

New test can help predict and diagnose preeclampsia

February 4 2010

Researchers at Yale School of Medicine have developed a simple urine test to rapidly predict and diagnose preeclampsia, a common, but serious hypertensive complication of pregnancy.

Dubbed the "Congo Red Dot Test" by the research team, the test accurately predicted [preeclampsia](#) in a study of 347 pregnant women, allowing health care providers to offer better [preventive care](#) to pregnant women. The research will be presented February 4 at the Annual Scientific Meeting of the Society for Maternal Fetal Medicine (SMFM) in Chicago.

The [World Health Organization](#) estimates that about 63,000 [pregnant women](#) die each year because of severe preeclampsia, as well as a related condition called eclampsia, which can cause sudden, convulsive seizures.

"There is a critical need in the [developing world](#) for low-cost diagnostics for preeclampsia," said lead researcher Irina Buhimschi, M.D., associate professor in the Department of Obstetrics, Gynecology & Reproductive Sciences at Yale School of Medicine. "This test will help identify high-risk patients that should be transported from remote settings to facilities where there is access to specialized care for preeclampsia, such as magnesium sulfate therapy."

Buhimschi said that despite its effectiveness in preventing eclamptic seizures, magnesium sulfate is underutilized in developing countries. This is due in part to the lack of consistent and low-cost ways to identify

preeclampsia patients who are in need of intervention, which the test could provide. She said that the test could also identify women who needed to deliver their babies immediately, in turn reducing the incidence of unnecessary early birth, because delivery is the only effective treatment for preeclampsia.

The team also found that the Congo Red Dot Test could be used as a marker for assessing misfolded proteins. The test is based on a common red dye, originally used to stain textiles, that sticks to misfolded proteins. Previous studies by Buhimschi and her team have found that preeclampsia is a pregnancy-specific protein misfolding disease.

"In this new work, we have seen a link between preeclampsia and other disorders caused by misfolded proteins such as Alzheimer's or prion disease," said Buhimschi. "This may provide the foundation for new therapeutic approaches to reduce the burden of this disorder."

Provided by Yale University

Citation: New test can help predict and diagnose preeclampsia (2010, February 4) retrieved 22 May 2024 from <https://medicalxpress.com/news/2010-02-preeclampsia.html>

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