512. Does Time From COVID-19 Symptom Onset to Administration of Anti-Spike Protein Monoclonal Antibody Predict Response?

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Background. Casirivimab/imdevimab is a monoclonal antibody (mAb) cocktail with emergency use authorization for mild-to-moderate coronavirus disease 2019 (Covid-19) in patients at high risk for severe disease progression and/or hospitalization. Little is known about the importance of early administration of this product. The objective of this study was to determine if early administration (within 3 days of symptom onset) of casirivimab/imdevimab is associated with better outcomes.

| Table 1. Summary of patient characteristics who received casirivimab with imdevimab late or early after patient reported symptom onset |
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| 53 days symptoms (n=190) | < 3 days symptoms (n=80) | P |
| Age (years, mean ± SD) | 64.5 ± 14.0 | 62.9 ± 12.7 | 0.356 |
| Days from onset (mean ± SD) | 4.8 ± 1.9 | 1.5 ± 0.7 | < 0.001 |
| BMI (kg/m², mean ± SD) | 31.7 ± 7.3 | 30.7 ± 7.3 | 0.556 |
| Female, n (%) | 106 (55.8) | 43 (53.8) | 0.766 |
| C-reactive protein, n (%) | 145 (76.3) | 59 (73.8) | 0.901 |
| Hispanic, n (%) | 20 (13.7) | 12 (15.0) | 0.776 |
| Oxygen saturation room air (% mean ± SD) | 96.3 ± 2.1 | 96.2 ± 2.1 | 0.120 |
| Required oxygen, n (%) | 11 (19) | 7 (18) | 0.777 |
| Systolic blood pressure (mmHg, mean ± SD) | 138.8 ± 20.3 | 145.0 ± 24.2 | 0.077 |
| Diastolic blood pressure (mmHg, mean ± SD) | 79.1 ± 9.9 | 79.0 ± 10.2 | 0.944 |
| Temperature (°C, mean ± SD) | 99.7 ± 1.1 | 99.6 ± 1.6 | 0.511 |
| Active smoker, n (%) | 9 (4.7) | 12 (15.0) | 0.004 |
| Chronic pulmonary disease | 25 (13.2) | 36 (45.0) | 0.673 |
| Diabetes, n (%) | 51 (26.8) | 21 (26.3) | 0.751 |
| Asthma, n (%) | 3 (1.6) | 5 (6.3) | 0.562 |
| Hypertension, n (%) | 70 (36.8) | 29 (36.3) | 0.927 |
| CHF, n (%) | 85 (45.1) | 42 (52.5) | 0.300 |
| Charlson comorbidity index ≥ 2 | 20 (10.5) | 74 (92.5) | 0.477 |
| Charlson comorbidity index ≥ 3 | 6 (7.5) | 6 (7.5) | 1.000 |

Methods. Single-center, retrospective cohort study including all consecutive patients who received casirivimab/imdevimab at our institution through May 2021. The primary outcome was 30-day post-infection hospital admission rate in patients who received mAb > 3 days (later) or < 3 days (early) in relation to patient reported symptom onset. Secondary outcomes included any hospital revisit within 30-days. Adverse events were also captured. Chi-square and independent samples t-test were used to compare categorical and continuous data, respectively. Multivariable logistic regression was used to adjust for confounders.

Results. 270 patients met the inclusion criteria and were included in the analysis. There were 80 patients with early administration and 190 with late administration. Baseline characteristics for both groups were similar. Mean age was approximately 64 years and BMI 31 mg/m². Table 1 provides a summary of patient characteristics. Late and early administration of casirivimab/imdevimab were similar in terms of hospital admission for any therapy related failure within 30 days of mAb administration after adjusting for age and Charlson comorbidity index (3.7% vs. 2.5%; adjusted odds ratio 0.69, 95% confidence interval, 0.20 – 2.39; P = 0.561). Similarly, there were no significant differences in any hospital revisit related failure within 30 days of mAb administration after adjusting for age and Charlson comorbidity index (3.7% vs. 7.5%; adjusted odds ratio 0.69, 95% confidence interval, 0.20 – 2.39; P = 0.561).

