

NEONATAL HYPOXIC ISHEMIC ENCEPHALOPATHY, PERINATAL RISK FACTORS AND OUTCOMES

D. Fidanovski¹, R. Muratovska¹, T. Baevska-Vuckovic², M. Zip³

¹*Intensive Care Unit, Pediatric Clinic* ²*Department of Pediatrics, Health Unit*

³*Special Hospital for Gynecology and Obstetrics, Skopje, Macedonia*
radica@ukimedu.mk

Aim: To investigate the relationship between prenatal and perinatal risk factors and hypoxic ischemic encephalopathy (HIE) in newborn infants with perinatal asphyxia and their short term outcomes.

Materials and methods: A retrospective study of 52 newborn infants, 24 (46%) premature and 29 (54.7%) term, with perinatal asphyxia admitted to the Neonatal Intensive Care Units at two institutions of third level in 2002 is described. The asphyxia was defined by the 1-minute Apgar score <7 and at least two organ system dysfunction.

Results: Forty-nine percent had respiratory dysfunction, 9.4 % renal dysfunction, 15% cardiac dysfunction, 35.8% liver dysfunction and 58.5% HIE. Severe encephalopathy (HIE grade II and III) was found in 23 (74.2%), and mild encephalopathy (HIE grade I) in 8 (26%) newborns. Birth weight and gestation were significantly greater in asphyctic newborns with HIE compared to those without HIE. Significantly greater risk for HIE was found in newborns with umbilical artery pH<7 (RR 3; 0.46-19.6 95% CI, p=0.1) and BE>-15 (RR 3.77; 0.57-24.8 95% CI, p=0.09). Brain ultrasound changes, on 7th postnatal days, was greater in newborns with encephalopathy (66.6% vs 30%, p=0.05). Also the percentage of neurological dysfunction at discharge was significantly greater in newborns with HIE (19.3% vs 4.3%, p=0.05). There was no significant difference between two groups, according to survival till discharging from hospital (83.8% vs 78.2%).

Conclusions: Infants with severe umbilical acidemia, greater birth weight and gestation can be separated with regard to risk of hypoxic ischemic encephalopathy and abnormal neurologic short term outcomes.

