CEREBRAL COLOUR DOPPLER IN PRETERM INFANTS

[1]B Vasiljevic, [1]O Antonovic, [2]M Gojnic. *[1]Department of Neonatology, Institute of Gynecology and Obsterics, Clinical Centre of Serbia, Belgrade, Serbia; [2]Department of Gynecology, Institute of Gynecology and Obsterics, Clinical Centre of Serbia, Belgrade, Serbia*

Objective: The use of colour Doppler imaging allowing simultaneous examination of parenchymal and vascular cerebral structures. The evaluation of blood flow velocities in cerebral arteries is important in the assessment of cerebral circulation in hypoxicischaemic–haemorrhagic damage. The aim of this study is to estimate normal values of cerebral blood flow velocities (CBFV) and Doppler indices (PI and RI) in cerebral arteries (ACA) during the first 3 weeks of life in preterm infants.
Methods: CBFV, PI and RI were obtained at 1, 3, 7, 14 and 21 days of life with colour Doppler technique in 50 preterm infants divided into three groups of gestational age $\leqslant$28; 29–32; 33–36 weeks. Preterm infants with congenital malformations, cerebral haemorrhagic lesions, diastolic arterial pressure or hypotension were excluded.
Results: The mean gestational age of infants was 32.5 $\pm$ 3.5 weeks (range 25–36) and mean body weight was 1540 $\pm$ 950 g (range 750–2800). In the first group of 10 infants, $\leqslant$28 weeks the body weight was 950 $\pm$ 110 g and RI–ACA was 0.75 $\pm$ 0.13 and PI–ACA was 1.56 $\pm$ 0.34. In the second group of 20 infants, 29–32 weeks the body weight was 1350 $\pm$ 290 g and RI–ACA was 0.80 $\pm$ 0.12 and PI–ACA was 1.65 $\pm$ 0.35. In the thirrd group of 20 infants, 33–36 weeks the body weight was 1950 $\pm$ 750 g and RI–ACA was 0.85 $\pm$ 0.15 and PI–ACA was 1.65 $\pm$ 0.39.
Conclusions: CBFV, RI and PI progressively increase with gestational age, body weight and postnatal age.

NECROTISING ENTEROCOLITIS AFTER ADMINISTRATION OF INTRAVENOUS IMMUNOGLOBULIN IN VERY LOW BIRTH WEIGHT PRETERMS: A RETROSPECTIVE STUDY

R Viellevoye, V Rigo, J Rigo. *Neonatal Intensive Care Unit, Department of Pediatrics, CHR Citadelle, Liege, Belgium*

Background: Necrotising enterocolitis (NEC) is a major cause of mortality and morbidity in very low birth weight (VLBW) preterms. Pathogenesis remains unclear. Recently, we observed a few NEC occurring within the 48 h following prophylactic administration of intravenous immunoglobulin (IVIgG). The aim of the present study was to evaluate the influence of IVIgG administration on the incidence of NEC in our neonatal intensive care unit (NICU).
Method: Discharge letters from all infants admitted to our NICU between January 2004 and March 2007 were reviewed. Charts from infants with NEC were analysed and classified according to birth weight, gestational age, postnatal age and NEC stage. In addition, IVIgG administration was also recorded from pharmacology data.
Results: Between January 2004 and March 2007, 1711 newborns were admitted to our NICU: 241 (14%) VLBW $<$1500 g and 1470 (86%) $\geqslant$1500 g newborns. 36 NEC were observed in 26 VLBW and 10 $\geqslant$1500 g representing a relative incidence of 10.79% in VLBW and 0.68% in $\geqslant$1500 g. 273 of the 1711 newborns received at least one administration of IVIgG: 140 (58.9%) were VLBW and 133 (9.05%) $\geqslant$1500 g. 11/26 VLBW received IVIgG before the onset of NEC with eight of them in the last 48 h, suggesting that 30.8% of our NEC in VLBW infants occurred in the 48 h following IVIgG administration.
Conclusion: Our study suggests that IVIgG could play a significant role in the development of NEC in preterm infants, particularly VLBW infants, and would not be used for the prevention of nosocomial infection as suggested by the Cochrane review.