

## FETAL HAEMODINAMIC AND NEONATAL CEREBRAL CIRCULATION IN MATERNAL THREATENED PRETERM LABOR

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**Background and aims:** The improvement of practical approach to cerebral hemodynamic disturbances in neonates starting from fetal period is important for prevent of hypoxic encephalopathy.

**Methods:** Prospective investigation of fetal and cerebral neonatal circulation was preformed on 36 neonates: I group - 13 infants with physiologic course maternal pregnancy and 20 ones - with maternal threatened preterm labor. Mean age of fetal circulation investigation was  $34.1 \pm 4.0$  weeks.

**Results:** The statistically significant difference (Mann-Whitney U Test) were at medial cerebral artery (MCA): V max 47 cm/s (I) and 42.8 cm/s (II) [ $p=0.022$ ]; Vmin 15.8 cm/s (I) and 12.6 cm/s (II) [ $p=0,000$ ]. After birth in II group infants the resistance index (RI) in MCA was high 0.68(I) and 0.73(II) [ $p=0,008$ ]. The nonparametric Spearman correlation for highlighting p-level  $< 0.05$  has shown a positive relation between Vmax umbilical artery and Vmin, Vmax, and IR in MCA in neonate ( $R=0.34$ ).

**Conclusions:** We conclude that infants with maternal threatened preterm labor mothers have decreasing of cerebral hemodynamic speeds since intrauterine period. There is a relation between umbilical flow and cerebral circulation before and after birth.