or Material Support; Sanofi (Individual(s) Involved: Self): Grant/Research Support, Research Grant or Support **James A. Connelly, MD**, **Horizon Therapeutics** (Advisor or Review Panel member)**X4 Pharmaceuticals** (Advisor or Review Panel member)

485. Pediatrics Institutional COVID-19 Review

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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. Coronavirus disease (COVID-19) caused by SARS-COV2 represents global public health concern, with varied severity of illness in different ages and racial groups. This study aims to describe clinical presentation and outcomes in children aged 0-21 years in a community hospital setting in New Jersey.

Methods. This is a retrospective medical record review of pediatric patients (0-21 years) admitted to Saint Barnabas Medical Center between March 2020-December 2020 with confirmed diagnosis of COVID-19 infection. Diagnosis of COVID-19 infection is based on ICD-10 diagnosis code. Data was extracted from electronic medical records, including demographics, pre-existing conditions, presenting symptoms, treatments used and outcomes.

Results. We identified 48 cases of pediatric COVID-19 patients at Saint Barnabas Medical Center during period of 03/20-12/20. Review of demographic data showed 29 patients (60%) were female, and 19 (40%) were male. Race distribution was 38% black, 17% white, 4 % Asian Indian, and 41% others/unknown. Age distribution was as follows: 40% >15 yrs, 15% 11-15 yrs, 15% 0-1 yrs, 13% 6-10 yrs, 13% 1-5 yrs, and 6% newborn. Fever (65%) was the most frequent symptom identified, followed by cough (31%), nausea/vomiting (29%), abdominal pain (19%), shortness of breath (17%), rash (15%), diarrhea (10%), headache (10%), myalgia/body-aches (8%), chest pain (6%), red eyes (6%), and loss of taste/smell (2%). Of 48 patients, 10 (21%) had positive chest X-ray findings of lung infiltrates or opacities, 4 (8%) had abnormal echocardiogram findings, and 1 (2%) had abnormal CT chest. 21 of 48 patients had underlying comorbid conditions, with Diabetes and Asthma being the most common. No deaths were reported. 8 of 48 COVID-19 patients were diagnosed with MIS-C. Of these MIS-C patients, 5 (63%) were male and 3 (38%) were female. 6 of 8 affected patients were black (75%). 50% of MIS-C patients were between 6-10 years. 3 of 8 patients (38%) had abnormal echocardiogram findings.

Conclusion. This review supports clinical findings from other studies and also suggests certain racial ethnicities may be disproportionately impacted, which warrants further exploration to determine genetics vs environmental factors that lead to increased predisposition to severe illness.

Disclosures. **All Authors**: No reported disclosures

486. Characteristics Associated with SARS-CoV-2 Infection in Children

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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. We sought to describe the range of Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection in children.

Methods. Patients < 18 years of age who had a positive nasopharyngeal polymerase chain reaction (PCR) for SARS-CoV-2 at a single health system in central Pennsylvania from 3/19/2020-12/31/2020 were identified. Using a random number generator, 150 additional patients < 18 years of age who had a negative PCR test were also identified. Asymptomatic patients and those without clinical data in the electronic medical record were excluded from analysis. Demographic characteristics, symptoms present at the time of testing, and outcomes were compared between PCR-positive and negative patients. Odds ratios were calculated using univariable and multivariable logistic regression models to patients with positive vs. negative PCR tests.

Results. We included 544 patients in analysis, 412 (76%) of which had a positive SARS-CoV-2 PCR. PCR-positive patients were statistically more likely to have a known contact, no comorbidities, and to present with cough, cold-like symptoms, headache, or loss of taste and smell. All patients who presented with loss of taste and smell were PCR positive at time of presentation. Positive patients were statistically less likely to present with fever or emesis than negative patients. Multivariable regression identified increased age, cough, cold symptoms, headache, and non-white race as predictive of PCR positivity. Patients who tested positive were statistically less likely to be admitted to the hospital and less likely to require respiratory support than negative patients.

