adult life may explain the increased risk of type 2 diabetes and cardiovascular disease in ODM. Differences related to type of maternal diabetes require further investigation.

PS-041 WITHDRAWN

PS-042 MYOKINE IRISIN IS DOWN-REGULATED IN FETAL GROWTH RESTRICTION

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Background/aim Intrauterine growth restriction (IUGR) causes adaptations that program future propensity to obesity-related metabolic diseases, partly due to mitochondrial dysfunction in skeletal muscle, which is the major site of postprandial glucose disposal. Furthermore, IUGR fetuses present with compromised thermoregulation and susceptibility to hypothermia at birth, due to diminished insulation of subcutaneous adipose tissue. Irisin has recently been introduced as a novel myokine, which induces browning of the subcutaneous adipose tissue and consequent thermogenesis, while improving glucose metabolic parameters, such as insulin sensitivity and signalling. We aimed to prospectively investigate fetal circulating irisin concentrations in IUGR versus normal pregnancies and correlate them with various perinatal factors.

Subjects and methods Plasma irisin concentrations were determined by ELISA in 50 mixed arteriovenous cord blood samples from IUGR (n = 30) and appropriate-for-gestational-age (AGA, n = 20) singleton full-term pregnancies.

Results Fetal irisin concentrations were lower in IUGR cases, compared to AGA controls (p = 0.031). No association was recorded between cord blood irisin concentrations and maternal age, parity, gestational age, delivery mode or fetal gender in both groups.

Conclusions The well-documented impaired skeletal muscle metabolism and mitochondrial dysfunction in IUGR fetuses may account for their irisin deficiency, which may be part of the fetal programming process, leading to increased susceptibility to later development of obesity and related metabolic disorders. Furthermore, irisin down-regulation may represent an additional mechanism underlying the susceptibility of IUGR infants to hypothermia at birth, by inducing less "browning" of their already diminished subcutaneous adipose tissue and consequently less non-shivering thermogenesis at birth.

PS-042a DOCOSAHEXAENOIC ACID (DHA) IS NEUROPROTECTIVE AFTER NEWBORN ASPHYXIA PROTON-MAGNETIC-RESONANCE-SPECTROSCOPY (H±-MRS) ON HYPOXIC BRAIN TISSUE IN PIGLETS

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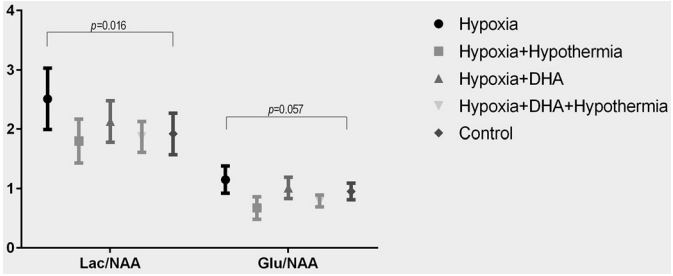

Abstract PS-042a Figure 1

Background Hypothermia is an established treatment for perinatal asphyxia. Post treatment hypothermia MRI supplemented with H±-MRS is used in clinics as the best predictor for neurodevelopmental outcome. DHA is an omega-3 fatty acid thought to modify apoptosis, inflammation and reduce lipid peroxidation in face of hypoxia. We have previously shown neuroprotective effects of DHA. The current study combines DHA and hypothermia.

Methods 54 newborn pigs (age 12–36 h) were randomised to undergo hypoxia (N=48) or not (Control, N=6). Hypoxia was achieved on fully anaesthetised, intubated piglets through FiO2 0.08 until bloodgases reached Base Excess -20 mmol/L or middle arterial blood pressure below 20 mmHg. Piglets were then block randomised to one of four groups: (1) Hypoxia, (2) Hypoxia + Hypothermia, (3) Hypoxia + DHA or (4) Hypoxia +DHA +Hypothermia. Piglets were mechanically ventilated 9,5 h post end hypoxia and then euthanized. Hippocampal brain tissue was immediately snap frozen in liquid nitrogen. H±-MRS measuring lactate (Lac) and glutamate (Glu) in relation to n-acetylaspartate (NAA) was conducted on frozen tissue. Piglets with autolysis of the brain and outliers over 2 standard deviations were removed from the analysis.

Results The only Lac/NAA ratio significantly different than control, is the hypoxia group (p = 0.016). Intervention groups show no significant changes vs controls. Group 1 vs group 3 shows a borderline significance (p = 0.073).

Conclusion Hypoxia significantly increases the Lac/NAA biomarker and intervention groups are at a pre-hypoxic control level. The pattern consists through the Glutamate group. DHA may be beneficial in neuroprotection after asphyxia.

PS-042b RESULTS OF THYROID FUNCTION TESTS IN PREMATURE INFANTS

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Thyroid hormones are critical for normal growth and neurodevelopment. Abnormalities of thyroid functions tests (TFT) are frequently seen in premature infants, physiological hypothyroxinemia being the most common (70%). Clinical and subclinical hypothyroidism is common (0.3–2.5%) in woman who are in conceptional age or pregnant. Maternal hypothyroidism is known to have an adverse impact on the developing fetus. In this study we aim to identify the rate of abnormalities of TFT, its association with morbidities and impact on long term neurodevelopment.

