

Researchers may have discovered key to help women fight infections during pregnancy

July 21 2011

A normal but concerning consequence of pregnancy is the fact that pregnant women are more susceptible to infection. University of Minnesota Medical School researchers have identified the underlying mechanisms for this physiologic immune suppression that may lead to new therapies to help ward off infections during pregnancy.

In pregnancy, immune system suppressing cells (called regulatory T cells) increase in number to protect the baby from attack by the mother's immune system. Because these cells are busy protecting the developing baby, pregnant women aren't able to curb off infections caused by common but potentially serious disease-causing bacteria, such as [Listeria](#) and *Salmonella*.

Using a mouse pregnancy model, Dr. Sing Sing Way, an Assistant Professor in the Departments of Pediatrics and Microbiology, and his colleagues from the Center for Infectious Disease and Microbiology Translational Research have developed a method to dissociate the beneficial and detrimental impacts of maternal regulatory T cells.

Specifically, when the immune suppressive molecule IL-10 is removed from [regulatory T cells](#), mice were able to more efficiently combat infection against prenatal pathogens. Importantly, removing the IL-10 molecule did not have any [negative impact](#) on the outcome of the pregnancy.

The findings are published in the July issue of *Cell Host & Microbe*.

"This research has identified that the immune cells critically required for sustaining pregnancy also causes pregnant women to be more susceptible to infection," Way said. "Our findings also uncover a potential immune-based therapy that can broadly boost resistance against infections during pregnancy without compromising pregnancy outcome."

Pregnant women don't always know when they have an infection, and sometimes the common signs and symptoms are masked during pregnancy, Way said. Delayed treatment can not only harm the health of the mother, but also cause infection in the developing fetus.

Provided by University of Minnesota

Citation: Researchers may have discovered key to help women fight infections during pregnancy (2011, July 21) retrieved 6 May 2024 from <https://medicalxpress.com/news/2011-07-key-women-infections-pregnancy.html>

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