Conclusion. Loss of taste and smell is a specific, though uncommon, indicator of SARS-CoV-2 infection in the pediatric population. Headache, cough, and cold-like symptoms are also suggestive of SARS-CoV-2 infection, while fever and gastrointestinal symptoms appear less common. This data suggests that screening questions developed for adults may be less applicable in children. Future research, including more dedicated and prospective studies, is warranted to identify patients in whom a positive SARS-CoV-2 test is sufficiently likely to warrant isolation and testing.

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487. Experience with Remdesivir for Treatment of SARS-CoV-2 in Patients with Liver Cirrhosis

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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. Remdesivir is a nucleotide analogue antiviral that was FDA approved for the treatment of hospitalized patients with coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS CoV-2). Remdesivir has been associated with elevations in serum aminotransferase levels but most cases being mild to moderate and reversible upon discontinuation. Although national COVID-19 guidelines and the American Association for the Study of Liver Diseases (AASLD) currently recommend remdesivir for use in hospitalized patients requiring supplemental oxygen, data is limited using remdesivir in patients with chronic liver disease. Here, we describe our experience with remdesivir in patients with liver cirrhosis.

Methods. Patients with liver cirrhosis who received remdesivir were identified either prospectively or retrospectively by primary or secondary ICD-10 codes indicating liver disease. Data collected included patient demographics, underlying cause of cirrhosis, co-morbidities, Child-Pugh score, laboratory values (serum aminotransferase levels, serum creatinine) during and following remdesivir, adverse reactions attributed to remdesivir, and mortality (in-hospital, 30-day, and 90-day).

Results. A total of 4 patients with underlying liver cirrhosis completed a 5-day course of remdesivir treatment. On admission, Child-Pugh class was A for 1 patient, B for 2 patients, and C for 1 patient. Causes for cirrhosis were nonalcoholic steatohepatitis (NASH), hepatic amyloidosis, and chronic hepatitis B. There were no acute elevations in aminotransferase levels or adverse events attributed to remdesivir therapy. Mortality was high with 50% in-hospital mortality. Of the 2 other patients who survived to discharge, one was discharged to home hospice and the other was readmitted within 30 days and expired during that admission.

Conclusion. Since there is limited data available using remdesivir in patients with advanced liver disease, we did not identify any safety concerns related to remdesivir in our cirrhotic patients. Mortality was high illustrating the poor outcomes of patients with advanced liver disease and COVID-19. Patients with cirrhosis should be offered remdesivir if clinically appropriate.

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488. Comparison of Demographics and Clinical Characteristics of Multisystem Inflammatory Syndrome in Children and Kawasaki Disease

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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. Multisystem inflammatory syndrome in children (MIS-C) is an illness associated with recent SARS-CoV-2 infection or exposure. Kawasaki disease (KD), a vasculitis with an unknown etiology, has overlapping clinical presentation with MIS-C, making it difficult to clinicians for distinguish between them. Therefore, we aimed to compare demographic, laboratory, and clinical characteristics between MIS-C and KD in hospitalized children in Nashville, TN.

Methods. We conducted a single-center retrospective chart review for hospitalized children under 18 years who met American Heart Association criteria for KD and were treated with intravenous immunoglobulin from May 2000 to December 2019, and children meeting the CDC criteria for MIS-C from July 2020 to May 2021. Data abstraction for patients' demographics, clinical presentation, laboratory values and imaging results was performed. Pearson's chi-squared test for categorical variables and Wilcoxon rank sum test for continuous variables, with alpha=5%, were used to compare groups.

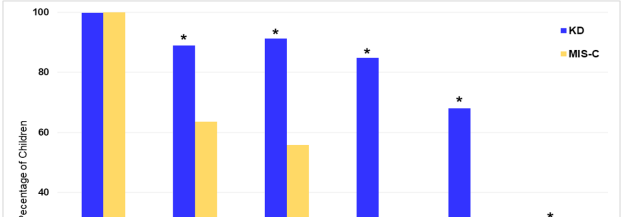
Results. A total of 603 KD and 52 MIS-C hospitalized patients were included. Children with MIS-C were older than those with KD. A higher frequency of male sex was noted in both groups, with no significant differences in race and ethnicity (Table). MIS-C children frequently presented with symptoms similar to KD (63.5% rash, 55.8% conjunctivitis, 28.9% mucous membrane changes); however, only one MIS-C patient met criteria for complete KD (Figure). Both MIS-C and KD children presented with elevated CRP and ESR, but the median value of CRP in MIS-C children was significantly higher (Table). In addition, white cell count was lower in MIS-C children, which is primarily driven by the lower absolute lymphocyte count in this group (0.9 vs 2.7, $p< 0.001$), and echocardiography was more likely to be abnormal at presentation compared to KD (Table).

