Conclusions Despite improvements in neonatal care and increased survival, CP incidence has not changed over a period of 22 years, but its quality and severity have changed.

PO-0445 NEUROBEHAVIORAL ASSESSMENT OF LATE PRETERM AND FULL-TERM INFANTS: A PRELIMINARY STUDY

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Neonatal neurobehavioral examinations describe newborn's behavioural repertoire and observable responses to environmental stimulus.

This study aimed to evaluate the neurobehavioral of healthy late preterm and full-term infants using Neonatal Neurobehavioral Assessment Preterm Infant (NAPI). We hypothesised that NAPI can detect neurobehavioral differences between healthy late preterm and full-term infant.

In this prospective cross-sectional study, infants born with 36 weeks gestational age (GA) (6 days) and 37 weeks GA (6 days) in a tertiary health care institution of São Paulo state, Brazil were assessed 24 h after birth, using NAPI. Newborns with malformations, genetics syndromes, neurological impairment, infections and ventilation assistance were excluded. NAPI was conducted only by one expert examiner, in the same place, and always one hour before feeding. The study was approved by the Ethics Committee and all mothers assigned the informed consent form. For the preliminary analysis was considered $p \leq 0,05$.

Twenty babies (age: 36,5 ± 0,6; birth weight: 2,764 ± 558,16; gender: 70% male and 30% female) had the scores compared by age (36/37 weeks GA) not showing significantly difference: scarf sign ($p = 0,685$), motor and vigour development ($p = 0,758$), popliteal angle ($p = 0,712$), alertness and orientation ($p = 0,939$), irritability (0,816), cry quality ($p = 0,669$) and percent asleep ($p = 0,248$). In this preliminary study we verified that neurobehavioral performances are similar, suggesting that for this population NAPI is not sensitive to detect subtle changes. However, more patients need to be included to confirm our findings.

PO-0446 PARENTERAL NUTRITION COMPROMISES NEURODEVELOPMENT OF PRETERM PIGS

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Background and aims Advances in neonatal intensive care and nutrition support have increased survival of preterm infants, but the risk of compromised neurodevelopment is a concern. We evaluated parenteral nutrition (PN) as a heretofore unreported contributing factor to compromised neurodevelopment after preterm birth.

Methods Neurodevelopment of preterm pigs delivered at 92% of gestation (representative of 32 week preterm infants) and provided PN or enteral nutrition (EN) for 10 days was assessed by observations of motor activity, sensory and cognitive skills, brain mass, magnetic resonance imaging, and cerebellar histology. Fluid volumes, energy, and nutrients were comparable.

Results PN pigs grew slightly better than EN pigs, but had smaller brains (28 + 0.5 vs 32 + 0.6; $p = 0.009$), including the cerebellum, reduced motor activity ($p = 0.005$) and sensory responses ($p < 0.05$) that corresponded with underdeveloped myelination ($p = 0.004$) from diffusion tensor imaging. PN was associated with lower serum lipids (triglycerides, $p = 0.05$; total cholesterol, $p = 0.04$; VLDL, $p = 0.04$; HDL, $p = 0.03$; and LDL, $p = 0.09$). Differences were also detected between PN and EN for weights of the kidneys, heart, pancreas, and spleen, but not lungs.

Conclusions PN is essential for many preterm infant, and particularly those delivered earlier in gestation. The neurodevelopment delay caused by total PN independent of confounding variables (disease, inconsistent gestational ages,diverse genetics, different nutritional support and NICU protocols) is a novel and disturbing finding. The preterm pig is a translational animal model for investigating the relationship between nutrition support and neurodevelopment after preterm birth, improving PN solutions, and advancing neonatal intensive care.

PO-447 WITHDRAWN

PO-0448 CLINICAL AND ELECTROENCEPHALOGRAPHIC CHARACTERISTICS OF NEWBORN INFANTS WITH MILD HYPOXIC-ISCHAEMIC ENCEPHALOPATHY (HIE)

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Background Neonates presenting with mild HIE within the first 6 h of life have not been included in therapeutic hypothermia trials. Consequently, aEEG, biochemical features and their temporal course are ill-defined. Our objective was to examine clinical and aEEG characteristics of neonates with perinatal HIE and mild initial encephalopathy.

Methods Prospective study including term neonates with HIE admitted in our centre January 2009–July 2011. Staging of encephalopathy was done before 6 h of age according to our validated scoring system. Clinical, aEEG and biochemical findings during the first 72 of infants with mild HIE were reviewed.

Results 55 patients were included, 12 of which were categorised as mild HIE: normal alertness but with altered tone or hyper excitability. All patients underwent aEEG monitoring during a mean time of 41.4 ± 25 h and starting at 2.5 ± 2.1 h. Temporal evolution of tracings (T) is described:

0: no recording; 1: continuous normal voltage with sleep-wake cycling (SWC); 2: continuous normal voltage without SWC.

Abstract PO-0448 Table 1

T3 h	T6 h	T9 h	T12 h	T18 h	T24 h	T36 h	T48 h
0:41.2%	0:33.3%	0:33.3%	0:33.3%	0:50%	0:58%	0:75%	0:83.3%
1:58.3%	1:66.7%	1:66.7%	1:66.7%	1:50%	1:42%	1:25%	1:16.7%