients with genotypes 1 and 4 who weigh more than 75 kg should take 1,200 mg per day in a divided dose. Patients with genotypes 2 and 3 should take 2 x 200 mg Copegus capsules orally twice daily in combination with Pegasys. Ribozymes are an emerging technology that may be beneficial in the treatment of HCV, but further study is needed. Other combination approaches being studied include Pegasys + amantadine and Pegasys improve treatment adherence and because the combination has a therapeutic advantage in terms of sustained virologic response (SVR). Determining the genotype and HCV viral load will help in planning the length of treatment. In patients with genotype 2 or 3, the duration of therapy is 6 months, independent of the viral load. In patients with genotype 1, on the other hand, 6 months of therapy is recommended if the HCV viral load is less than 2 million copies per milliliter, but 12 months of therapy is recommended if the HCV viral load is greater than 2 million copies per milliliter. Some physicians treat all patients with genotype 1 for 12 months. Treatment with standard, non-pegylated interferon alone will provide SVR in 15 to 20 percent of persons treated. Standard interferon combined with ribavirin increases the benefit to about 40 percent of people treated. Combination therapy with once-weekly pegylated interferon plus daily ribavirin achieved a 52 percent rate of SVR overall in previously untreated adult patients with chronic hepatitis C. Across hepatitis C virus genotypes, SVR ranged from 42 percent to 82 percent in patients receiving this combination therapy, with better responses in patients with genotypes 2 and 3. Given the right parameters, HCV can be cleared from the body and the patient can be cured. If the patient's HCV viral load remains undetectable 6 months after stopping therapy, an SVR has been achieved, and the patient is considered cured. However, long-term follow-up is recommended.

The US Food and Drug Administration approved Pegasys® (Roche) in 2002 for the treatment of hepatitis C (HCV). The drug, an improved, pegylated form of interferon is approved for use as monotherapy or with Copegus™ (Roche) in patients with chronic HCV who have compensated liver disease and who have not previously been treated with interferon alfa. Most doctors are expected to use it in combination with ribavirin, since clinical trials of hepatitis C monoinfection have demonstrated better sustained virologic response (SVR) with combination therapy compared to interferon alone. Pegasys is a pegylated interferon that remains active in the bloodstream over a longer period of time than the standard interferon alfa, and the blood level remains more constant. In a recent study of 1,121 patients randomly assigned to receive once-weekly Pegasys plus ribavirin, or placebo, or three million IU of standard interferon, Pegasys proved to be the better agent.

Once-weekly Pegasys with daily ribavirin achieved an SVR in 56 percent of patients as compared to a 44 percent SVR response in the arm that used thrice-weekly standard interferon with ribavirin.**1** SVR was also achieved in 46 percent of genotype 1 patients (the most difficult to treat) as compared to a 36 percent SVR in the standard dosing cohort. Of patients with cirrhosis, 44 percent had an SVR with Pegasys and ribavirin as compared to 33 percent of patients taking the standard treatment. Pegasys requires only one injection per week as compared to the three weekly injections used in standard interferon treatment. This reduced dosage may help patients to accept and adhere to treatment. Side effects appear to be less severe with Pegasys, and there is a reduction in flu-like symptoms and depression compared with standard interferon treatment. A new formulation of ribavirin, Copegus, was approved in 2003. Patients with genotypes 1 and 4 and with a body weight less than 75 kg should take 1,000 mg orally per day in a divided dose. Patients with genotypes 1 and 4 who weigh more than 75 kg should take

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We are each of us angels with only one wing. And we can fly only by embracing each other. (Luciano de Crescenzo)

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Out of The HIV Closet: Part II

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Anonymity comes with a price, and what a heavy one it is. When I first thought of writing something about my HIV, hesitancy was right there waiting for me in the wings. When first diagnosed, I made a list of everyone important in my life that I wanted to share this information with. My family, friends, a few close coworkers but that was it, at least that was what I convinced myself to believe. I will forever have imprinted in my mind how the office furniture, plaques on the wall, smell of the room when I was told and most importantly the way I had to sit alone in the office after being told. The way I was sent home so that "they" could figure out a plan on what to do with me. I didn't cry, never felt sorry for myself nor wondered why "this" happened to me.

All I could do is stand in front of the mirror and tell myself "keep going." I will never forget the time when I was told, "you are not allowed to start IVs," one coworker came up to me and put her arms around me and said, "I'd let you start an IV on me." I lost it, running to the restroom to cry because for the first time I got to experience what compassion felt like.

As a nurse, it comes naturally to show compassion, but very few times does the nurse experience it like this. I have been "there" for others that first learn about their diagnosis and knowing that that first hug is so important, something I never got and still long to experience. Coming "Out" with HIV to me is being comfortable with my diagnosis and not being ashamed because of it. I know with my current job situation there remains quite a heavy stigma with HIV. So, I only share my HIVstatis with those whom I have built close relationships.

Yet I still have that voice in the back of my mind wondering if I am doing the right thing. Who is to say whether it is right or wrong? I know that I have no regrets, no shame. Why should I? If I were a diabetic, a cancer patient etc, would I feel the same way? Absolutely! It is those "closet doors" that keep folks comfortable with situations that are out of the norm with society. It is time to break down those doors or at least crack them open so that others can understand that "we" (those of us with HIV) can still be major contributors to society. I want to someday open that door completely and stand there, realizing that "it is ok."

You don't have to suffer continual chaos in order to grow. (John C. Lilly)

Contact us

One of the main goals of the HIV-Positive Nursing Committee and + **Nurse** is to reach out to all HIV-Positive nurses, regardless of practice setting or organizational affiliation. You do not have to be a member of ANAC or an AIDS nurse to benefit from +Nurse.

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We as a committee would love to hear from you. Do you have ideas for articles? We would welcome anyone who would like to submit an article. Deadline for our next publication date is November 3, 2003. Let us know if you are interested in writing an article.