Background With advance in perinatal care, knowledge, experience and technology:

The outcome of the extreme preterm infants (<30 weeks gestation, and <1000 g has been upturning; King Faisal Sp. Hospital, we are lacking data for parents counseling, and bench mark for the unit.

Method Retrospective study to evaluate the short outcome experience results for extreme preterm infants whom inborn or transferred to our unit, within 2 weeks after birth, over 12 years. Infants with multiple congenital anomalies, or transferred with complications excluded.

SPSS version 20 to analyze the data collected in case report form (CRF). Several variables studied, the mortality rate and hospital stay were calculated.

Results 324 files studied 92 (28%) met inclusion criteria, 232 excluded 71%, 92 infants, (50% each males and females); All developed RDS (100) Mortality (10/92) 11%; ROP(24/92) 16%; NEC(6/92)7%; SEPSIS(40/92) 43% G-ve was 32%, G+ ve 23%; PNUMONIA(5/92)5%; PVL(3/92) 3%; BPD(16/92) 17%; IVH (17/92) 18%; MENINGITIES(2/92) 2%; PDA(85/92) 92%, 64% self closed, 9% Indomethacin, 6% ibuprofen, 21% required surgery; length of stay (LOS) mean of 64 days.

Conclusion and recommendation Results comparable to results reported by National Institute of Child Health and Human Development (NICHHD). Extreme preterm infants should be delivered or transferred within one week to a tertiary care facilities for best outcome.

PO-0637 DIABETES IN PREGNANCY AND THE RISK OF SEVERE PERINATAL COMPLICATIONS: DATA FROM THE FRENCH POPULATION IN 2011

[1]C Billionnet, [1]A Weill, [2]U Simeoni, [1]P Ricordeau, [3]F Alla, [4]S Jacqueminet, [4]A Hartemann, [5]D Mitanchez. *[1]Département d'études en Santé Publique, Caisse Nationale d'Assurance Maladie, Paris, France; [2]Service de Néonatologie UMR608 INSERM, Assistance Publique – Hôpitaux de Marseille, Marseille, France; [3]Direction Générale, Caisse Nationale d'Assurance Maladie, Paris, France; [4]Service de Diabétologie Sorbonne Universités UPMC Univ Paris 06, Hôpital Pitié Salpêtrière APHP, Paris, France; [5]Service de Néonatologie Sorbonne Universités UPMC Univ Paris 06, Hôpital Armand-Trousseau APHP, Paris, France*

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We evaluated the risks of severe perinatal complications according to the type of maternal diabetes from the French birth cohort in 2011.

Method Data were obtained from the PMSI (medical Information system program) and the SNIIRAM (inter-regimens national system of information) of the French health insurance. All the childbirths and the terminations of pregnancy (TOP) after 22 weeks were selected. The mother's diabetic status was determined by an algorithm based on the consumption of anti diabetics and hospitalisation diagnoses before and during pregnancy. An identifier in the PMSI links mothers and children, thus enabling analyses of associations between the diabetic status and complications in neonates.

Results 806 579 childbirths/TOP > 22 weeks were identified in the PMSI. Mother- child chaining was obtained for 474 614 births. In the case of type 1 and type 2 diabetes, the risk was respectively increased for the following complications (OR adjusted on mother age [95%CI]): perinatal death (2.2 [1.4–3.4] and 3.0 [2.2–4.1]), perinatal asphyxia (3.3 [2.2–5.1] and 2.5 [1.6–3.7]), respiratory distress syndrome (OR adjusted on mother age and gestational age: 2.6 [2.0–3.4] and 1.9 [1.5–2.5]), brachial plexus trauma and/or collarbone fractures in cases of vaginal delivery (8.5 [4.9–14.8] and 2.9 [1.5–5.9]), cardiac malformations (4.4 [3.0–6.5] and 3.2 [2.2–4.7]). In cases of GD, the risk was not increased for these complications compared to the population without diabetes, except for the respiratory distress syndrome (1.2 [1.1–1.3]).

Conclusion The risk of severe perinatal complications remains high in case of pregestational diabetes.

