

Second trimester maternal Quad biochemical screen and uterine artery Doppler for impaired placentation and placenta related adverse obstetric outcomes

More than 15% of pregnancies are affected by placenta related adverse obstetrical outcomes necessitating uterine artery Doppler to screen for impaired placentation. Uterine artery Doppler is an essential component in determining which patients would best benefit from aspirin treatment and in establishing risk for stillbirth.

Placental dysfunction - due to vascular and/or inflammatory pathophysiology - are considered to be the primary or significant contributor to The Great Obstetrical Syndromes, namely, preterm labor, preterm prelabor rupture of membranes, fetal demise, preeclampsia, and intrauterine growth restriction. These pregnancy complications may be responsible for both short- and long-term health outcomes.

*Female Reproductive Dysfunction. Mastrolia. Endocrinology. 2020.

*Toward a new taxonomy of obstetrical disease: improved performance of maternal blood markers for the great obstetrical syndromes when classified according to placental pathology. Romero. AJOG. Oct 2022.

Maternal serum quad biochemical screen evaluating - not for aneuploidy risk - but for additional extreme biochemical alterations of placental origin. Multiplicity of extreme biochemical analyte trendings is additive to increasing risk for placenta-related adverse obstetric outcomes.

*Krantz. Maternal serum screening markers and adverse outcome: a new perspective. J. Clin. Med. 2014, 3, 693-712.

*Obstetrical complications associated with abnormal maternal serum markers analytes. JOGC. No. 217, Oct 2008.

*Roman. Maternal serum analytes as predictors of IUGR with different degrees of placental vascular dysfunction. Prenatal Diagnosis. July 2014. p692-698.

*Dugoff. Quad screen as a predictor of adverse pregnancy outcome. Obstet Gynecol 2005;106:260-267.

*Dreux. Second-trimester maternal serum markers and placenta accreta. Prenatal Diagnosis 2012;32:1010-1012