Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

non-Latinos; mean(SD) asthma symptom duration was 3.2(3.7), 1.59(1.9) and 1.4(1.5) weeks in Latino, non-Latino-white and non-Latino-black patients respectively; adjusted p=0.021. No difference occurred in likelihood of starting steroids for exacerbation relief nor initiating asthma step-up therapy between Latino, non-Latino-white and non-Latino-black subjects. All populations sought similar number of asthma-related provider visits, including clinic, emergency or telehealth, with mean(SD) 1.9(2.3) total visits per patient for exacerbation-related concerns.
Conclusions: Latinos experienced longer durations of asthma exacerbation following COVID-19 infection compared to non-Latinos, indicative of increased susceptibility of asthmatic Latino patients to prolonged respiratory inflammation after SARS-COV and/or other respiratory viruses, even in light of equal care utilization, and warrants further investigation.

Clinical Immunology, Immunodeficiency

A040

THE ROLE OF T-CELL IMMUNE DYSREGULATION IN THE PATHOGENESIS OF INDETERMINATE ACUTE HEPATITIS

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Introduction: Indeterminate pediatric acute liver failure (IND-PALF), a subset of PALF with unknown causes, is increasingly recognized to be driven by T-cell dysregulation and activation. However, IND-PALF immune dysregulation overlaps with other hyperinflammatory disorders such as Hemophagocytic lymphohistiocytosis (HLH). This is evidenced as some HLH patients have significant ALF, but HLH has much broader multisystem involvement. We aim to compare the immune dysregulation of HLH and IND-PALF to elucidate the common immunobiology of IND-PALF.
Methods: High dimension T-cell immunophenotyping and cytokine profiling(71-plex) were done for ALF(n=16), HLH(n=10), and control(n=10) peripheral blood samples.
Results: Despite the absence of pancytopenia, PALF had marked elevation of T-cell activation as evidenced by increased effector memory CD4 and CD8 T-cell expressing activation makers HLA-DR+CD38+. However, the amplitude of T-cell activation was lower in PALF relative to HLH. Activation in the CD8 compartment is greater than in CD4. Cytokine analysis revealed an increase in Interferon-g driven chemokines, CXCL-9 and CXCL-10. Also, levels of IL-1RA, IL-6, and IL-10 were increased in both ALF and HLH. Still, HLH, in general, has a more significant increase in inflammatory cytokine signature relative to ALF. We also identified unique cytokines like eotaxin, eotaxin-2, and CCL-17, significantly upregulated in PALF but not HLH suggesting despite overlap with HLH, some aspects of immunobiology are different in PALF.
Conclusion: Our data supported shared and uniquely different mechanisms for T-cell activation between HLH and ALF. We also identified a distinctive cytokine signature for IND-ALF that needs further investigation to explore the mechanism of the disease.

A041

DETECTION OF SARS-COV-2 ANTIBODIES IN IMMUNOGLOBULIN PRODUCTS

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Introduction: To date, there is limited data on SARS-CoV-2 antibodies in immunoglobulin (Ig) products used in primary immunodefiencies. Here we examined products for evidence of such antibodies.
Methods: 97 lots of 9 different brands of Ig used in the Mount Sinai infusion center or for home infusions were examined for IgG binding activities against recombinant SARS-CoV-2 receptor binding domain (RBD), spike, and nucleocapsid protein (NP) by ELISA. The area under the binding curves (AUC) was calculated and used for statistical analyses. Cut-off values were determined by the AUC of pre-pandemic samples.
Results: Significantly increased AUC values were observed in products with expiration dates of 2023 and 2024, compared to Ig products available in 2020 previously tested in our laboratory. Approximately 60% and 100% of the Ig products with expiration dates of 2023 and 2024 tested positive for anti-SARS-CoV-2 proteins, respectively. Four brands of Intravenous Ig products and one subcutaneous (SC) were found to have anti-SARS-CoV-2 proteins in the tested lots. Sample analysis of three other SC brands had no detectable anti-SARS-CoV-2 proteins. AUC values were significantly higher in products with later expiration dates used in our infusion center compared to products used in home infusions.
Conclusion: Overall, Ig products with an expiration date between 2023 - 2024 were found to have significantly higher binding activities against SARS-CoV-2 proteins in comparison to pre-pandemic products.

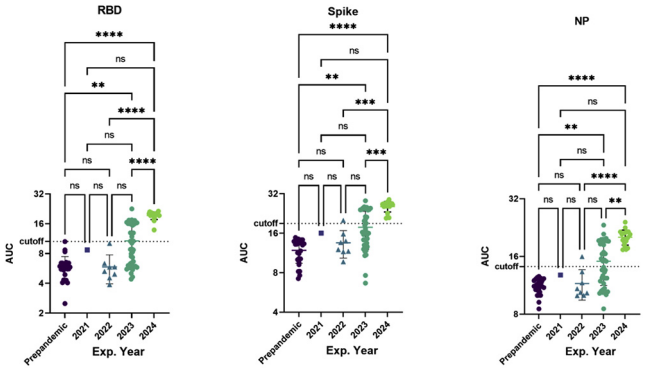

Figure 1. Showing Detection of Antibodies against SARS-CoV-2 proteins including receptor binding domain (RBD), spike, and nucleocapsid protein (NP) in Immunoglobulin products based on expiration date. Antibody detection was noted in products with expiration dates ranging between 2023 – 2024. There was no detectable SARS-CoV-2 antibodies in pre-pandemic product.

A042

TRENDS IN PEDIATRIC PRIMARY IMMUNODEFICIENCY: INCIDENCE, UTILIZATION, HEMATOPOIETIC STEM CELL TRANSPLANTATION, AND MORTALITY

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Introduction: Primary immunodeficiency disorders (PIDD) describe a myriad of diseases caused by inherited defects within the immune system. As the number of identified genetic defects associated with PIDD increases, understanding the incidence and outcomes of PIDD patients becomes imperative.
Objective: is to characterize the frequency of new diagnoses, patterns of healthcare utilization, rates of hematopoietic stem cell transplantation (HSCT), and mortality in pediatric patients with PIDD.
Methods: A retrospective cohort analysis of the Pediatric Health Information System (PHIS) database from 2004-2018 for pediatric inpatients with an ICD9/ICD10 code associated with PIDD.