Table. Comparison of Sociodemographic, Clinical, and Laboratory Characteristics among Children with Kawasaki Disease and Multisystem Inflammatory Syndrome in Nashville

	KD (603)	MISC (52)	p-value
Demographics			
Age – median	2.8	8.9	**<0.001**
Sex, male (%)	64.3	57.7	0.338
Race – (%)			
White	64.0	69.2	0.551
Black	26.0	26.9	
Asian	4.6	1.9	
Other	5.3	1.9	
Ethnicity – Hispanic	14.6[a]	15.4	0.882
Kawasaki Criteria			
Met complete Kawasaki criteria [Fever + ≥4 Kawasaki criteria] (%)	63.7	1.9	**<0.001**
Length of hospital stay – median	3.0[b]	5.0	**<0.001**
Labs at presentation			
WBC – median (x10^{3}cell/mcL)	13.7[c]	9.5	**<0.001**
Hemoglobin median (gm/dL)	10.9[d]	11.6	**<0.001**
CRP median (mg/L)	90.6[e]	186.3	**<0.001**
% elevated CRP (>1 mg/L)	98.2[e]	100	0.326
ESR, median (mm/hr)	62[f]	53.5	**0.007**
% elevated ESR (>33 mm/hr)	81.8[f]	72.0[g]	0.092
Neutrophil/Lymphocyte ratio	3.3[h]	8.9[i]	**<0.001**
ALC (x10^3 cells/mcL)	2.7[i]	0.9	**<0.001**
ANC (x10^3 cells/mcL)	9.1[k]	8.2	0.214
Albumin (gm/dL)	3.4[l]	3.6[g]	0.232
% low albumin (<3mg/dL)	19.3[l]	12.0[g]	0.209
Platelet (x10^3 cells/mcL)	365[m]	181.5[n]	**<0.001**
% low platelet (<150x10^3 cells/mcL)	4.0[m]	26.9[n]	**<0.001**
Sodium (mmol/L)	136[o]	133[i]	**<0.001**
% low sodium (<138 mmol/L)	71.0[o]	98.0[i]	**<0.001**
AST (unit/L)	34[q]	40[p]	0.200
ALT (unit/L)	32[r]	27.5[g]	0.282
Imaging at presentation			
Echocardiography, abnormal	46.8	74.0[gg]	**<0.001**

IQR: interquartile range; WBC: white blood cell count; CRP: c-reactive protein; ESR: sedimentation rate; ALC: absolute lymphocyte count; ANC: absolute neutrophil count; AST: aspartate transaminase; ALT: alanine transaminase
[a]n=397; [b]n=592; [c]n=577; [d]n=520; [e]n=494; [f]n=543; [g]n=50; [h]n=552; [i]n=51; [j]n=556; [k]n=553; [l]n=409; [m]n=575; [n]n=52; [o]n=479; [p]n=49; [q]n=504; [r]n=515

Figure. Comparison of Kawasaki Criteria Between Children with Multisystem Inflammatory Syndrome and Kawasaki Disease



Conclusion. MIS-C and KD present similarly in children; however, age, laboratory and echocardiography findings can help differentiate between them. Different laboratory values suggest different pathophysiology and inflammatory mediators behind these two illnesses, warranting further research.

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489. SARS-CoV-2 Seroprevalence and Antibody Response Among Pregnant People in Seattle, WA

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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. Antenatal care is a unique opportunity to assess SARS-CoV-2 seroprevalence and antibody response in pregnant people, including those with previously unknown infection.

