PlGF-based testing to help diagnose suspected pre-eclampsia

(Update of DG23)

Pre-eclampsia is a potentially serious complication of some pregnancies, needing referral to a specialist and hospital admission for both maternal and fetal monitoring. It is thought to be related to problems with the development of the placenta. Pre-eclampsia is characterised by high blood pressure (hypertension) and proteinuria, which occurs when the kidneys leak protein into the urine.

Placental growth factor (PlGF)-based tests measure the amount of PlGF in blood plasma or serum. In pre-eclampsia, levels of PlGF can be abnormally low. In normal pregnancy, PlGF levels rise and peak at 26–30 weeks, so when PlGF levels do not rise during pregnancy there may be placental dysfunction. In addition, some PlGF-based tests also measure soluble FMS-like tyrosine kinase-1 (sFlt-1), a protein that is higher in people who develop pre-eclampsia.

Using PlGF-based tests, in addition to standard clinical assessment, could result in a faster and more accurate diagnosis of pre-eclampsia, and better risk assessment for adverse outcomes in people with suspected pre-eclampsia. It could also allow people in whom pre-eclampsia has been ruled out to return to community care instead of being admitted to hospital for observation.

The NICE diagnostics assessment programme will assess the clinical and cost-effectiveness evidence of PlGF-based tests in order to make recommendations on their use in the NHS.