Material and method In this retrospective study, rate of abnormalities of TFT, its association with morbidities and neurodevelopment is investigated in 139 premature babies admitted to neonatal intensive care unit in Uludag Universitiy Medical Faculty between January 2009 and January 2012.
Results Mean gestational weeks and birth weights of infants were 31.3 ± 2.9 weeks 1667 ±707 gr. Fourty one patients (24%) had TFT abnormality, 53.6% had transient TSH elevation, 22% had primary hypothyroidism, 22% had non-thyroidal disease and 2.4% had transient hypothyroxinemia. Fourty seven percent of SGA babies and, 26% of AGA babies had TFT abnormalities, difference was not statistically significant. Most common TFT abnormality was found to be transient TSH elevation in SGA and AGA babies. Mothers of 8 patients had maternal hypothyroidism. Five of these babies (63.5%) had TFT abnormality (p = 0.049). Mean head circumference in 18 months of age in normal TFT group was 46.3 cm ± 1.6 compared to babies with abnormal TFT whose mean head circumference was 45 cm ± 2.4 at the same age, difference was statistically significant. There were no statistically significant difference between groups for antropometric values in 6, 9, 12 moths and neurodevelopmental evaluation.
Conclusion TFT abnormalities are frequent in prematüre babies and it is one of the most common causes of preventable mental retardation. In neonates, even transient hypothyroidism is associated with poor neurodevelopmental outcome, hence it must be treated urgently. As also detected in our study, maternal hypothyroidism is associated with increased neonatal hypothyroidism and these babies must be managed closely in postnatal period. Although not statistically significant, SGA babies were found to have increased rate of hypothyroidism. Further investigation with larger number of patients is necessary.

PS-042c IS LOW-DOSE COMBINED ORAL CONTRACEPTIVES USE ASSOCIATED TO LOWER BONE MINERAL CONTENT VARIATION IN ADOLESCENTS OVER A ONE-YEAR PERIOD?

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Background Low dose combined oral contraceptives (COC) can interfere in bone mass acquisition during adolescence. To evaluate bone mineral density (BMD) and bone mineral content (BMC) in female adolescents taking a standard low-dose (EE 20 µg/Desogestrel 150 µg) combination oral contraceptive (COC) over a one-year period and compare with healthy adolescents from the same age group not taking COCs.
Methods A non-randomised parallel control study with one-year follow-up. Sixty-seven adolescents from 12 to 20 years of age, divided into COC users (n = 41) taking 20 µg EE/150 µg Desogestrel and non-user controls (n = 26), were evaluated through bone densitometry examinations at baseline and 12 months later. Comparisons between groups at study start was done through the Mann-Whitney test with significance level fixed at 5% or corresponding p value; comparisons between groups at study start and 12 months later used variations in median percentages for bone mass variables.
Results COC users presented low bone mass acquisition in the lumbar spine and BMD and BMC median variations between baseline and at 12 months of 2.07% and +1.57% respectively whereas the control group presented variations of +12.16% and +16.84% for BMD and BMC, respectively, over the same period. The total body BMD and BMC presented similar evolution during the study in both groups. Statistical significance (p
Conclusion The use of a low COC dose (EE 20 µg/Desogestrel 150 µg) was associated to lower bone mass acquisition in adolescents during the study period.
Trial registration: (Register Number):RBR-5 h9b3c.

Extreme Preterm Birth

PS-043 PERINATAL FACTORS ASSOCIATED WITH SURVIVAL IN INFANTS AT THE LIMIT OF VIABILITY

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Background and aims Decisions in pregnancies at the limit of viability are usually taken primarily based on gestational age. Other factors, however, may be critical to the results. The aim of our study was to know which perinatal factors are associated with survival in neonates ≤ 26 weeks GA.
Methods Retrospective analysis of prospectively collected data. We included all inborn infants ≤ 26 weeks GA without major congenital malformations, admitted to the NICUs participating in the Spanish SEN1500 network, during the period 2004–2010. The relation of risk factors to the likelihood of survival was analysed with the Cox Proportional-Hazards Regression method.
Results During the study period 3,915 infants ≤ 26 weeks GA were born alive. Of these, 3,518 (89,9%) were "inborns". Infants who died in the delivery room and/or who had severe congenital malformations were excluded. Finally, 3,236 patients were included. After correcting for potential confounders, survival was related to the following antenatal and postnatal variables:
Conclusions GA, birth weight, female sex, antenatal steroid and single gestation are factors potentially known prenatally that are associate with a higher probability of survival. After birth, in the first 12 h after admission, the CRIB I score and the temperature

Abstract PS-043 Table 1

Variables	OR	95% CI	p
Gestational age	1.665	1,507–1,839	< 0.001
Birth weight	1.003	1,003–1,004	< 0.001
Antenatal steroids	2.805	2,270–3,467	< 0.001
Sex (male)	0.716	0,610–0,840	< 0.001
Multiple gestation	0.697	0,588–0,826	< 0.001
Admission temperature	1.397	1.222–1.597	< 0.001
CRIB score I	0.845	0.815–0.876	< 0.001