5. DIAGNOSIS OF FETAL GROWTH RESTRICTION

Author: Iuțis Vlada; **Co-author**: Catrinici Rodica

Scientific advisor: Catrinici Rodica, MD, Associate Professor, Obstetrics, Gynaecology and Human Reproduction Discipline, Obstetrics and Gynaecology Department, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

Introduction. The prevalence of intrauterine fetal growth restriction continues to rise with an increased risk of perinatal mortality and morbidity. Accurate recognition of Intrauterine Growth Restriction (IUGR) holds significant importance since it allows for targeted management.

Aim of study. The purpose of the study is to highlight warning criteria in diagnosing IUGR and to achieve an early diagnosis for appropriate management.

Methods and materials. There were used international databases: PubMed, sciencedirect, Medscape, and have been analyzed publications from the past 10 years.

Results. Detecting IUGR during pregnancy is crucial for reducing mortality and morbidity risks. It typically starts with clinical suspicion, examining for a than expected uterine size, abdominal palpation, and measuring the symphyseal-fundal distance. Doppler velocimetry plays a significant role in distinguishing between a fetus that is SGA (small for gestational age) yet healthy and one with true IUGR. Monitoring pregnancies affected by fetal growth restriction (FGR) using umbilical artery (UA) Doppler has demonstrated a reduction in mortality rates and decreased instances of antepartum admissions, labor induction, and Caesarean deliveries. The fetal biophysical profile (BPP) encompasses various measurements, including amniotic fluid volume, fetal tone, movements, breathing, and fetal heart rate monitoring (NST), each parameter receiving a maximum of two points for a total of ten points when within normal limits. Additionally, multiple biomarkers have been studied for screening and diagnosing FGR, such as PAPP-A, hCG, PlGF, and sFlt-1. Gaccioli et al. summarized the predictive accuracy of maternal circulating biomarkers for FGR, encompassing early onset biomarkers, angiogenic factors, hormonal factors, endothelial stress markers, and cytokines. Combining Doppler assessments with angiogenic factors has shown potential in enhancing the prediction of FGR.

Conclusion. It's essential to assess high-risk factors for FGR in every pregnancy. Precise diagnosis involves utilizing serial growth charts, DFMC (symphysis-fundal height measurement), CTG (fetal heart rate monitoring), and Doppler studies of various arteries like uterine, umbilical, middle cerebral, CPR (cerebroplacental ratio), and ductus venosus blood flow. These tests aid in distinguishing between healthy SGA babies and those with pathological FGR, offering valuable insights into prognosis.

Keywords. Ultrasonography; IUGR; Cerebroplacental ratio; Placental insufficiency