Research demonstrates link between H1N1 and low birth weight

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In 2009, the United States was gripped by concern for a new winter threat: the H1N1 strain of influenza. According to research conducted through that winter, pregnant women were right to be concerned.

A pair of research papers published in the recent issue of the American Journal of Obstetrics *and Gynecology* show that women who contracted H1N1 were more likely to give birth to lower birth weight babies as compared with women who had "influenza-like illness." The papers were compiled through the work of a team of researchers, including Brenna Anderson, MD, MSc, and Dwight Rouse, MD, of the Division of Maternal-Fetal Medicine at Women & Infants Hospital of Rhode Island.

"The 2009 H1N1 influenza virus contained a unique combination of gene segments that had never been reported in human influenza cases in the United States. The first reports were that pregnancy would be a significant risk factor for mortality from H1N1," explains Dr. Anderson, who is director of the Reproductive Infectious Diseases Consultative Service at Women & Infants and assistant professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University.

"We wanted to determine the clinical characteristics of pregnant women with influenza-like illness with those who did not have the infection. We also wanted to track how the virus affected pregnancy by studying the outcomes."

The latter study – "Neonatal characteristics and outcomes of pregnancies

complicated by influenza infection during the 2009 pandemic" – uncovered that women who had H1N1 during pregnancy were more likely to have a lower birth weight baby.

"The average gestational age at delivery was less than 39 weeks and the babies born to women with H1N1 weighed an average of 285 grams less than other babies," Dr. Anderson notes. "Three of these babies were admitted to the neonatal intensive care unit after birth."

The goal of the second study – entitled "Clinical characteristics of pregnant women with influenza-like illness during the 2009 H1N1 pandemic and use of a standardized management algorithm" – was to create a method for tracking of pregnancy and birth during flu season in the future. It would logically separate women with actual H1N1 and those with influenza-like illness, and track the results of their pregnancies.

"We wanted to describe the clinical characteristics of pregnant women with influenza-like illness," Dr. Rouse says. "We then compared their clinical symptoms with those of women with confirmed H1N1.

"We knew that H1N1 mortality rates increase during pregnancy, and, during this study, we were able to determine that the time that elapses from when a pregnant woman presents to a health care provider with clinical symptoms to when she is given antiviral therapy is an important determinant of the outcome," he adds.

Provided by Women & Infants Hospital