New York State Has a High Rate of Hepatitis C Among Pregnant Women

Just under 1% of pregnant women in the state overall up to 2% in central and western New York have hep C antibodies.

March 18, 2020 By Benjamin Ryan

Pregnant women in New York state, especially those in central and western New York, have a high rate of hepatitis C virus (HCV) antibodies. That is according to a new study in which investigators developed a novel test for HCV antibodies in newborns, who initially inherit their mothers' antibodies to the virus whether or not they are actually infected with hep C.

In effect, this is a proxy test for the mother's HCV-antibody status, not the baby's, since having antibodies against the virus directly after birth is not a reliable means of determining whether the newborn carries the virus.

Among adults, testing positive for HCV antibodies means an individual has been exposed to the virus but does not determine whether they have spontaneously cleared the virus without treatment, as occurs in a minority of cases, or whether they have been cured through treatment. A genetic test for the presence of the virus can determine whether an individual currently has the virus.

Linda Styer, PhD, of the blood-borne viruses laboratory at the Wadsworth Center of the New York State Department of Health presented findings from the new study at the 2020 Conference on Retroviruses and Opportunistic Infections in Boston last week.

In her presentation, Styer noted that in 2006, an analysis of HCV prevalence among New York state residents found that the age-based distribution of the virus was essentially a bell curve centered within the baby boomer generation—those born between 1945 and 1965. By 2018, the distribution pattern had shifted, such that there were two bulges of HCV cases—one centered within those 15 to 44 years old and another centered within those 55 to 75 years old.

Styer and her fellow researchers also observed that 6% of pregnant women with active HCV infection would transmit the virus to their babies, including 11% of those with HCV/HIV coinfection.

Recent Centers for Disease Control and Prevention research has indicated that the opioid crisis has been driving up HCV infection rates among pregnant women since about 2005.

Styer and her colleagues designed a new test for maternal HCV antibodies in newborns called the Luminex immunoassay. They found that the test could correctly identify such antibodies 94% of the time and had a 100% rate of identifying the lack of such antibodies.

The newborn screening lab at the Wadsworth Center receives dried blood spots from all babies born in New York. The study authors collected 29,323 dried blood spots in six weeks, 28,439 of which were from New York residents. Of that latter figure, 25,571 of the samples were from unique babies and 2,868 (10%) were repeat samples. Of the 18,581 unique samples tested, 148 (0.8%) were positive for HCV antibodies. A total of 1,654 of the repeat samples were tested, of which 41 (2.5%) yielded a positive result.

By and large, repeat samples collected from the same baby yield similar results with regard to the presence or absence of HCV antibodies.

The rate of positive HCV antibody test results was 0.5% in New York City, 0.6% in Long Island, 0.7% in the Hudson and northeast regions, 1.5% in the western and Finger Lakes regions and 2.1% in the central region of New York state.

The study authors estimated that in 2019, about 1,800 babies were born to women with HCV antibodies. They also presumed that about half of these women would have been treated for the virus or otherwise cleared it spontaneously without treatment. So, assuming that 6% of the women with HCV transmitted the virus to their newborns, the investigators assumed that about 54 babies were born with hep C last year in the state.

By comparison, in 2019, 343 babies were born to women living with HIV in the Empire State. None of the newborns contracted that virus from their mothers.

Thirteen percent of the babies born to HCV-negative mothers and 26% of those born to HCV-positive mothers were born prior to 37 weeks of gestation. A respective 11% and 26% of each group of babies were born with low birth weight (less than 5.5 pounds). Both of the differences were statistically significant, meaning in each case they are unlikely to have been the result of chance.

The study authors concluded that using the Luminex assay is an effective way to generate an estimate of the prevalence of HCV among pregnant women.

To read the conference abstract, click here.
