OP-107 THE INFLUENCE OF EXOGENOUS AND ENDOGENOUS FACTORS IN A MULTICENTER STUDY OF VITAMIN D PROVISION IN CHILDREN WITH CHRONIC DISEASES IN THE RUSSIAN FEDERATION

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Aim To assess the frequency of low vitamin D deficiency and conduct an association search for genetic variants (c.1206T>C, c.152T>C, c.1174+283G>A) of the VDR gene with clinical manifestations, calcidiol levels and response to therapy in cystic fibrosis (CF), bronchial asthma (BA), juvenile idiopathic arthritis (JIA).

Material and Method 283 patients with CF, 160 with BA, 150 with JIA and 333 healthy children in the control group were examined, and calcidiol content was determined. Testing of polymorphic variants of the VDR gene (c.1206T>C, c.1175–9G>T, c.152T>C, c.1174+283G>A) was carried out using PCR and RFLP analysis.

Results For CF liver cirrhosis with portal hypertension is more often (OR=4.300; p=0.051) realized in carriers of the AA genotype BsmlI of the VDR gene. Children with genotypes TT FokI polymorphism and AA BsmlI polymorphism VDR gene do not respond to vitamin D supplementation. The occurrence of manifestations of the 'atopic march' increases many times when carrying the genotype TT TaqI (OR=13.000; p=0.046), genotypes AA and GA BsmlI (OR=18.000; p=0.017). Calcidiol deficiency against the background of asthma is 2.7 times (p = 0.003) more often recorded among carriers of the TT and CT genotypes TaqI of the VDR gene. Patients with the AA genotype BsmlI polymorphism of the VDR gene do not respond to vitamin D supplementation. The risk of systemic onset of JIA, polyarticular variant, high degree of activity, uveitis, high frequency of biological therapy (p <0.05) are carriers of the TT genotype TaqI, TT genotype C FokI, genotype AA BsmlI of the VDR gene. Patients with genotypes CC TaqI, TT FokI, AA BsmlI polymorphism VDR gene do not respond to vitamin D supplementation.

Conclusions The high frequency of low vitamin D supply and the contribution of VDR gene polymorphisms during the studied diseases and the formation of vitamin D supply are shown.

OP-108 THE EFFECT OF INHALED NITRIC OXIDE THERAPY ON PLATELET VALUES IN NEONATES WITH PERSISTENT PULMONARY HYPERTENSION

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Aim Persistent pulmonary hypertension in neonates (PPHT) is a severe hypoxemia condition in newborn period. Inhaled nitric oxide (iNO) is commonly used for infants with PPHN. The aim of this study was to show the effects of iNO, one of the most common and effective treatments of PPHT, on platelet count, platelet mass index (PMI) and mean platelet volume (MPV).

Material and Method The study enrolled between 01.09.2022to01.09.2023 with diagnosed with PPHT. Demographic information, diagnoses and treatment modalities were obtained retrospectively from hospital records. The diagnosis of PPHT was confirmed by echocardiography (ECHO). Cases with PPHT during the study period were treated with standard treatment approach. If the oxygenation index (OI) was >25 despite ventilatory support, iNO treatment was initiated. Hematologic parameters before and after iNO treatment were compared using ordinal measurement.

Abstract OP-108 Table 1 Demographic values

Birth Weight *		3150 (1550 – 4200)
Gestational Week*		37 (30 – 41)
Gender (Male) (n, %)		9 (64%)
Delivery Type (C/S) (n, %)		11 (93%)
Diagnosis (n, %)	Congenital Pneumonia	9 (64%)
	Meconium Aspiration Syndrome and Hypoxic Ischemic Encephalopathy	4 (36%)
*median (minimum- maximum)		

Results Demographic data of 13 patients diagnosed with PPHT during the study period are given in the table 1. The number of infants who received iNO treatment for at least 24 hours or more was 9 and the median duration of treatment was 78 hours (34–192 hours). Three infants who received iNO treatment died on days 1, 3 and 9 of treatment. All of the patients had platelet counts <400x103 uL before iNO. Thrombocytosis (>400x103 uL) was found in six (67%) infants after iNO treatment. Mean platelet counts were 219x103 uL (186x103–356x103) before iNO treatment and 464x103 uL (144x103–610x103) after treatment, p: 0.051. There was a significant difference between pre-and post-treatment BMI and MPV values (2146.2 (1748.4- 3666.8)- 4420 (1314–6132), p: 0.038 and 9.7 fL (9–10.5),10.1(9–13), p: 0.021, respectively).

Conclusions In our study, it was shown that the effects of iNO on platelets could be monitored by BMI and MPV. Although it did not reach the limit of statistical significance, an increasing trend in platelet counts with iNO treatment was noteworthy.

OP-109 EVALUATION OF THE EFFICIENCY OF C-REACTIVE PROTEIN/ALBUMIN RATIO ON PREDICTING SURGICAL INTERVENTION AND MORTALITY IN NEONATES WITH NECROTIZING ENTEROCOLITIS

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Aim The aim of this study was to evaluate the efficacy of CRP/Albumin ratio in predicting the need for surgical

treatment and mortality in preterms whose gestational age <32 weeks with NEC.

