

cerebral oximeter index (COx), to estimate adequacy of autoregulation. The lowest mean arterial pressure at which the COx was ^{1,2}

Results Incidence of cerebral desaturations across the patient population was 30.3%(n = 10). Very premature neonates with severe haemodynamic instabilities undergoing surgery presented greater depressions in S_cO₂. Additionally they showed evidence of impaired autoregulation compared to hemodynamically stable neonates. Incidence of loss of CA according to COx was 33% (n = 11) in this patient group.

Discussion Results obtained demonstrate that sick neonates are more prone to decreased S_cO₂. Further research, with a bigger patient population is needed to determine the incidence more accurately, and its significance and consequences for outcome of these findings.

REFERENCES

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PO-0420 WITHDRAWN

PO-0421 CRANIAL ULTRASOUND FINDINGS IN ASYMPTOMATIC FULL TERM INFANTS

¹P Mazmanyan, ¹V Kerobyan, ²K Nikoghosyan. ¹Department of Neonatology, Research Centre of Maternal and Child Health, Yerevan, Armenia; ²Department of Neonatology, Yerevan State Medical University, Yerevan, Armenia

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Background There has been no study assessing cranial ultrasound (cUS) scans in well newborn infants in Armenia. Our study objective was to assess the cUS scans of asymptomatic term newborns in postnatal ward and identify CUS abnormalities by using high quality ultrasound.

Methods Cohort of otherwise healthy term newborns born between 20 March 2013 and 26 April 2013 in RCMCHP, Yerevan, Armenia, were scanned by single investigator (PM) accordingly a standart protocol using zone ultra Convertible Ultrasound System machine with a 7.5 frequency microconvex C9–4t tightly curved array transducer.

Results Data from 121 infants scanned at a median age of 2.5 postnatal days were analysed. Mean birth weight was 3357 g (± 401), gestational age - 39.6 weeks (± 0.7), Apgar score at 1st and 5th minutes - 9, number of males - 67 (55%) and twins - 4 (3.3%). Majority of infants were born by spontaneous cephalic mode - 85%, emergency and planned C - sections were performed respectively in 7% and 8% of cases.

Only 79% of scans were considered normal. Most frequent finding was lenticulostriate vasculopathy found in nine infants

(7.4%). Isolated focal peritrigonal white matter echogenicity was seen in eight (6.6%), subependymal pseudocysts in two (1.6%), choroid plexus cysts in three (2.5%) and lateral ventricle asymmetry in four (3.3%) infants.

Conclusions We did not find any correlation between perinatal data and cUS findings. Asymptomatic term Armenian newborns in 21% of cases had abnormalities on cUS. This study can provide data for comparison with findings in sick and premature infants from similar population.

PO-0422 EVALUATION OF CEREBRAL PERFUSION IN SMALL FOR GESTATIONAL AGE NEONATES IN THE FIRST POSTNATAL WEEK USING COLOUR DOPPLER SONOGRAPHY

E Milona, P Karagianni, C Tsakalidis, G Mitsiakos, P Pratsiou, N Nikolaidis. *2nd Neonatal Departement, Aristotle University of Thessaloniki, Thessaloniki, Greece*

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Background and aims Small for gestational age neonates (SGA) living in conditions of chronic hypoxia during fetal life may develop different autoregulation mechanisms in cerebral perfusion in order to maintain oxygen delivery to the brain in comparison to appropriate for gestational age (AGA) neonates.

The aim of the current study was to estimate brain perfusion in SGA neonates during first postnatal week with the use of colour Doppler sonography.

Patients/methods Transcranial Doppler sonography from the temporal acoustic window was performed bilaterally with CX50 PHILIPS device using S8–3 transducer in the first, third and seventh day of life of SGA neonates with mean gestational age 31.6 ± 2.2w and to comparable AGA ones. Recorded parameters were Peak Systolic Velocity (PSV), End Diastolic Velocity (EDV), Mean Velocity (MV), Pulsatility Index (PI) and Resistance Index (RI) in middle cerebral artery MCA.

Results 26 SGA and 26 matched for GA control AGA neonates were prospectively enrolled with statistically significant difference in birth weight (1.201, 9 ± 369.1 vs 1.805, 3 ± 431.7, p < 0.0001), in head circumference (27.4 ± 2.8 vs 30.0 ± 2.4, p = 0.01) and haemoglobin in first postnatal day (17.7 ± 1.7 vs 15.9 ± 1.6, p < 0.0001). Fetal Doppler were pathological in 6 SGA neonates. Doppler study showed a gradual increase in PSV and MV during the first week bilaterally in both groups with statistically significant difference between them in MV in the third day (Right p = 0.017, Left p = 0.05). EDV in right MCA was also found higher in SGA neonates in the second measurement (p = 0.04). No statistically significant differences were found in the resume parameters.

Conclusion Increased brain metabolism in the first postnatal days is responsible for the observed augmentation of cerebral perfusion in order to maintain the balance between oxygen

Abstract PO-0423 Table 1 Comparison of brain oxygenation and perfusion between SGA neonates with different gestational age

	1st measurement		2nd measurement		3rd measurement	
	28–32w	32–36w	28–32w	32–36w	28–32w	32–36w
TOI right	68.34 ± 9.48	74.06 ± 7.45	72.75 ± 6.49	72.33 ± 6.60	69.97 ± 9.31	70.24 ± 8.70
TOI left	67.80 ± 8.49	73.24 ± 8.56	69.62 ± 11.37	71.32 ± 6.30	70.86 ± 7.50	71.19 ± 7.51
FTOE right	0.31 ± 0.10	0.24 ± 0.09	0.22 ± 0.07	0.27 ± 0.06	0.30 ± 0.10	0.28 ± 0.09
FTOE left	0.30 ± 0.10	0.26 ± 0.10	0.25 ± 0.12	0.27 ± 0.06	0.30 ± 0.07	0.28 ± 0.08
THI right	1.81 ± 0.81	1.18 ± 0.98	1.23 ± 0.47	1.33 ± 0.8	1.71 ± 1.13	1.22 ± 0.50
THI left	1.10 ± 0.55	1.38 ± 0.78	1.56 ± 1.05	1.36 ± 1.06	1.25 ± 0.73	1.62 ± 1.00