(anti-D). The need for exchange transfusion for treatment of babies with a severe disease has also been reduced by early recognition and treatment with phototherapy and intravenous immunoglobulin (IVIG). We present a case of a newborn infant with RI complicated by unexpected severe thrombocytopenia.

Methods

Case A male infant was born at 37 weeks gestation following an uncomplicated pregnancy. Previous children required treatment only with phototherapy for RI. The mother had normal platelets throughout the pregnancy. She was induced at this gestation for RI as per local guidelines. There were no antenatal concerns of active haemolysis despite modestly raised antibody levels. The infant did not require resuscitation but was electively admitted to the neonatal unit for monitoring and prophylactic treatment with phototherapy.

Results The baby was commenced on phototherapy and received IVIG shortly after birth. At one hour of life, the initial investigations were received showing Haemoglobin 12.5 g/dL, WBC 13.6, Platelets 15, Neutrophils 7.3, Lymphocytes 4.9, Reticulocyte count 314 and total bilirubin 85 with direct bilirubin 11. The haemoglobin and bilirubin levels remained stable over the next 48 hours. Emergency platelet transfusion was given but this failed to normalize platelet counts. Further IVIG transfusions were required over the next few days. As platelets counts failed to rise above 50 over the next week, neutrophil count, reticulocyte count, and haemoglobin level also started to steadily drop. Extensive investigations including neonatal alloimmune thrombocytopenia screen, genotyping for bone marrow failure disorders, blood film, parvovirus serology, Fanconi anaemia screen, TORCH screen, X-ray of the forearm for radial anomalies and cranial ultrasound, were all normal. The platelets remained low but stable over the next few weeks and in consultation with the pediatric haematologist, the decision was made to repeat Full blood count (FBC) at regular intervals and all cell lines normalized after at least 2 months of close monitoring.

Conclusions The association between RI and severe thrombocytopenia at birth followed by falling neutrophil counts leading to pancytopenia is rare and there are very few cases reported in the literature.

REFERENCES

1. Sharon Lewin, James B Bussel, 'Review of Foetal and Neonatal Immune Cytopenias', *Clinical Advances in Hematology & Oncology*, vol 13, Jan 2015
2. Akhil Maheshwari, 'Neutropenia in the newborn', *Current Opinion in Haematology* Jan 2014

P479

EPIDEMIOLOGICAL STUDY OF THE RECORDED BIRTHS, ADMISSIONS TO THE INTERMEDIATE NEONATAL INTENSIVE CARE UNIT AND TRANSFERS, IN RELATION TO DEMOGRAPHIC AND OTHER FACTORS (2016–2017)

Anastasia Anastasiou-Katsiardani*, Stavroula Gakikou, Stavroula Svolou, Zoi Korka, Argyro Tragalou, Maria Mpissa, Garyfallia Akrivouli, Panagioti Tsilaki, Anna Mihti, Andromachi Karali, Dimitra Stamou, Kalliopi-Pinelopi Katsiardani. *Section Intermediate Neonatal Care Unit (I.N.C.U), Paediatric Department, General Hospital Volos 'Achilloupoleio', County of Magnesia, Volos, Greece*

10.1136/archdischild-2019-epa.815

Introduction The Intermediate Neonatal Intensive Care Unit (I.N.C.U), which pertains to our Pediatric-Department, represents a stressful environment (for newborns), their families, and the staff alike.

Aim Comparative record of all the newborns admitted to (I.N.C.U), (regardless of their origin), to present an overview of the patients' summary (in relation to demographic and other factors), to comment on the cases of the newborns transferred to the regional Tertiary Hospital (TH).

Material-method Informations from medical-records and the electronic database.

Results In 2016, 611 births were recorded in the Obstetrics/Gynecology Department (O/G-D) of our Hospital and 131 admissions in (I.N.C.U) (21.4%): 64.1% of them were Males, 35.9% Females. Causes of admission were, (descending order): Infections 41 (31.3%), Jaundice 29 (22.1%), Difficulty breathing 14 (10.7%), Prematurity 12 (9.2%), Perinatal stress 11 (8, 4%), Feeding etc. The admissions came from the O/G-D 98 (74.80%) of our Hospital, the Private Maternal Hospitals (PMHs) 9 (6.9%), while the remaining 24 (18.3%) were come from their homes. Out of the 131 neonates admitted, 25 (19.03%) were transferred, (18 of them to the TH-Larissa and 7 of these, in other THs. 6 (24%) on Diffused O₂, 2 (8%) in a Head-Box, 17 (68%) without O₂.

In 2017, 603 births were recorded in the O/G-D. There were 131 neonate admissions (I.N.C.U) (21.7%): 65% of them (M), 35% (F). 60 (45%) of them had no social insurance. Causes of admission were, (descending order): Infections 34 (26%), Shortness of breath 30 (23%), Jaundice 23 (17.6%), Prematurity 12 (9.2%), Perinatal stress 9 (6.9%), Subdural hematoma 4 (3.05%), syndromes-Feeding-Surgical-problems etc. 96 (73.3%) admissions came from the O/G-D, 19 (14.5%) from the PMHs, while 16 (12.2%) were come from their homes. Out of the 131 neonates admitted, 33 (25.2%) were transferred, 31 (93.3) of which to the TH-Larissa: 3 (9.7%) were intubated, 5 (16.1%) on Diffused O₂: 12 (38.7%) in a Head-Box and 11 (35.5%) without supportive O₂. 2 cases, were transferred to other THs, without O₂.

Conclusions In our I.N.C.U, the care provided to the newborns and the overall support offered to their families are complex and variant. The medical staff handled the incidents properly, minimizing the need of transfer to a TH. Neonates that required transfer were mostly boys (p:0.037, Pearson chi-Square), with respiratory problems, prematurity, birth defects or infections. Most of the newborns (52.6%) of the (PMH), arrived in a critical condition, thus requiring urgent transfer to a TH.

P480

EVIDENCE-BASED DESIGN FOR NEONATAL UNITS: A SYSTEMATIC REVIEW

¹Niamh O'Callaghan, ¹Anne Dee, ^{2,3}Roy K Philip*. ¹Mid-West Department of Public Health, HSE, Limerick, Ireland; ²University Maternity Hospital Limerick (UMHL), Limerick, Ireland; ³Graduate Entry Medical School (GEMS), University of Limerick, Limerick, Ireland

10.1136/archdischild-2019-epa.816

Background Evidence-based hospital design could significantly improve patient safety and make patient, staff and family environments healthier. This systematic review aims to determine which neonatal intensive care unit design features lead to improved neonatal, parental and staff outcomes.

Methods Medline, CINAHL, Web of Science Citation Index and Cochrane Central Register of Controlled Trials Registry, were searched in January 2017. Using combinations of the relevant key words, review was performed following the recommended guidelines for reporting systematic reviews. English language limitation was applied and term limited to 2006–2016.