

Researchers discover insight into pregnancy-induced hypertension

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Researchers have identified an enzyme linked to pregnancy-induced hypertension – also known as pre-eclampsia – a pregnancy complication characterized by high blood pressure and swelling due to fluid retention. The findings could be used to better screen for – and treat – this condition.

Pregnancy-induced [hypertension](#), which occurs in approximately 10 percent of pregnancies, is a major cause of maternal and fetal deaths, yet the cause is unknown.

The study, led by researchers in Cleveland Clinic's Lerner Research Institute, examined mice for corin – an enzyme normally present in the heart – and determined that the deficiency of this enzyme in the uterus may be an underlying cause of the disease. The study was published today in *Nature*.

Pregnancy poses a major challenge for controlling blood pressure. As blood volume increases, maintaining normal blood pressure becomes more difficult. During pregnancy, the narrow, curly uterine arteries are enlarged to thin-walled vessels, an adaptive change important for maintaining normal maternal [blood pressure](#) and boosting blood flow to the fetus. However, in pregnant women with hypertension, the changes in uterine arteries become defective.

While this study was initially conducted on mice, the researchers extended their study to patients with [pre-eclampsia](#). The researchers

found that many pre-eclamptic patients had low levels of corin in their uterus, and corin gene mutations in pre-eclamptic patients were identified.

"Additional studies on corin or its related molecules may help to develop new methods to diagnose and treat pregnancy-induced hypertension," said Qingyu Wu, M.D., Ph.D., a researcher in the Department of Molecular Cardiology in Cleveland Clinic's Lerner Research Institute and the lead researcher on the study.

In this study, Dr. Wu and his staff collaborated with investigators at the Cyrus Tang Hematology Center of Soochow University in Suzhou, China, and Shanghai Jiaotong University in China, who conducted clinical studies.

Provided by Cleveland Clinic

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