526. Implementation of Use of Monoclonal Antibody Therapy in a Large Academic Center for the Outpatient Treatment of Covid-19: Impact on 30 Day Hospitalization Rates, ED Visits and Death

Aza Bhamani, MD; Vinay Srinivasan, BA, MPH; Stacey Weinstein, MD; Nathan Clemons, PhD, MLS; Quanna Baiste, DNP; MSCHSM, RN, NNA-EC, FABCC; Shangyam Yang, PhD; D(ABMM); MLS(ASCP); Omai Garner, PhD, D(ABMM); Tara Vijayan, M.D., M.P.H.; University of California, Los Angeles, Los Angeles, CA; UCLA David Geffen School of Medicine, Los Angeles, CA

Session: P-24. COVID-19 Treatment

Background. Monoclonal Antibody Therapy (Mabs) has been shown to reduce rates of ED visits and hospitalizations in patients at risk for severe Covid-19 infection in clinical trials. Since November, three Mabs received emergency use authorization—Bamlanivimab/Imdevimab (Bam/Ete) and Casirivimab/Imdevimab (Casi/imdevi). We describe here the real-world effectiveness of implementing early Mab therapy in the outpatient setting for individuals with Covid-19 at high risk of progression.

Methods. We examined the records of 808 UCLA Health patients with a confirmed positive SARS-CoV2 PCR test who were either referred for outpatient Mab therapy or received Mab treatment in the emergency department (ED) between December 10, 2020, and May 3, 2021. The primary outcome of our analysis was the combined 30-day incidence of emergency department visits, hospitalizations, or death following the date of referral. SARS-CoV2 isolates of hospitalized patients who had received Mabs were sequenced to determine the presence of variants.

Results. Of 808 patients, 383 were referred for treatment but did not receive treatment, 109 received Mabs in the ED and 316 patients were treated in an outpatient setting. Composite 30-day mortality, ED visits and hospital admissions were significantly reduced in the combination therapy group (Bam/Ete or Casi/Imdev) compared with monotherapy (Bam alone) or no treatment groups (aHR 0.16, 95% CI .038, .67). Significant factors associated with the composite outcome included: history of lung disease (HR 4.46, 95% CI 2.89-6.90), cardiovascular disease (HR 1.87, 95% CI 1.12-3.12), kidney disease (HR 2.04, 95% CI 1.27-3.25), and immunocompromised state (HR 3.24, 95% CI 1.02-10.26) as well as high social vulnerability index (HR 1.87, 95% CI 1.13-3.10). Over one-third of hospitalized patients who had received Mabs were confirmed to have the California variant (B.1.427/29) (Figure 1).

Conclusion. Our data show that in a real-world setting, combination monoclonal antibody therapy, not monotherapy, significantly reduced ED visits and hospital admissions, likely due to the presence of the California variants. High socioeconomic vulnerability and certain medical conditions increased risk of treatment failure.

Disclosures. Omai Garner, PhD, D(ABMM), Beckman Coulter (Scientific Research Study Investigator)

527. Lower Risk of ICU Admission with Remdesivir in Patients Hospitalized with COVID-19 Pneumonia

Sarah Lim, MBBS; Pamela Schreiner, PhD; Alan Lifson, MD, MPH; Erica Bye, MPH; Kathryn Como-Sabetti, MPH; Ruth Lynfield, MD; Ruth Lynfield, MD; MN Department of Health, St Paul, Minnesota; University of Minnesota School of Public Health, Minneapolis, Minnesota; University of Minnesota, Minneapolis, Minnesota; Minnesota Department of Health, St. Paul, Minnesota

Session: P-24. COVID-19 Treatment

Background. Remdesivir (RDV) was approved by FDA in October 2020 for use in hospitalized patients with COVID-19. We examined the association between RDV treatment and ICU admission in patients hospitalized with COVID-19 pneumonia requiring supplemental oxygen (but not advanced respiratory support) in MN.