Conclusion. We did not find any difference in outcomes between early and late administration of casirivimab/imdevimab

513. Use of Antimicrobial Stewardship Program in Operationalizing Monoclonal Antibody Therapy in SARS-CoV-2 Infection

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Session: P-24. COVID-19 Treatment

Background. Antimicrobial stewardship programs (ASP) have been essential during the coronavirus disease 2019 (COVID-19) pandemic response. Use of monoclonal antibodies for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection has proven difficult to operationalize, despite being available through emergency use authorization (EUA). Utilizing existing ASP and multidisciplinary approach to lead the effort, we aim to describe our experience in operationalizing monoclonal antibody therapy.

Methods. Retrospective study of SARS-CoV-2 infected adults receiving monoclonal antibody therapy under EUA (December 2020-April 2021). An algorithm developed by the ASP provided education and an interactive online tool allowing referring physicians and patients to assess eligibility prior to hospital arrival. Patients were screened and approved by existing ASP which included: Infectious Disease (ID) physicians, pharmacist, and ID Nurse. A multidisciplinary approach with ER staff and development of pharmacy workflow with order/decision/death, as eligible patients received infusion in dedicated ER location. Data such as demographics, co-morbid condition, infusion related complications, hospitalization, and death were reviewed and collected regularly by the ASP team with frequent monitoring and regulatory reporting. Primary patient outcome was preventing hospitalization.

Results. 107 patients received monoclonal antibody therapy. 47% patients were male, 50% White, and 79% non-Hispanic. 87% received monoclonal antibody cocktail (bamlanivimab and etesevimab) and 33% received dual therapy (bamlanivimab/etesevimab). 17 patients required hospitalization post infusion. 1 death occurred. COVID-19 related hospitalization within 30-days was avoided in 84% of treated patients. No adverse event directly related to infusion were seen.

Conclusion. Use of monoclonal antibody therapy under EUA for patients for SARS-CoV-2 infection led to decrease in hospitalization in this cohort. An existing ASP using an algorithmic approval process, frequent monitoring, and multidisciplinary approach successfully operationalized the use of monoclonal antibody therapy. ASP’s provide benefit and versatility beyond monitoring of antimicrobials alone and should continue to receive support by hospital leadership.

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514. Anti-SARS-CoV-2 Monoclonal Antibodies for Early COVID-19: A Real World Experience

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Session: P-24. COVID-19 Treatment

Background. SARS-CoV-2 monoclonal antibodies afford prompt immunity, have demonstrated reduction in severe COVID-19 in high risk ambulatory patients and are available through Emergency Use Authorization. Challenges exist, however, to widespread utilization.

Methods. This study analyzed 11/23/20-4/30/21 identified patients meeting monoclonal AB EUA criteria by test results or referral. Outreach to harder-to-reach patients was included coordinating with primary care teams and testing sites. Infusion centers with staff trained in infection control, rapid response and drug preparation were utilized. The primary study outcome was treatment of qualifying patients. Secondary outcomes included infusion complications, hospitalization, and symptom resolution. Investigational review board approval was obtained.

Results. 367 patients were treated: mean age of 63, 201(55%) male, 276(75%) white, 54(15%) black. All patients had a first positive direct SARS-CoV-2 test within 10 days, 232(63%) had > 1 high-risk qualification, 32(9%) were vaccinated for SARS-CoV-2. Of patients with available zipcodes, 135(38%) had a Community Need Index >3.5 and 157(45%) a Social Vulnerability Index >0.5. 190(52%) received bamlanivimab, 93(25%) casirivimab/imdevimab, 84(23%) bamlanivimab/etesevimab. Four patients experienced infusion reaction, 1 with anaphylaxis. 172(73%) of 236 patients were symptom free at day 5. 20 patients (5%) were hospitalized for COVID-19 within 30 days with a median time from symptom onset to infusion of 7 days, 11(5%) were admitted within 24 hours, I died.