Material and Method In our study, infants between 1–28 days of gestation with a gestational age <32 weeks who were admitted to the neonatal clinic between January 1, 2015 and October 1, 2022 and diagnosed with NEC were included. General patients demographics, epidemiologics, clinical and laboratory parameters were recorded. Receiver operating characteristic (ROC) curve analysis was used to evaluate the optimal predictive values of CAR.

Results Of the 81 patients, 54% had a birth weight of ≤1000 g and 49% were born at ≤28 weeks of gestation. Twent-one (26%) patients were operated for NEC and the mortality rate was 31%. CRP/ALB ratio of ≥0,73 on day 2 [AUC 0,67 (95% CI 0,54–0,81); p=0,009] and ≥1,66 on day 3 [(AUC 0,66 (95% CI (0,53–0,79); p = 0,014] of NEC diagnosis found to be statistically significant in predicting for surgery. CRP/ALB ratio of ≥2,88 on day 1 [(AUC 0,69 (95% CI 0,57–0,82); p=0,002], CRP/ALB ratio of ≥3,15 on day 2 [(AUC 0,78 (95% CI 0,67–0,89); p<0,001], and CRP/ALB ratio of ≥1,72 on day 3 [(AUC 0,76 (95% CI 0,65–0,88); p=0,001] was found a significantly good predictive value for mortality. We showed that patients with NEC stage 2–3 were 23 times more likely to undergo surgery than patients with NEC stage 1 and hyponatremia, gestational week and length of hospital stay also affected mortality.

Conclusions C-reactive protein/albumin ratio is an useful and easily measured parameter with a good sensitivity in predicting the need for surgical treatment and mortality in necrotizing enterocolitis.

OP-110 IMPACTS OF MATERNAL COVID-19 VACCINATION ON PRETERM BIRTH RATES

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Aim SARS-CoV-2 infection is associated with an increased risk of preterm birth, preeclampsia and stillbirth. Therefore, women planning pregnancy during the pandemic should have been recommended to be vaccinated against COVID-19. The objective of this study was to evaluate the impact of pre-pregnancy and asymptomatic COVID-19 infection during pregnancy, as well as vaccination, on preterm birth during the pandemic.

Material and Method This retrospective study included clinical records of women vaccinated before pregnancy. All women were SARS-Cov-2 PCR-negative at the time of birth and did not have a history of PCR-confirmed COVID-19. The asymptomatic transmission of COVID-19 was determined by the presence of antibodies to the N-antigen (N+S+), the presence of vaccination was determined by anamnesis and confirmed by the presence of antibodies only to the S-antigen (N-S+).

Results From 113 vaccinated women with no history of PCR-confirmed COVID-19, 46 (40%) had antibodies to the N antigen of SARS-Cov-2. Preterm birth was significantly more common in women over 40 years of age (p=0.005), with preeclampsia (p=0.006) and with intrauterine growth retardation (p=0.016). To assess the impact of vaccination, 2 study groups (1 - those who had COVID-19 asymptomatically or in an unexpressed form and 2 - those who were vaccinated against COVID-19 and did not have the disease) were formed. No significant differences were found between groups in terms of the incidence of premature births (43% and 37%, respectively, p>0.05).

Conclusions Maternal Covid-19 vaccination carried out before pregnancy did not have any negative effect on the premature birth rates.

OP-111 NEONATAL INTENSIVE CARE HEALTH SERVICE-ASSOCIATED INFECTION SURVEILLANCE CENTRAL VENOUS CATHETER-ASSOCIATED BLOODSTREAM INFECTION

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Aim The survival of low-birth-weight premature infants and their prolonged follow-up in Neonatal Intensive Care Units (NICUs) pose various risks. The use of invasive devices and the prevalence of hospital-acquired infections in neonatal intensive care units range from 9.3% to 25%.(1) It is essential to identify infectious agents through surveillance studies conducted by the Hospital Infection Control Committee (HICC).

Material and Method The Hospital Infection Control Committee(HICC) conducted Healthcare-Associated Infection(HAI) surveillance in the Neonatal Intensive Care Unit(NICU) from 2021 to 2023. Using the 'Ministry of Health National Healthcare-Associated Infections Surveillance Guide (2017)' data for 2021–2022 was presented in four periods, and 2023 data in 2 periods, classified by incidence density, infection rates, invasive device-associated infections, device usage rates, and causative agent distribution.(2)

Results In 2021, with 250 patient admissions and an infection rate of 19%, the incidence density was 12.2. Infants weighing <750 grams had a 24% Central Venous Catheter-Associated Bloodstream Infection(CVCBI) rate. Despite a high incidence density of 18.6 in the 1st period, with introducing a checklist created by the HICC team to ensure adherence to infection control measures during the placement of CVC/PICC/SVC it significantly decreased in the 2nd period to 8.5. In 2022, adherence to protocols when compared with national data, our CVCBI rate for babies weighing <750 grams has decreased to the 70th percentile which was above 90th percentile before 2021. In 2023, improvements in protocols led to decreased CVC infections, aligning with national averages, especially for infants weighing <1000 grams.

Conclusions SVC-Related Bloodstream Infection density for all weight categories decreased from 12.1 in 2021 to 6.1 in 2022 and further to 6.2 in the first 6 months of 2023. This decline indicates a reduction in infection density compared to the previous period. Implementing a Active surveillance system is key to achieving a significant reduction or complete prevention of hospital infections.