Researchers study the impact of co-infection with hepatitis viruses on pregnant women with HIV

22 February 2018

- Hepatitis C co-infection increases risk of pregnancy complications for women with HIV
- Women co-infected with hepatitis C had higher HIV viral loads when giving birth
- Researchers suggest screening women with HIV for hepatitis C before pregnancy

Due to shared routes of infection, co-infection with hepatitis-causing viruses, particularly hepatitis B-virus (HBV) and/or hepatitis C virus (HCV), is relatively common among some people with HIV. To find out more about the impact of these viruses on pregnancy and birth outcomes in co-infected women, researchers in France conducted a study. They focused on health-related information collected from more than 4,000 HIV-positive women who became pregnant between the years 2005 and 2013. The researchers found that women who were co-infected with HCV were more likely to have pregnancy-related complications and poorer health than women who were co-infected with HBV or who had HIV alone. The French study draws attention to the effects of HCV co-infection and the need to offer screening and treatment for this infection before women become pregnant.

Study details

Researchers focused on data from 4,326 women on whom they had information about infection with HIV and/or HBV and/or HCV.

Results—HBV and HIV

A total of 261 women (6%) had both HBV and HIV. Over the course of the study, the proportion of women with HBV co-infection decreased from 7% in 2005 to about 5% in 2013. HBV co-infection was associated with country of birth, not with age or occupation or whether or not the women had a history of injecting street drugs.

Results—HCV and HIV

Overall, about 2% of women in the study had active HCV co-infection (assessed by levels of HCV’s genetic material in their blood samples). Women who were born in Europe were significantly more likely to have this infection than women born in sub-Saharan Africa, Asia or the Caribbean. Nearly 50% of women with a history of injecting street drugs had HCV co-infection. Over the course of the study, the overall proportion of HCV co-infected women decreased from about 3% in 2005 to slightly less than 1% in 2013. This decrease occurred mainly in women who had a history of injecting street drugs. For instance, in 2005 the proportion of women with this history who had HCV co-infection was 67%, but by 2013 only 21% of women who injected street drugs were co-infected with HCV.

Viral infections in infants

The researchers assessed lab test results from 3,968 infants born to the women in the study. A total of 28 infants (0.7%) became infected with HIV. None of these babies were born to mothers who were co-infected with HBV. The researchers said that this was due to screening for and treatment of HBV and HIV.

Among 68 babies born to mothers co-infected with HCV, four (6%) were infected with HCV. Furthermore, researchers found that there was an increased risk for pregnancy-related complications in women co-infected with HIV and HCV, including a buildup of bile in the body (cholestasis) of the mother. Generally, this problem tends to...
occur late in pregnancy as the flow of bile from the liver is blocked and bile can build up in the blood.

**Response to HIV treatment**

Among the women with HIV alone and those with HIV and HBV co-infection, the researchers found that at the end of pregnancy there were similar proportions who had a detectable HIV viral load and low CD4+ counts (less than 350 CD4+ cells/mm$^3$) in their blood samples. This was the case whether women started HIV treatment (ART) before or during pregnancy.

However, among women who were co-infected with HIV and HCV, researchers found that, overall, at the end of pregnancy they had lower CD4+ cell counts than women who had HIV alone (or women who had HIV and HBV co-infection). HCV co-infected women who started ART during pregnancy were more likely to have a detectable HIV viral load when giving birth.

**Bear in mind**

In the present French study, researchers found a trend of decreasing proportions of women co-infected with HIV and HBV over time. They attribute this to vaccination campaigns in countries where HBV is relatively common. No infants in the study were born infected with HBV and the researchers said that this was due to the use of ART that contained drugs effective against HIV and HBV (such as tenofovir DF, FTC and 3TC) by the mothers during pregnancy. They also said that giving the infants the HBV vaccination helped to further protect them.

The researchers found that mothers co-infected with HIV and HCV had more complications during pregnancy. As the researchers stated that the vast majority of mothers did not engage in any substance use (alcohol, street drugs, tobacco) while pregnant, the researchers could rule out substance use as a potential cause of pregnancy complications. They are not certain which aspect of co-infection was responsible for the fact that mothers with HIV and HCV co-infection had more complications than other mothers.

Now that potent oral treatment for HCV is generally subsidized in high-income countries, the researchers said that HCV treatment prior to pregnancy should be considered, as this might limit HCV-related complications during pregnancy.

**Resources**

- [Living with HIV and Hepatitis C Co-infection](#)
- [Hepatitis C: An In-Depth Guide](#)
- [Hepatitis B – CATIE fact sheet](#)

**REFERENCE:**

Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

CATIE provides information resources to help people living with HIV and/or hepatitis C who wish to manage their own health care in partnership with their care providers. Information accessed through or published or provided by CATIE, however, is not to be considered medical advice. We do not recommend or advocate particular treatments and we urge users to consult as broad a range of sources as possible. We strongly urge users to consult with a qualified medical practitioner prior to undertaking any decision, use or action of a medical nature.

CATIE endeavours to provide the most up-to-date and accurate information at the time of publication. However, information changes and users are encouraged to ensure they have the most current information. Users relying solely on this information do so entirely at their own risk. Neither CATIE nor any of its partners or funders, nor any of their employees, directors, officers or volunteers may be held liable for damages of any kind that may result from the use or misuse of any such information. Any opinions expressed herein or in any article or publication accessed or published or provided by CATIE may not reflect the policies or opinions of CATIE or any partners or funders.

Information on safer drug use is presented as a public health service to help people make healthier choices to reduce the spread of HIV, viral hepatitis and other infections. It is not intended to encourage or promote the use or possession of illegal drugs.

Permission to Reproduce

This document is copyrighted. It may be reprinted and distributed in its entirety for non-commercial purposes without prior permission, but permission must be obtained to edit its content. The following credit must appear on any reprint: This information was provided by CATIE (the Canadian AIDS Treatment Information Exchange). For more information, contact CATIE at 1.800.263.1638.

© CATIE

Production of this content has been made possible through a financial contribution from the Public Health Agency of Canada.

Available online at: