Editorial

Laboratory maternal-fetal medicine: challenges and perspectives

Mario Plebani

Pregnancy-related disorders which typically include gestational or pregnancy diabetes, hypertensive or high blood pressure-related conditions (i.e., chronic hypertension, preeclampsia-eclampsia, preeclampsia superimposed on chronic hypertension and gestational hypertension), stillbirth and abnormal size of babies at birth (top and bottom 10% in weight) offer an invaluable opportunity for diagnostic testing, forging the frontier of maternal-fetal medicine. Clinical trends claim for greater and more sophisticated laboratory support and expertise in the diagnosis and investigation of infertility in women, as well as in the prediction of adverse pregnancy outcomes, particularly in the diagnostic and prognostic approach of preterm premature rupture of membranes. Moreover, as the field of fetal surgery advances, the issues of prenatal screening for chromosomal anomalies and neonatal screening for metabolic diseases both merit a wider armamentarium of laboratory tests and techniques. Recent and future developments, such as the fetal nucleic acid analysis in maternal blood create unpredicted and appealing opportunities but also raise ethical issues, including the non-clinical application of these technologies for early determination of fetal gender and paternity testing, carrying some potential shortcomings (e.g., the lack of appropriate informed consent when such tests are performed) (1).

This issue of Clinical Chemistry and Laboratory Medicine (CCLM) contains several articles based on contributions presented at the 2nd IFCC Ortho Clinical Diagnostics (OCD) Conference entitled “Disease and the clinical laboratory pregnancy related disorders: present perspectives and emerging challenges”, a congress organized to provide an overview of the present and future trends in this area. The conference was held in Paris on February 25–26, 2011 (2).

This journal has already been willingly emphasized the clinical and laboratory relevance of pregnancy-related disorders in laboratory medicine with a series of articles dealing with biomarkers in preeclampsia and pregnancy-related disorders (3–8), and by highlighting recent advances in technologies and guidelines for prenatal screening (9–12).

As the knowledge of developmental biochemistry and the establishment of reference fetal values is a prerequisite for laboratory data interpretation, I would like to point out that CCLM has been strongly committed to publishing articles dealing with reference values in general (13, 14) and also reference values in fetal blood and in pregnancy for many years (15–17). Furthermore, it will continue to support research and publications in the field.

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References


Mario Plebani
Department of Laboratory Medicine,
University-Hospital of Padova, Padova, Italy

Corresponding author: Mario Plebani, Department of Laboratory Medicine, University-Hospital of Padova, Via Giustiniani 2, 35128 Padova, Italy
Phone: +39 49 8212792, Fax: +39 49 663240,
E-mail: mario.plebani@unipd.it