Table 1. Characteristics of nursing home individuals with repeated positive SARS-CoV-2 specimens 90 days or more following initial infection (July 2020 - March 2021).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total</th>
<th>High RNA Viral Load (EF &gt; 1500 RLU/ml)</th>
<th>Low RNA Viral Load (EF ≤ 1500 RLU/ml)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>(N)</td>
<td>(N)</td>
<td>(N)</td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>61</td>
<td>5 (%)</td>
<td>56 (%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Male, n (%)</td>
<td>49</td>
<td>51 (%)</td>
<td>48 (%)</td>
<td>0.903</td>
</tr>
<tr>
<td>Medication use</td>
<td>134</td>
<td>125 (92.9)</td>
<td>9 (6.7)</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Hospitalization nurse

Fever (≥ 100.4°F) | 40 (39.8%) | 4 (10%) | 36 (24.2%) | <0.001 |

Testing performed between initial and repeat positive test

All had two negative SARS-CoV-2 RT-PCR prior to antigen test result (N=100) | 100 (100%) | 0% | 100 (100%) |

Corticosteroid exposure

Symptoms at time of repeat positive test

Asymptomatic (10.8%) | 9 (9%) | 100% | 9 (100%) | <0.001 |

Symptomatic (95.1%) | 92 (91%) | 0% | 92 (100%) |

Unvaccinated COVID-19 exposure

Yes (92.8%) | 92 (92%) | 0% | 92 (100%) | 0.13 |

Symptomatic or confirmed or suspected COVID-19 exposure

Yes (92.8%) | 92 (92%) | 100% | 92 (100%) | 0.57 |

p < 0.05 indicates statistical significance.

Conclusion. In this study, nearly 1 in 6 NH residents and staff with repeat positive tests after 90 days demonstrated high viral RNA loads and viable virus, indicating possible infectivity. While individuals with high RNA viral load may be more likely to be systemically symptomatic, asymptomatic individuals who have high viral loads may be difficult with timing since initial infection, other test results, or exposure history alone.


394. Descriptive Evaluation of Epidemiology and Microbiology of Patients with COVID-19 Pre/Post Implementation of Corticosteroids as Standard of Care

Goran Barazi, PharmD4; Abdelfattah-Arafa Raja, BSc; Reem Karawia, BSc; Fatima Sanchez, BS; Jack Paxton, MPH; Jean Gonsalves, BS; Moly Franke, ScD; Louise Ivers, MD, MPH1; Mass General Brigham, Boston, Massachusetts; 2Harvard Data Science Initiative, Boston, Massachusetts; 3 Brigham and Women's Hospital, Boston, Massachusetts; 4 Astellas Pharma Global Development, Inc., Northbrook, Illinois; 5 Hamad General Hospital, Hamad Medical Corporation, Doha, Qatar; 6 Hamad Medical Corporation, Doha, Qatar; 7 College of Pharmacy, Qatar University; 8 Astellas Pharma Global Development, Inc., Boston, Massachusetts; 9 Hamad Medical Corporation, Doha, Qatar; 10 Astellas Pharma Global Development, Inc., Boston, Massachusetts

Session: P-16. COVID-19 Epidemiology and Screening

Background. Coronavirus disease (COVID-19) is associated with significant morbidity and mortality. This study aimed to explore the early predictors of intensive care unit (ICU) admission and in-hospital mortality among patients diagnosed with COVID-19.

Methods. This was a case-control study of adult patients with confirmed COVID-19. Cases were defined as patients admitted to ICU during the period February 29 - May 29, 2020. For each case enrolled, one control was matched by age and gender.

Results. A total of 1560 patients with confirmed COVID-19 were included. Each group included 780 patients with a predominant male gender (89.7%) and a median age of 49 years (interquartile range = 18). Predictors independently associated with ICU admission were cardiovascular disease (CVD) (adjusted odds ratio (aOR)=1.64, 95% confidence interval (CI): 1.16 - 2.32, p<0.005), diabetes (aOR=1.52, 95% CI: 1.08 - 2.13, p=0.016), obesity (aOR=1.46, 95% CI: 1.03 - 2.08, p=0.034), lymphopenia (aOR=2.69, 95% CI: 1.80 - 4.02, p<0.001), high aspartate aminotransferase (AST) (aOR=2.59, 95% CI: 1.53 - 4.36, p<0.001), high ferritin (aOR=1.96, 95% CI: 1.40 - 2.74, p<0.001), high C-reactive protein (CRP) (aOR=4.09, 95% CI: 2.81 - 5.96, p<0.001), and dyspnea (aOR=2.50, 95% CI: 1.77 - 3.54, p<0.001). Similarly, significant predictors of mortality included CVD (aOR=2.16, 95% CI: 1.32 - 3.53, p=0.002), diabetes (aOR=1.77, 95% CI: 1.07 - 2.90, p=0.025), cancer (aOR=4.65, 95% CI: 1.50 - 14.42, p=0.008), lymphopenia (aOR=2.34, 95% CI: 1.45 - 3.78, p=0.001), and high AST (aOR=1.89, 95% CI: 1.04 - 3.43, p=0.036).

