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

at admission were independently associated with differences in survival.

PS-044 NEONATAL UNIT ADMISSION VOLUME IMPACTS IN-HOSPITAL MORTALITY FOR VERY PRETERM INFANTS IN EUROPE: RESULTS FROM THE EPICE COHORT

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Background and aims Studies have shown that very preterm infants (VPTI) have higher survival when they are born in a maternity unit associated with a high volume neonatal unit. We sought to analyse the impact of nursery volume on in-hospital mortality in Europe.

Methods Data come from the EPICE (Effective Perinatal Intensive Care in Europe) project, a population-based study of VPTI born in 19 European regions over 12 months in 2012–2013. We included all live births between 24 and 31 weeks of gestation without severe congenital anomalies (n = 7383) born in 350 maternity units. Volume was defined as the number of observed admissions to the neonatal unit associated with the delivery hospital. Our outcome was death before discharge home. We assessed the impact of volume, analysed as a continuous variable, using multi-level logistic regression and considering case-mix (gestational age, sex, small for gestational age, multiple pregnancy, maternal age and parity).

Results 8% of VPTI were born in maternity units with less than 10 neonatal admissions, 8% in units with 10 to 29 admissions, 11% in units with 30 to 49 admissions, 42% in units with 50 to 99 admissions and 31% in units with ≥100 admissions. After adjustment, we found a significant linear association between volume and in-hospital mortality, with an odds ratio of 0.95 (0.91–0.98) for 20 additional admissions.

Conclusions VPTI born in maternity units associated with high volume neonatal units had better survival. Delivery in matenity units with larger neonatal units may contribute to improved outcomes in this population.

PS-045 EXPLAINING THE DIFFERENCES IN MORTALITY RATES FOR VERY PRETERM BIRTHS ACROSS EUROPE: THE EPICE STUDY

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Background Mortality rates for very preterm births (VPTBs) show wide variation across Europe. Some, of this variation can be explained by a lack of standardised data collection and reporting. Using the standardised EPICE population-based cohort of VPTBs we investigate the potential explanatory factors for the variation in the in-hospital mortality rates between 19 European study regions.

Methods All births between 22^{+0} and 31^{+6} weeks of gestational age were included in the EPICE birth cohorts in 19 regions in 11 European countries. A standardised data collection system was established in each of the regions; ascertainment was validated against birth registers. All VPTBs were followed to death or discharge home from neonatal care. Mortality rates were calculated for the total cohort (~10,000), live born infants and those admitted for neonatal care. Assessment of the potential maternal and infant explanatory factors for the variations in standardised mortality rates were investigated using multilevel logistic regression.

Results Crude in-hospital mortality rates for (i) total very preterm birth cohort 22^{+0} to 31^{+6} weeks gestation (excluding TOPs for congenital anomaly), ranged from 19.5% to 48.9% by region; (ii) all live births: 6.7–20.9% and (iii) for admissions to neonatal care: 4.9–18.3%. Following adjustment for maternal and infant characteristics the variation in these rates reduced to: total cohort 23.5–39.3%; live births 10.2–17.7% and NIC admissions 7.5–15.2%.

Conclusions Only a small proportion of the variation in the standardised mortality rates was explained by the maternal and infant characteristics. Further work will investigate variation in the timing of death.

PS-046 FIRST DAY HEART RATE CHARACTERISTICS PREDICT DEATH AND ADVERSE EVENTS IN PRETERM INFANTS

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Purpose Abnormal heart rate characteristics (HRC) of decreased variability and decelerations occur in preterm infants with sepsis and other pathologic conditions. We sought to determine whether an HRC index (HeRO score) in the first day after birth predicts death and morbidities and to compare it to an established risk index, the Score for Neonatal Acute Physiology (SNAP-II).

Methods The HRC index was analysed within 24 h of birth in 163 extremely low birth weight infants, and SNAP-II was calculated when data were available. Associations between the maximum HRC index (HRC-1), SNAP-II, and death and major morbidities were analysed using logistic regression to correct for gestational age.

Results HRC-1 was significantly associated with death, severe head ultrasound abnormalities (sHUS = grade 3–4 intraventricular haemorrhage or cystic periventricular leukomalacia), and late-onset septicemia (LOS) (Table). SNAP-II could be calculated in 122 cases (75%) and was correlated with HRC-1 ($r = 0.50$, $p < 0.0001$) and with death, sHUS, and bronchopulmonary dysplasia

Abstract PS-046 Table 1

Outcome	% with Outcome	HRC-1 p = *	SNAP p = *
Death	19%	0.009	<0.001
Severe HUS	19%	0.006	0.001
Late-onset septicemia	24%	0.049	0.714
NEC/SIP	13%	0.565	0.142
BPD	55%	0.186	0.018
Severe ROP	8%	0.555	0.204
Survival, No Morbidities	25%	0.029	0.010

** corrected for gestational age*