

542. SARS-CoV-2-Associated Multisystem Inflammatory Syndrome of Children (MIS-C) in the Washington DC Metropolitan Region

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Children's National Hospital MIS-C Taskforce

Session: P-20. COVID-19 Special Populations

Background: Background: Multi-system Inflammatory Syndrome of Children (MIS-C) has recently emerged internationally as a serious inflammatory complication of SARS-CoV-2 infection with significant morbidity for the pediatric population.

Methods: This observational retrospective cohort study includes 33 children meeting CDC criteria for MIS-C treated between March 15 and June 17, 2020 at Children's National Hospital in Washington DC. Clinical and demographic data were extracted from medical records and are summarized.

Results: Of 33 hospitalized MIS-C patients, 42% were critically ill, and 58% were non-critically ill. The median age was 8.9 years (0.7–18.7 years). More males (58 %) than females (43 %) were represented in the MIS-C cohort. The majority (75%) of children had no underlying medical condition. Criteria for incomplete or complete Kawasaki Disease (KD) were present in 39% of patients, while an additional 9% had some features of KD. However the remaining 52% of MIS-C patients presented with other sub-phenotypes including prominent severe abdominal pain and/or nonspecific multiorgan dysfunction. 30% presented with shock requiring volume and/or inotropic support. SARS-CoV-2 antibodies were present in 61% of patients. Virus was detectable by PCR in 36% of patients. At the time of initial evaluation, 39% (13/33) of children had identified cardiac abnormalities including myocardial dysfunction (5/33; 15%), coronary ectasia (4/33; 12%), coronary aneurysm (3/33; 9%), or pericardial effusion 5/33; 15%) either alone or in combination. Cytokine profiling identified elevation of several cytokines in this cohort, including IL-6. Treatment has included intravenous immunoglobulin, aspirin, anakinra and other immunomodulatory therapies, with overall rapid response to therapy. No deaths have occurred.

Conclusion: The emergence of MIS-C late in the surge of SARS-CoV-2 circulation in the Washington DC metropolitan region has added to the already significant burden of hospitalized and critically ill children in our region. A significant percentage of these children present with cardiac dysfunction and abnormalities, whether or not with KD features at presentation. Detailed characterization of immune responses and long term outcome of these patients is a priority.

Disclosures: Andrea Hahn, MD, MS, Johnson and Johnson (Consultant)

543. SARS-CoV-2 Viral Dynamics For Symptomatic People Living with HIV Requiring Hospitalization For COVID-19

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Background: Over 8 million people have been infected with severe acute respiratory syndrome 2 (SARS-CoV-2). People living with HIV (PWH) affected by SARS-CoV-2 represent a small proportion of patients admitted to the hospital for COVID-19 disease. Viral dynamics in this subpopulation are still unknown.

Methods: We conducted a retrospective cohort study from a large, urban academic center in New Haven, CT of patients consecutively admitted with laboratory confirmed SARS-CoV-2 infection through May 31, 2020. Main outcome measure was the ribonucleic acid (RNA) viral load (VL) detected in respiratory samples by cycle threshold (Ct) values and trend over time as a measure of nucleic acid concentration and replication. Epidemiological, clinical, laboratory results, ART treatment, COVID treatment and outcomes were abstracted from patient records. We evaluated the relationship between virologic data and disease severity.

Results: Among 19 PWH hospitalized with covid19, 84% were >50 years of age, 53% were women, 63% were black, 95% were on antiretrovirals, 95% with undetectable HIV VL (< 50 copies/ml), and median CD4 count of 827.9 cells/mm3. Symptom duration was 2–14 days. Median length of stay was 12 days. There was no in-hospital mortality. A total of 62 respiratory samples were collected at various time points and evaluated for SARS-CoV-2 RNA viral load. Eight patients had 1 specimen. Patient with more severe disease had higher baseline SARS-CoV-2 viral loads. Mean Ct values for N1 and N2 on admission were 21.6 and 23.7, respectively.