PO-0638 USEFULNESS OF CLINICAL RISK INDEX FOR BABIES, SCORE FOR NEONATAL ACUTE PHYSIOLOGY AND SNAPPE II IN PREDICTING HOSPITAL MORTALITY IN PRETERM WITH LOW BIRTH WEIGHT

M Muñoz-Garcia, MC Martínez-Padilla, L Millán-Miralles, C Santiago-Gutiérrez, J de la Cruz-Moreno. *Department of Pediatrics, Complejo Hospitalario de Jaén, Jaén, Spain*

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Currently, there is an increased rate of prematurity. The use of risk score calculators is a simple and easy tool to implement in neonatal units. The aim of our study was to evaluate the usefulness of CRIB-II, SNAP-II and SNAPPE-II scores in predicting hospital mortality in preterm infants with low birth weight.

Methods A total of 81 preterm infants with low birth weight and ≤32 weeks of gestation were evaluated. Morbidity and mortality data were recorded and CRIB-II, SNAP-II and SNAPPE-II were analysed. Discriminative value was evaluated by calculating the ROC curve.

Results The overall mortality was 17.3%. The average score CRIB-II, SNAP-II and SNAPPE-II was higher for preterm died versus those who survived (13.7 ± 4.1 vs. 5.8 ± 3.2, $p < 0.001$; 33.8 ± 16 vs. 12 ± 10, $p < 0.001$ y 52.7 ± 15.9 vs. 15.9 ± 13, $p < 0.001$, respectively). CRIB II score showed an area under the curve of 0.925 (95% CI 0.859 to 0.991), $p < 0.001$. A cut-off of 8.5 had a sensitivity 92.9% and a specificity 80.6% for predicting mortality. The SNAP-II score provided an area under the curve of 0.863 (95% CI 0.758 to 0.968) $p < 0.001$ and a cutoff of 20.5 presented a sensitivity 78.6% and a specificity 83.6%. The SNAPPE II score showed an area under the curve of 0.925 (95% CI 0.859 to 0.991), $p < 0.001$. A cutoff of 25.5 presented a sensitivity 85.7% and a specificity 82.1%. The correlation was higher for CRIB-II and SNAPPE-II, $r = 0.766$, $p = 0.001$.

Conclusions The use of SNAP-II, SNAPPE-II and CRIB-II scores has a high ability to predict neonatal hospital mortality.

PO-0639 IMPACT OF NEONATAL MORBIDITIES ON CLINICAL OUTCOME AND PREDICTORS OF MORTALITY IN PRETERM INFANTS WITH LOW BIRTH WEIGH

M Muñoz-Garcia, L Millán-Miralles, C Santiago-Gutiérrez, MC Martínez-Padilla, J de la Cruz-Moreno. *Department of Pediatrics, Complejo Hospitalario de Jaén, Jaén, Spain*

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Background Advances in perinatal care have made it possible to improve survival of infants with low birth weight. The aims of

this study were to analyse the clinical impact of morbidities and to identify predictors of in-hospital mortality in preterm infants with low birth weight.
Methods Between January-2011 and November-2012 were included 81 preterm infants at our centre with low birth weight or ≤ 32 weeks gestation. Perinatal variables were included in risk factor analysis. Data are expressed as gestational age (GA) <28 or between 28–32 weeks and birth weight defined as: low <2500 grams, very low 1000–1500 grams and extremely <1000 g. Results: The mean GA was 29 ± 2 (23–32 weeks) and mean birth weight was 1230.8 ± 368 (510–2000 g). The neonatal mortality rate was 17.3%. Preterm infants who died had lower birth weight than were alive, 797 ± 249 vs. 1332 ± 315, p < 0,001. The overall incidence of respiratory distress syndrome was 86.3%, septicaemia 24.7%, neurological damage 18.5% and necrotizing enterocolitis was 7.4%. The SNAP II, SNAPPE II and CRIB II scores showed a high discriminatory power for predicting hospital mortality, ROC area 0.863, 0.925 and 0.925, p < 0.001, respectively. Multivariate analysis of predictors of in-hospital mortality were necrotizing enterocolitis, risk scores, low 5-min Apgar score, inotropic support, and protectors were: the absence of intraventricular haemorrhage, cardiopulmonary resuscitation and increased GA.
Conclusion The survival in preterm infants in addition of GA or birth weight, it depends on the presence of morbidities. The use of risk scores on admission is useful for prediction in-hospital mortality.

