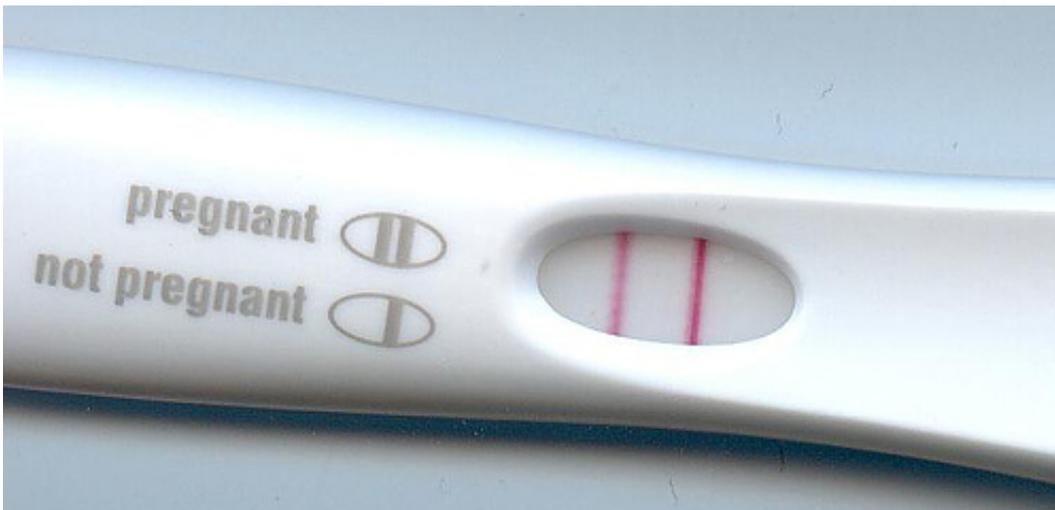


New biomarker predicts development of preeclampsia at six weeks of pregnancy

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Pregnancy test. Credit: public domain

Preeclampsia is generally diagnosed later in pregnancy, but new research could lead to diagnosis in the first trimester, improving care and potentially leading to the development of preventative measures.

Preeclampsia is characterized by [high blood pressure](#) and high levels of protein in the urine. It can lead to serious complications for the mother and baby, including reduced growth of the baby; seizures, stroke and multi-organ failure in the mother; or death of the mother or child. Often, the only cure is [preterm delivery](#). New research to be presented at Cardiovascular, Renal and Metabolic Diseases: Physiology and Gender

reports that the protein copeptin can predict the development of [preeclampsia](#) as early as six weeks of gestation.

This development is significant, says lead investigator Mark Santillan, MD, because early identification of women at high risk of developing preeclampsia will enable [health care providers](#) to quickly respond and provide the appropriate level of care. "Clinically, this timeframe is the earliest a woman can find out if she is pregnant by an over-the-counter pregnancy test. A similar simple test could be developed to predict preeclampsia via copeptin," Santillan says.

Copeptin is a byproduct of the protein arginine vasopressin (AVP). The research, conducted at the University of Iowa, also found that pregnant mice given AVP throughout pregnancy showed all the cardiovascular, kidney, obstetrics and immune components of human preeclampsia. Together, the mouse and human data suggest that AVP is involved in initiating preeclampsia. Targeting its pathway could potentially treat, prevent and even cure preeclampsia, says Santillan.

Provided by American Physiological Society

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