THE CEREBRAL HEMODYNAMIC CHARACTERISTICS IN NEWBORNS WITH HYPOXIA DUE TO INTRAPARTUM ASPHYXIA

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***Objective**: Studying cerebral hemodynamics in infants born with intrapartum asphyxia*

Materials and methods.

This study aimed to investigate the cerebral hemodynamics in infants born with intrapartum asphyxia. Two groups were established for examination: I. Group I consisted of 22 healthy newborns. II. Group II included 37 newborns who experienced intrapartum asphyxia.

Demographics:

Regarding gender distribution among the infants, 37% were male, and 63% were female. Causes of intrapartum asphyxia. The causes of intrapartum asphyxia in this group were as follows:severe anemia (8%);prolonged rupture of membranes (10%)severe preeclampsia (16%);umbilical cord compression (20%);late toxemia (10%);fever (3%);abnormal fetal presentation (5%);ascites and anasarca (17%);extracorporeal resuscitation and high-risk pregnancy (3%);oligohydramnios (5%);low placental attachment (3%). Distribution of infant weight. Infant weight distribution was as follows:≤ 1000 grams: 9%;1000 - 1499 grams: 13%;1500 - 2499 grams: 43%;2500 - 3999 grams: 32%;≥ 4000 grams: 3%. Apgar scores at birth. Apgar scores at birth were distributed as follows: 0-3 points: 19%;4-5 points: 52%;6-7 points: 19%;8-10 points: 10%. Cerebral hemodynamics analysis. Ultrasound and Doppler examinations were conducted to analyze the cerebral hemodynamics in healthy and asphyxiated newborns. Significant differences were found in the following parameters. Resistance index of the anterior cerebral artery (R-ACA): Healthy infants - 0.680±0.006, Asphyxiated infants - 0.81±0.04 (P≤0.001).

Conclusion. In conclusion, when studying cerebral hemodynamics in newborns born with intrapartum asphyxia using ultrasound and Doppler examinations, significant changes were observed in the resistance indices of the anterior and middle cerebral arteries, as well as the blood flow velocity in the Galen vein.