NEWBORN WITH INTRAUTERINE GROWTH RESTRICTION: ASSESSMENT OF PLASMATIC ERYTHROPOIETIN AND EARLY OUTCOMES

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Introduction: The plasmatic level of EPO (erythropoietin) is high in the umbilical cord when oxygen supply is affected.

Aim: This study aimed to present the level of plasmatic EPO at birth as well as early complications occurred in newborns with Intrauterine Growth Restriction (IUGR).

Material and methods: A prospective study was done on 33 newborns in Neonatology Department ,Cluj, Romania between January 2008 - 2009(case group) and 32 healthy newborns(control group). The plasmatic level of EPO was determined with Elisa technique.

The following parameters were assessing for both groups: Apgar score, Astrup parameters, post asphyxia syndrome and the perinatal pathology. Epi Info 6 was used for statistical analysis.

Results: The study group had the weight of 1747.57 ± 728.31 g, ponderal index of 1.91 ± 0.37 and gestational age of 33.45 ± 4.29 weeks.

The EPO values were significant higher 56.49 ± 7.80 mUI/ml in the study group versus control group 42.45 ± 17.53 mUI/ml ($p = 0.0001$). The EPO was significantly higher also for those who developed meconium aspiration syndrome (76.72 ± 1199 mUI/ml) compared to those who developed NTT (neonatal transient tachypnea)- 23.60 ± 0.28 mUI/ml ($p = 0.004$); and it was higher in those who needed inotrop support- 111.05 ± 49.14 mUI/ml compare with hemodynamic stable newborns- 46.52 ± 52.11 mUI/ml ($p = 0.017$).

There could not be identified any significant differences between the EPO values of those who developed other complications (hypoxic-ischemic encephalopathy, infection or cerebral hemorrhage) ($p = 0.398$).

Conclusions: The plasmatic level of the EPO was significantly high in newborn who developed a severe respiratory pathology and were hemodynamic unstable.

There could not be identify any link between plasmatic level of EPO and HIE, sepsis, or cerebral hemorrhage.