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 University 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. Forty 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. Forty 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 premature 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.

Extrem Preterm Birth

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 2.077% 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 l9b3c.
PS-044  NEONATAL UNIT ADMISSION VOLUME IMPACTS IN-HOSPITAL MORTALITY FOR VERY PRETERM INFANTS IN EUROPE: RESULTS FROM THE EPICE COHORT

1 Eb Lebret, 2 B Blondel, 3 J Gadzinowski, 4 M Bonet, 5 J Zeitlin, 6 Obstetrical Perinatal and Pediatric Epidemiology Research Team Center for Epidemiology and Biostatistics (U1153), INSERM, Paris, France; 7 Department of Neonatology, Poznan University of Medical Sciences, Poznan, Poland

Background and aims Studies have shown that very preterm births (VPTBs) 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 maternity 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

1 ES Draper, 2 BM Marktelov, 3 M Bonet, 4 J Zeitlin, 5 EG Epice Group, 6 Health Sciences, College of Medicine Biological Sciences and Psychology, Leicester, UK; 7 U1153 - Equipe Épide, INSERM, Paris, France; 8 U1153 - Equipe Épide, FF7 Project Group Author, Paris, France

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 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 23.3–39.3%; 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.