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OXIDATIVE STRESS AND NEONATAL ACUTE KIDNEY INJURY

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Neonatal acute kidney injury (AKI) is a frequent consequence of hypoxic encephalopathy (HE) and is associated with worse outcomes. Oxidative stress (OS) is the main factor responsible for the development of typical infant diseases, including both HE and AKI (Cavallin F. Et al., 2020; Lembro C. Et al., 2021).

The objective of this research is to study different components of pro-oxidant system and antioxidant defense system in full-term critically ill newborns without and with AKI.

Sixty six full-term critically ill neonates were selected for this prospective study. The first group included 36 neonates without AKI, the second group included 30 neonates with AKI. The definition of AKI proposed by Jetton and Askenazi based on the Neonatal Acute Kidney Injury classification was used: increase of SCr by 0.3 mg/dl (25.6 μ mol/l) or by 150-200% from the previous value and/or level of urine output less than 0.5 ml/kg/h for 6 to 12 hours.

The level of oxidative modification of proteins (OMP) and concentration of malonic dialdehyde (MDA) in erythrocytes as pro-oxidant markers were established. The concentration of