

1314 EFFECT OF BLOOD TRANSFUSION ON LIPID PEROXIDATION PRODUCTS IN SICK NEONATES - AN EXPLORATORY STUDY

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Background and Aims Preterm neonates have lower anti oxidant defense system and repeated blood transfusion may further increase the oxidative stress specially in sick preterm neonates. The aim was to assess the effect of blood transfusion on lipid peroxidation product Malondialdehyde (MDA) in sick neonates.

Methods This was an exploratory study in a Level III neonatal unit in which 50 consecutive sick neonates of ≤ 34 weeks gestation were enrolled who received blood transfusion till day 28. Primary outcomes were

1. Pre and post transfusion blood and Urine MDA and
2. Pre transfusion SOD and Catalase. Secondary outcome was Pretransfusion MDA and antioxidant enzymes in various neonatal morbidities.

Results The mean birth weight and gestational age were 1416 ± 219 grams and 29.9 ± 2.5 weeks respectively. The pre transfusion blood and urine MDA were 4.2 ± 1.2 nmol/ml and 6.96 ± 3.7 nmol/ml respectively. These levels increased significantly from baseline after each transfusion. Base line MDA was higher ($p=0.032$) and SOD ($p=0.02$) and Catalase ($p=0.00$) were significantly lower in babies < 30 wks gestation.

Pre transfusion Blood MDA levels were significantly higher ($p=0.00$) in the babies who had IVH and BPD while urine MDA was significantly high in BPD babies. SOD and Catalase levels were significantly ($p=0.00$) lower in babies who developed BPD.

Conclusion Baseline oxidant levels are higher and anti-oxidant enzymes are lower in < 30 weeks gestation babies and in those who developed BPD and IVH. Blood transfusion further increases lipid peroxidation products.

1315 MATERNAL PREFERENCES WITH REGARD TO INDOMETHACIN PROPHYLAXIS VS TREATMENT OPTIONS IN PRETERM INFANTS

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Background Indomethacin prophylaxis reduces important short term outcomes in ELBW infants, however with no effect on BPD or long term neurosensory impairment. Neonatologists are diverse with regard to the utilization of a prophylactic versus treatment strategies in the management of high risk ELBW infants.

Objectives To elicit maternal preferences with regard to indomethacin prophylaxis versus treatment options in ELBW infants utilizing a decision aid tool.

Methods Pregnant women at 23–28 weeks gestation, women of high risk pregnancy and mothers of admitted ELBW infants were enrolled. A computer based interactive decision aid (DA) tool was utilized during interviews. In the first part, the DA provided information with regard to prematurity and various morbidities affecting the preterm infants, then detailed information of pros and cons and prophylactic versus treatment options. In the second part, it coached participants in clarifying values and preferences.

Results Two hundred ninety nine participants were enrolled. Of those; 75% were pregnant women at 23 to 28 weeks, 19% were pregnant of high risk pregnancy and 6% recently had an ELBW infant. 82% of enrolled women preferred a prophylactic indomethacin strategy versus treatment in the management of their infants. When asked about their values, the occurrence of IVH was rated

lowest among all other neonatal morbidities affecting the preterm infant.

Conclusion In contrast to neonatal practitioners, mothers strongly preferred an indomethacin prophylactic strategy in the management of preterm infants.

1316 DIAGNOSTIC ROLE OF CALPROTECTIN IN NEWBORNS

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Introduction Calprotectin is a member of the S100 protein family binding calcium and zinc and has been demonstrated as one of the most sensitive marker of the intestinal inflammation. It is secreted into the faeces by neutrophil granulocytes and can non-invasively be monitored neonatal infectious disease.

Background and Aims Determining the physiological age-related changes of calprotectin level in faeces and describing the measured values in pathological conditions. Exploring the influential factors of the calprotectin concentration and establishing a reference value regarding neonatal intestinal diseases.

Methods 106 stool samples were collected from 66 newborn (51/15: mature/premature) in the University of Pécs followed by calprotectin determination performed by ELISA. Throughout the study, the calprotectin content of the normal meconium was monitored and data were processed retrospectively.

Results The faecal calprotectin concentration of mature infants is many times higher than the literature indicated four year reference value. This biomarker level showed typical changes during the first week of life (median: 286.94 ug/g). Lower calprotectin levels were found in infants whose physiological weight loss had stopped in the first three days. Furthermore, changes in calprotectin level occurred later after caesarean section than after vaginal delivery and higher concentrations were found in infants after breast-feeding compared to formula-feeding. Moreover, high calprotectin levels (646.2 and 1243.2 ug/g) had been detected before manifestation of symptoms in two lethal necrotizing enterocolitis associated cases.

Conclusions Determination of faecal calprotectin is considered as a useful prognostic biomarker in premature infants showing symptoms, such as intestinal distress or general infection.

1317 ARM FUNCTIONS IN CHILDREN WITH A CONSERVATIVELY TREATED OBSTETRIC BRACHIAL PLEXUS PALSY

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Aim To determine whether conservative treatment of children with Obstetric Plexus Brachialis Palsy (OBPP) results in restrictions of activities, participation and body functions and structure.

Method 22 children, born with OBPP were examined at the age of 4 till 17 years. The *activity level* is assessed by the Movement Assessment Battery for Children-2 (M-ABC 2) and the Bruininks-Oseretsky Test of Motor Proficiency, Second Edition (BOT-2). For the Body functions and structure, the muscle strength is measured by the Hand Held Dynamometer (HHD) and the joint mobility by goniometry and the Stenvers tests. In addition the scapula position is observed. The Participation is documented by Children's Assessment of Participation and Enjoyment (CAPE).

Results Concerning the body functions and structure we found differences between the arms in joint mobility and muscle strength. 45.5% of the children have a medio-rotation of the scapula. These