Conclusion: These results suggest that exposure to toxic metals and trace elements at toxic levels are among the risk factors for prematurity.

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THE EFFECT OF EARLY PARENTERAL AMINO ACIDS, ON GROWTH AND NEURODEVELOPMENTAL OF VERY LOW BIRTH WEIGHT INFANTS

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Aim: To assess the effect of early parenteral amino acids, on growth and neurodevelopment of very low birth weight infants at 36 weeks' postmenstrual age and 18 months' corrected age.

Methods: Infants who received ≥ 3 gr/kg per day of parenteral amino acids within the first 5 days of life were considered early group; those infants who did not receive a minimum of 3 gr/kg per day on any single day within the first 5 days of life were considered late group. Infants' weight, length and head circumference measured at 36 weeks' of postmenstrual age and 18 months' of corrected age. Neurodevelopmental index was evaluated by "Bayley Scales of Infant Development".

Results: There were no statistically differences between the early and late amino acid groups in baseline characteristics; except birth weight. At 36 weeks' postmenstrual age and 18 months' corrected age, there were no statistically differences in weight, length and head circumference between the two groups. In the early group, female babies had bigger head circumference than male babies at 36 weeks' postmenstrual age and 18 months' corrected age. There were no other observed differences among boys or girls. There were no differences between two groups for neurodevelopmental impairment by Bayley mental and psychomotor developmental index.

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THE EFFECT OF HEAVY METALS AND TRACE ELEMENTS IN THE MECONIUMS ON GROWTH

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Many studies suggest an association between heavy metals in blood or placenta and growth. However, there have been no studies that show an association between growth and exposure to trace elements at toxic levels in meconium. Meconium is a matrix that can be obtained easily and noninvasively and is representative of a wide period of exposure in the fetus during gestation. The purpose of this study is to measure the levels of heavy metals (lead, cadmium) and trace elements (zinc, iron, copper) in meconium samples in the industrial city of Kocaeli and to understand their associations with birth weight, birth height and head circumference.

Metal and trace element levels in the meconiums were measured with a flame atomic absorption spectrophotometer.

The metal levels in meconiums were higher in the small gestational age (SGA) group compared to the appropriate gestational age group. In the regression analysis, it was shown that meconium metal levels were among the risk factors for SGA, low birth weight, short birth height and low head circumference.

These results suggest that exposure to heavy metals and trace elements at higher levels are among the risk factors for short birth height, low head circumference and low birth weight.

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NECROTIZING ENTEROCOLITIS IN ASSOCIATION WITH PATENT DUCTUS ARTERIOSIS AND FEEDING INITIATION

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Background: Necrotizing enterocolitis (NEC) is life-threatening multifactorial pathology in very preterm-

born infants. Patent ductus arteriosus (PDA) and pharmacological PDA treatment may jeopardize blood flow to the mesenteric vascular bed and therefore, increase risk of NEC. The role of enteral feedings during treatment for PDA is still unclear. The goal is to identify the role of feeding prior to and during the PDA treatment in development of clinical NEC.

Methods: The medical charts of infants admitted to the Neonatal Intensive Care Unit with PDA were reviewed to identify demographic, clinical, laboratory data, feeding pattern, ECHO results, and treatment. Data was analyzed in respect to the NEC diagnosis.

Results: Among 105 infants diagnosed with PDA, 33 with gestational age less than 30 weeks were included in the analysis. Among those 42.2% were diagnosed with clinical NEC. No difference in gestational age (26.4 $\pm$ 1.9 vs. 27.0 $\pm$ 1.7 weeks), birth weight (967 $\pm$ 314 vs. 1008 $\pm$ 336 grams), gender, race/ethnicity, maternal steroid use, mode of delivery, umbilical arterial or venal line placement, and pressor use in respect to the NEC were recorded. Majority (78.6% with NEC and 63.2% without, $P>0.05$) were treated with PGI. Almost all of infants with NEC (90.9%) and without (85.7%) were not on enteral feeding prior to and during PDA treatment. We found no difference in preterm comorbidities but higher median duration of ventilation among infants who were diagnosed with NEC.

Conclusion: In very preterm infants with PDA, treatment with PGI and enteral feeding during treatment was not associated with development of NEC.

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SEASONAL NATURE OF NEONATAL JAUNDICE

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Empirical neonatological experience suggests, that prevalence and degree of neonatal jaundice might be dependent on seasonal variation, mainly due to the sunshine duration. However, evidence-based data on this issue are scarce. Thus, the aim of this study was to provide analysis of differences in the incidence of neonatal hyperbilirubinemia and

frequency of phototherapy during summer and winter time.

We compared two groups of consecutive healthy, term neonates without AB0 and/or Rh incompatibility born in June ($n = 286$) and December 2008 ($n = 279$), respectively.

Surprisingly, compared to winter time hyperbilirubinemia $>205[U1]$ $\mu\text{mol/l}$ was higher in summer (27.5 vs 22.9%, $p\text{-value} < 0.05$). Simultaneously, the frequency of phototherapy was higher during summer (14.3 vs 10.0%, $p\text{-value} < 0.05$).

We did not observe any influence of sunshine on the incidence of hyperbilirubinemia of neonates. The main reason for even higher neonatal jaundice during summer month might be a multifactorial cause of neonatal jaundice, which makes it persistent neonatological challenge.

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RISK ASSESSMENT IN NEWBORNS BASED ON THE WEIGHT/LENGTH RELATIONSHIP

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Objective: To check relationship between newborns (NB) classification based on weight/length index (I) and the weight/gestational age adequacy.

Method: A retrospective cross study by record assessment was carried out, where the NB weight (g) was divided by length (cm) for all NB discharged from hospital from September to December, 2009 ($N=566$). The 10 and 90 percentiles of the indices distribution were calculated leading to the following classification: small index (SI) for NB below 54.8 g/cm, large index (LI) for those over 75.8 g/cm and average index (AI) for the remaining NB. It was checked the relationship between these indices and the weight/gestational age adequacy with the following classifications: pre-term for gestational age (PTGA), small pre-term (SPTGA), appropriate term (ATGA) and large term (GTGA). There were no large pre-term or post-term NB. Major affections were related to the index and adequacy extracts.

Results: A significant association was found between SI with PTGA and SPTGA, between AI