Methods. Pregnant people were screened for SARS-CoV-2 IgG during antenatal care or delivery in Seattle, Washington with Abbott Architect chemiluminescent immunoassay which provides quantitative index (positive ≥1.4). Participants with IgG+ results or identified with RT-PCR+ results via medical records were invited to enroll in a longitudinal evaluation of antibody responses. We report preliminary results of an ongoing seroprevalence and longitudinal study with planned 18-month follow-up.

Results. Between September 9, 2020–May 7, 2021, we screened 1304 pregnant people; 62 (4.8%) tested SARS-CoV-2 IgG+, including 28 (45%) with known prior SARS-CoV-2 infection. Among participants testing IgG+, median age was 32 years (interquartile range [IQR] 26–35) and median gestational age was 21 weeks (IQR 12–38) at screening; median IgG index was 3.2 (IQR 2.1–4.9, range 1.4–9.9), including 3.9 (IQR 2.3–5.8) among those with vs. 2.7 (IQR 1.9–4.2) among those without prior RT-PCR+ results (p=0.05 by Wilcoxon rank-sum). Of 30 longitudinal study participants enrolled, 24 tested IgG+ at baseline (75% with prior RT-PCR+ result) and 6 tested IgG- on enrollment but were identified as previously RT-PCR+ via medical records; 24/30 (80%) reported previous symptoms. Of 24 participants testing IgG+ at baseline, 14 (58%) had first follow-up IgG results at median of 66 days (IQR 42–104) since initial testing, with median IgG index of 2.0 (IQR 1.0–3.8). 9/14 (64%) participants with repeat IgG testing remained IgG+ at first follow-up (≤280 days after first RT-PCR+ result for those with and ≥104 days after first IgG detection for those without prior RT-PCR+ results), while 5/14 (26%) had a negative Abbott IgG test at a median of 81 days (IQR 75–112) since initial testing.

Table. Characteristics of pregnant persons screened for SARS-CoV-2 IgG, and enrolled in nested longitudinal follow-up – Seattle, WA

	Seroprevalence survey N=1304	Seroprevalence survey IgG+ N=62	Longitudinal study IgG+ or PCR+ N=30[a]
	n (%) or median (IQR)		
Age, years	32 (29–35)	32 (26–35)	32 (28–35)
Gestational age, weeks	13 (10–37)	21 (12–38)	15 (10–23)[b]
Race and Ethnicity			
American Indian/Alaska Native	17 (1)	2 (3)	0 (0)
Asian	265 (20)	4 (6)	2 (7)
Black	100 (8)	13 (21)	3 (10)
Native Hawaiian/Pacific Islander	27 (2)	4 (6)	2 (7)
White	732 (56)	19 (31)	17 (57)
Other	103 (8)	18 (29)	5 (17)
Multiracial[c]	NA	NA	2 (7)
Not reported	60 (5)	2 (3)	1 (3)
Hispanic	137/1255 (11)	19/61 (21)	6 (20)
Baseline IgG+	62 (5)	62 (100)	24 (80)
Abbott IgG Index (among IgG+)	-	3.2 (2.1–4.9)[d]	2.8 (1.6–5.7)
Known prior SARS-CoV-2 infection (PCR+)	-	28 (45)	24 (80)
Symptoms reported	-	30 (48)	25 (83)
Follow-up IgG+	-	-	9/14 (64)
Abbott IgG Index	-	-	2.0 (1.0–3.8)

[a] 24 IgG+ from seroprevalence survey, 6 PCR+ through medical chart review
[b] Gestational age at first known positive result (either PCR+ or IgG+)
[c] Data not available for seroprevalence survey
[d] n= 58 with Abbott IgG index available, IgG+ index ≥ 1.4

Conclusion. Nearly half of pregnant people testing SARS-CoV-2 IgG+ reported no known prior SARS-CoV-2 diagnosis or symptoms. SARS-CoV-2 IgG antibody response and durability in pregnancy has implications for maternal and neonatal protection and susceptibility and highlights potential benefits of vaccination in this population.

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490. Uptake and Perceptions of COVID-19 Vaccines Among US Pregnant Women

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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. Compared to the non-pregnant population, pregnant persons are at increased risk for severe COVID-19 related illness, including higher rates of admission