Methods. COVID-19-Associated Hospitalization Surveillance Network (COVID-NET) is population-based surveillance of hospitalized laboratory confirmed cases of COVID-19. We analyzed COVID-NET cases 2-18 years hospitalized between Mar 23, 2020 and Jan 23, 2021 in MN for which medical record reviews were complete. On admission, included cases had evidence of COVID-19 pneumonia on chest imaging with oxygen saturation < 94% on room air or requiring supplemental oxygen. Cases were excluded if treated with RDV after ICU admission. Multivariable logistic regression was performed to assess the association between RDV treatment and ICU admission.

Results. Complete records were available for 8,666 cases (36% of admissions statewide). 1,996 cases were included in the analysis, of which 908 were treated with RDV. 83% of cases were residents of the 7-county metro area of Minneapolis-St. Paul. Mean age was 59.7 years (IQR 48.72, 75), 55% were male, and the mean RDV treatment duration was 4.8 days (range 2-15). The proportion of cardiovascular disease (30.6% vs 23.9%, p=0.003), renal disease (16.6% vs 7.6%, p<.001), and diabetes (34.7% vs 26.5%, p=0.01) was higher in the RDV untreated group, while obesity (22.3% vs 8.4%, p=.003), chronic kidney disease (16.6% vs 7.6%, p<.001), and diabetes (34.7% vs 29.5%, p=.56) were higher in theRDV untreated group, while obesity (22.3% vs 8.4%, p=.003), chronic kidney disease (16.6% vs 7.6%, p<.001), and diabetes (34.7% vs 29.5%, p=.003) were higher in the RDV untreated group, while obesity (22.3% vs 8.4%, p=.003), chronic kidney disease (16.6% vs 7.6%, p<.001), and diabetes (34.7% vs 29.5%, p=.003). Over one-third of hospitalized patients who had received Mabs were confirmed to have the California variant (B.1.427/29) (Figure 1).

Conclusion. Our data show that in a real-world setting, combination monoclonal antibody therapy, not monotherapy, significantly reduced ED visits and hospital admissions, likely due to the presence of the California variants. High socioeconomic vulnerability and certain medical conditions increased risk of treatment failure.

Disclosures. Omai Garner, PhD, D(ABMM), Beckman Coulter (Scientific Research Study Investigator)
Session: P-24. COVID-19 Treatment

Background. Monoclonal antibodies for the outpatient treatment of the novel Coronavirus Disease-2019 (COVID-19) First approved emergency use authorization from the Food and Drug Administration in November 2020. These antibodies have been associated with a reduction in emergency department visits and hospitalization through randomized controlled trials. However, modest data is available to describe the outcomes of patients who were hospitalized despite treatment. This study describes real-world outcomes concerning the treatment of COVID-19 with the first approved monoclonal antibody for COVID-19, bamlanivimab, as well as hospital courses associated with patients admitting after receiving the therapy.

Methods. This single-center, retrospective study evaluated real-world data of patients treated with bamlanivimab. The primary endpoint was a composite of emergency department (ED) visits or hospitalization due to worsening COVID-19. Data was analyzed from November 23, 2020 to March 5, 2021. Descriptive statistics were used to analyze the primary endpoint. Secondary endpoints include reported symptoms 24 hours post-infusion and time to symptom resolution in days. Additionally, clinical course of patients hospitalized were analyzed and include average oxygen requirements, median length of stay, and mortality. A subgroup analysis was conducted between patients less than sixty-five years of age and those sixty-five and older.

Results. 619 patients received bamlanivimab during the specified timeframe. The primary endpoint occurred in 34 patients; 11 ED visits and 23 hospitalizations. Baseline characteristics of the patients hospitalized include median age 69 years (IQR 55-74); 56% male; and 66% Caucasian. The most common risk factors for severe disease among those hospitalized were age ≥ 65 years and history of diabetes. The clinical course of hospitalized patients varied but 52.9% required nasal cannula for respiratory support and the average length of stay was 4.5 + 4.5 days. Other COVID-19 complications included dexamethasone in 76.5% of patients and remdesivir in 47.1% of patients. There was no major difference in the clinical course of COVID-19 in patients who are hospitalized despite treatment.

Disclosures. All Authors: No reported disclosures.