PO-0640 CLINICAL IMPACT OF MATERNAL CHARACTERISTICS IN PRETERM INFANTS WITH LOW BIRTH WEIGHT

M Muñoz-Garcia, G Viedma-Chamorro, C Santiago-Gutiérrez, MC Martínez-Padilla, J de la Cruz-Moreno. *Department of Pediatrics, Complejo Hospitalario de Jaén, Jaén, Spain*

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Maternal risk factors can cause prematurity. The aim of our study was to analyse the impact of maternal characteristics in preterm low birth weight.
Methods A retrospective cohort study of a total of 81 preterm infants at our centre with low birth weight and ≤32 weeks of gestation was performed. We analysed perinatal risk factors. Data are expressed as a function of gestational age (GA) <28 or between 28–32 weeks and birth weight defined as: extremely <1000 g, very low 1001–1500 g and low weight 1501–2000 g.
Results The mean maternal age was 30.3 ± 5.8 years. There were no statistically significant differences when comparing maternal age in according to birth weight (29.2 ± 5.7 vs. 31.5 ± 6.6 vs. 30.2 ± 4.6, p = 0.460 respectively) or gestational age (30.4 ± 5 vs. 30.3 ± 6, p = 0.964). The presence of maternal risk factors was very low: 3.7% were smokers, 2.5% had obesity. There were preeclampsia and diabetes gestational in 5 and 3 cases, respectively. Chorioamnionitis was diagnosed in 13.6% of pregnancies and 71.3% received antenatal steroids. The pregnancy was twins in 29.6% of cases. No significant differences were found when perinatal characteristics were examined in terms of birth weight, except for gestational diabetes (0% vs. 0% vs. 13.6% in low birth, p = 0,016). Maternal age did not influence in neonatal mortality (30.2 ± 5 years in preterm infants living vs. 30.7 ± 6 years in those died, p = 0.784.
Conclusions In our series, the presence of maternal risk factors was very low. We were not found significant differences in according to birth weight or impact on neonatal mortality.

PO-0641 PAEDIATRIC SUBGLOTTIC CYSTS : RISK FACTORS AND PREVENTION – CASE CONTROL STUDY

[1]CH Ng, [2]JM Wood, [3]S Rao, [2]S Vijayasekaran. *[1]Paediatric Medicine, Princess Margaret Hospital for Children, Perth, Australia; [2]Otorhinolaryngology, Princess Margaret Hospital for Children, Perth, Australia; [3]Neonatal and Perinatal Medicine, Princess Margaret Hospital for Children, Perth, Australia*

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Background Subglottic cysts (SGCs) are a rare, but important cause of stridor in children. They can cause significant upper airway obstruction, with potentially lethal consequences, particularly when exacerbated by upper respiratory tract infection. Although seen typically in pre-term infants, there is a paucity of literature regarding their aetiology.
Aim To examine the background characteristics and to determine any risk factors in paediatric patients with SGCs.
Methods A retrospective case control study was conducted, reviewing reports of all laryngotracheobronchoscopies (LTB) conducted in a tertiary paediatric hospital, between January 2009 and 2014. SGCs were identified in 15 patients from the 1095 LTBs performed. Cases were matched to controls based on gestational age at birth, birth weight and age. Medical records of cases and controls were reviewed to identify possible risk factors.
Results Of the 15 patients with SGCs, 14 were born prematurely. All of the patients with SGCs had been ventilated, and 13 of the 15 controls were ventilated. Overall time of ventilation and frequency of re-intubations were similar between the two groups, however SGCs patients had significantly higher frequency of ETT suctioning conducted during period of ventilation.
Conclusion This study demonstrated an association of SGCs in the pre-term infants with previous intubation. SGCs were more prevalent in infants that required more frequent suctioning. Consequently it is likely that infants with repeated or multiple manipulations of the airway may be at higher risk for developing SGCs and should be followed up closely to avoid potential life threatening complications.

PO-0642 NEURODEVELOPMENTAL OUTCOMES OF VLBW CHILDREN AT 6–8 YEARS OF AGE

P Nuntnarumit, J Intachumpoo. *Department of Pediatrics, Faculty of Medicine Ramathibodi Hospital Mahidol University, Bangkok, Thailand*

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Background There is growing awareness that the majority of nondisabled survivors encounter more "subtle" problems such as academic under achievement, behavioural problems, and deficits in executive functions.
Objective To compare gross motor function,cognitive function, academic competence and behavioural problems at school age between VLBW children and controls.
Methods We enrolled children aged 6-to 8-year-old, who were born with BW ≤1,500 g and have been followed-up at our long-term, follow-up clinic. They were tested for cognitive function and academic achievement using Wechsler Intelligence Scale for Children-III(WISC-III) and Wide Range Achievement Test (WRAT). Child Behaviour Checklist for emotional/behavioural assessment was completed by the care givers. Gross motor function was assessed using Gross Motor Function Classification System (GMFCS).