AT THE FOREFRONT
UChicago Medicine

Clinical Laboratories

Date: 4/1/2024

To: UCM Medical Staff, House staff, Nursing Staff, Patient Care Centers, and Outpatient Clinics

From: KT Jerry Yeo, PhD, DABCC
Medical Director, Clinical Chemistry Laboratories
Professor of Pathology

Sarosh Rana, MD, MPH
Chief, Maternal-Fetal Medicine
Professor of Obstetrics and Gynecology (OB/GYN)

Subject: **New Test for Preeclampsia -** sFlt-1/PlGF Ratio
Effective Date: 4/3/2024
Laboratory Section: Clinical Chemistry

Summary:
We are excited to announce the implementation of a **new biomarker panel for preeclampsia** based on angiogenic biomarkers, soluble fms-like tyrosine kinase 1 (sFlt-1) and placental growth factor (PlGF), the sFlt-1/PlGF Ratio. We will be the **only institution in Chicagoland** to offer this test in our UCM Clinical Laboratories.

The sFlt-1/PlGF ratio test was cleared earlier last year by the US FDA to aid in the risk assessment of pregnant women (singleton) between gestational age of 23.0-34.6 weeks hospitalized for hypertensive disorders of pregnancy.

Dr. Sarosh Rana, Chief of Maternal-Fetal Medicine, was instrumental in the testing approval process for this technology to predict and define preeclampsia in patients. Recently, Dr. Rana participated as a lead author in the study that was submitted to the FDA for approval of the clinical use of biomarkers. She also enrolled the largest number of patients from UChicago Medicine (NEJM Evidence, 2023).

Further research is ongoing to look at the real-time impact of biomarkers in clinical practice, therapies based on angiogenic proteins, and the potential widespread use of biomarkers to reduce the excess morbidity and mortality among women with preeclampsia in the United States.

Test Information:

Test Name: Preeclampsia sFLT-1/PlGF Ratio
Test Code: LABCHPECRA
Availability: 7 days a week, run once daily
TAT: Samples received by 12 pm will be reported the same day
Tube: Plain Red of Gold SST
Interpretation:

- sFlt1/PlGF ratio ≤40 has a low probability (<5%) of developing preeclampsia with severe features within 2 weeks.
- sFlt1/PlGF ratio >40 has a high probability of developing preeclampsia with severe features within 2 weeks (positive predictive value of 65%). [This ratio surpassed routine clinical measures. These markers also correlate with adverse maternal outcomes and predict delivery within 2 weeks.]

Disclaimer: Management of patients with preeclampsia is based entirely on the discretion of treating physicians.

Questions:
If there are any questions regarding this test, please contact:

- Dr. Jerry Yeo from Clinical Chemistry (jyeo@bsd.uchicago.edu)
- Dr. Sarosh Rana from Maternal Fetal Medicine (srana@uchicagomedicine.org)