Conclusion: PWH with COVID19 represents only a small percentage of hospitalized patients and viral dynamics are not well defined. SARS-CoV-2 VL was higher

among PWH with advanced disease at the presentation of illness. Overall, PWH with COVID-19 had favorable outcomes.

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544. Severe COVID-19 in Children and Young Adults in the Washington DC Metropolitan Region

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Background: Children and young adults were initially reported as largely spared from severe complications of SARS-CoV-2 infection, but the impact to this population has been significant.

Methods: This observational retrospective cohort study includes 420 symptomatic children and young adults with lab confirmed SARS-CoV-2 infection treated between March 15 and June 16, 2020 at Children's National Hospital in Washington DC. We identified and compared cohorts of non-hospitalized (N=324) and hospitalized (N=96) patients, including non-critically ill (N=64) and critically ill hospitalized (N=32) patients. Clinical and demographic data were extracted from medical records

Results: Of 420 SARS-CoV-2-infected symptomatic patients, 23% required hospitalization, of which 67% were non-critically ill and 33% were critically ill. All age groups were represented in the symptomatic cohort, with a median age of 8.6 years. Patients > 15 years of age represented 44% of critical care admissions. Males and females were equally represented in all cohorts. Underlying medical conditions were present in 36%, but more common in hospitalized (59 %) and critically ill (66 %) patients. The most frequent underlying diagnosis overall was asthma (16 %), but also included neurologic (6 %), diabetes (3 %), obesity (3 %), cardiac (3 %), hematologic (3 %) and oncologic (1 %) conditions. The majority (66 %) of SARS-CoV-2 infected patients presented with respiratory symptoms with or without fever. Other symptoms were also present, including diarrhea/vomiting (21 %), myalgia (11 %), chest pain (8 %) and loss of sense of smell or taste (7%). Hospitalized patients required varying levels of respiratory support, including mechanical ventilation, BiPAP, RAM cannula and HFNC. Additional presentations included diabetic hyperglycemia, sickle cell vaso-occlusive crisis, vascular complications, and multisystem inflammation. Treatment included remdesivir, convalescent plasma, tocilizumab and other therapies.

Conclusion: Although children/young adults have been less affected than elderly adults, the impact of SARS-CoV2 on this population has been significant in Washington DC and informs other regions anticipating their surge.

Disclosures: Andrea Hahn, MD, MS, Johnson and Johnson (Consultant)

545. The Impact of COVID-19 on African Americans' Health Attitudes and Information Seeking Behavior

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Background: African-Americans suffer a disproportionate impact from COVID-19, comprising about 24% of deaths while representing 13% of the US population. We conducted a study to understand COVID-19's impact on African-Americans' health attitudes.

Methods: In April 2020, we surveyed online a national sample of US adults on their health attitudes and behaviors before and after the COVID-19 outbreak. Comparisons were analyzed using chi-squared tests.

Results: A total of 2,544 individuals completed the survey: 473 African-Americans, 282 Hispanics and 1,799 Caucasians responded. The mean ages of each group were 41.4 ± 11 years, 38.0 ± 11 years and 45.7 ± 13 years, respectively. Before COVID-19, African-Americans were least likely to report they had trust in science (53% vs. 68% for Hispanics and 77% for Caucasians; p< .01) and government (16% vs. 27% and 28%; p< .01). After COVID-19, the percentage of African-Americans who had trust in science and government fell further to 44% (p< .01) and 9% (p< .01), respectively, and remained significantly lower than the other two groups. Twice as many African-Americans vs. Caucasians stopped following science and health news after COVID-19 (9% vs. 4%, p< .01). The percentage of African-Americans who reported anxiety about their health rose from 30% pre-COVID to 53% after the outbreak (p< .01), and the percentage who reported anxiety about their family members' health rose from 35% to 61% (p< .01). Only 25% of African-Americans surveyed agreed that if they contracted COVID-19, they were confident they would get the healthcare needed.

Conclusion: After COVID-19, African-Americans' trust in science and government fell and a meaningful percentage stopped following science and health news, possibly reducing access to important health information. The percentage of African-Americans reporting anxiety about the future, about their health and about their