

Race determines proper dose of common antibiotic for pregnant women

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(Medical Xpress) -- Race is a key factor in properly dosing the antibiotic azithromycin in pregnant women, according to new research at the University of Illinois at Chicago.

Azithromycin, one of the medicines most commonly prescribed to [pregnant women](#), is used to treat bacterial infections, such as [bronchitis](#), [pneumonia](#), sexually transmitted diseases, and infections of the ears, skin and throat.

"Many women need to receive [prescription medications](#) while pregnant, and they need to receive a safe and effective dose," says James Fischer, professor of pharmacy practice and lead researcher on the study.

"Drug therapy in pregnant women must take into account the physiological changes accompanying [pregnancy](#)," Fischer said. "The changes may require adjusting the dosage to ensure that the desired outcome is achieved and that the mother and fetus are not exposed to excess drug."

The new study, published in the journal *Antimicrobial Agents and Chemotherapy*, looked at how azithromycin is absorbed, distributed and eliminated in the body. Blood samples were drawn from 78 women of Asian, Caucasian, Hispanic, Pacific Islander and African American ancestry who were receiving treatment for infection during the second or third trimester of pregnancy. Women of childbearing age who were not pregnant were included for comparison.

The elimination of the antibiotic in pregnant African-American women was similar to that in non-pregnant women, Fischer said. But pregnant women who were Asian, Caucasian, Hispanic or Pacific Islander cleared azithromycin from the body less efficiently, suggesting that these women were exposed to higher doses of the drug than non-pregnant women, and their fetuses were exposed to higher doses than those of African-American women.

The study is the first describing how pregnancy affects azithromycin clearance from the body in an ethnically diverse population, Fischer said, and establishes a prototype for guiding the use in pregnancy of other drugs that are filtered out by the liver.

Although the study did not find any increased risk of major congenital abnormalities following exposure to [azithromycin](#), "we always try to minimize the exposure to the baby, no matter the medication," Fischer said.

But dose adjustments can't be based on exposure alone, he said, because other factors -- such as a diminished ability to fight infection during pregnancy -- may influence outcome.

The research was funded by the U.S. Food and Drug Administration's Office of Women's Health and conducted at the University of Illinois Hospital and Health Sciences System, Brigham & Women's Hospital in Boston, Meriter Hospital in Madison, Wis., and the University of Michigan.

Provided by University of Illinois at Chicago

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