Repeat pre-eclampsia testing does not yield better outcomes for pregnant women, study finds

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A single test to speed up diagnosis of a serious disease in pregnant women does not need to be repeated, new research has found.

Results from the PARROT-2 trial, published today in *The Lancet* by researchers from King's College London, has ruled out the need for routine repeat placental growth factor-based testing (PIGF) for all women with suspected pre-eclampsia.

PARROT-2 is a large, multi-center UK trial in 1,252 women with suspected preterm pre-eclampsia, a life-threatening condition for pregnant women, and their babies, that can lead to major complications, such as stillbirth and neonatal death, as well as longer hospital stays.

PIGF testing is a blood test that can detect levels of placental growth factor and soluble flt-1, which are biomarkers for pre-eclampsia. An abnormal result will identify those women and babies at higher risk of adverse outcomes, who need intensive surveillance, while a normal result means women can be safely discharged home to continue with normal antenatal care. Use of an initial test in pregnancy was rolled out across much of England in 2021.

The findings show that repeat testing enabled faster diagnosis of pre-eclampsia, but this did not translate into better outcomes for women or their babies.

Dr. Alice Hurrell, first author of the study from King's College London, said, "This large trial has major implications for policy, practice, and guidelines. Universal, routine repeat testing, as recommended by some international groups, is not supported by our findings. However, the clinical benefit of a one-off placental growth factor-based test when pre-eclampsia is first suspected, remains clear."

Professor Lucy Chappell, NIHR Senior Investigator from King's College London, said, "Pregnant women repeatedly tell us the value of having greater certainty on diagnosis. These trial results should further lower the barriers to widespread equitable adoption of initial placental growth

factor-based testing, improving maternal health outcomes globally.

"With an estimated 5% of all women affected by preterm hypertension in pregnancy (around 7 million pregnancies worldwide), this is now a pivotal time to ensure that placental growth factor-based testing can reach widespread implementation across health care settings."

Marcus Green, CEO of Action on Pre-eclampsia, said, "These are really important findings showing that once the first test has been done, there is nothing to be gained from further testing. A single test can assure women with certainty if they are likely or unlikely to get pre-eclampsia. We look forward to completion of roll-out of placental growth factor-based testing across England, with an urgent call for implementation in the devolved administrations across all four nations. These new results also provide a timely opportunity to tackle the higher burden of adverse outcomes due to pre-eclampsia in global settings."

More information: Alice Hurrell et al, *The Lancet* (2024).

Provided by King's College London