Risk Factors for ICU admission among patients with COVID-19 (N=1560)

Conclusion. Having CVD, diabetes, lymphopenia, and increased AST were independent predictors for both ICU admission and in-hospital mortality in patients with COVID-19. In addition, obesity, high ferritin, and CRP levels were associated with increased risk of ICU admission, while cancer was strongly associated with in-hospital mortality. Early identification and monitoring of patients at risk is essential in planning the level of care needed to prevent delay in medical intervention.

Disclosure. Adel Abou-Alli, PharmD, PhD, Astellas Pharma Global Development, Inc. (Employee)


Sanchez Guillaume, BS; Jack Paxton, MPH; Jean Gonsalves, BS; Moly Franke, ScD; Louise Ivers, MD, MPH1; Mass General Brigham, Boston, Massachusetts; 2 Harvard Data Science Initiative, Boston, Massachusetts; 3 Brigham and Women's Hospital, Boston, Massachusetts; 4 Massachusetts General Hospital, Boston, Massachusetts; 5 School of Public Health, Harvard University, Boston, Massachusetts; 6 Holyoke Board of Health, Holyoke, Massachusetts; 7 Harvard Medical School, Boston, Massachusetts

Session: P-16. COVID-19 Epidemiology and Screening

Background. Coronavirus disease (COVID-19) is associated with significant morbidity and mortality. This study aimed to explore the early predictors of intensive care unit (ICU) admission and in-hospital mortality among patients diagnosed with COVID-19.

Methods. This was a case-control study of adult patients with confirmed COVID-19. Cases were defined as patients admitted to ICU during the period February 29 - May 29, 2020. For each case enrolled, one control was matched by age and gender.

Results. A total of 1560 patients with confirmed COVID-19 were included. Each group included 780 patients with a predominant male gender (89.7%) and a median age of 49 years (interquartile range = 18). Predictors independently associated with ICU admission were cardiovascular disease (CVD) (adjusted odds ratio (aOR)=1.64, 95% confidence interval (CI): 1.16 - 2.32, p<0.005), diabetes (aOR=1.52, 95% CI: 1.08 - 2.13, p=0.016), obesity (aOR=1.46, 95% CI: 1.03 - 2.08, p=0.034), lymphopenia (aOR=2.69, 95% CI: 1.80 - 4.02, p<0.001), high aspartate aminotransferase (AST) (aOR=2.59, 95% CI: 1.53 - 4.36, p<0.001), high ferritin (aOR=1.96, 95% CI: 1.40 - 2.74, p<0.001), high C-reactive protein (CRP) (aOR=4.09, 95% CI: 2.81 - 5.96, p<0.001), and dyspnea (aOR=2.50, 95% CI: 1.77 - 3.54, p<0.001). Similarly, significant predictors of mortality included CVD (aOR=2.16, 95% CI: 1.32 - 3.53, p=0.002), diabetes (aOR=1.77, 95% CI: 1.07 - 2.90, p=0.025), cancer (aOR=4.65, 95% CI: 1.50 - 14.42, p=0.008), lymphopenia (aOR=2.34, 95% CI: 1.45 - 3.78, p=0.001), and high AST (aOR=1.89, 95% CI: 1.04 - 3.43, p=0.036).

Risk Factors for ICU admission among patients with COVID-19 (N=1560)

Conclusion. Having CVD, diabetes, lymphopenia, and increased AST were independent predictors for both ICU admission and in-hospital mortality in patients with COVID-19. In addition, obesity, high ferritin, and CRP levels were associated with increased risk of ICU admission, while cancer was strongly associated with in-hospital mortality. Early identification and monitoring of patients at risk is essential in planning the level of care needed to prevent delay in medical intervention.

Disclosure. Adel Abou-Alli, PharmD, PhD, Astellas Pharma Global Development, Inc. (Employee)