Results. During the 5.5 month study period, patients receiving mAb therapy at HMC had a mean age of 56 years (yrs) (± standard deviation) (± 15.4) and a mean Body Mass Index (BMI) of 34 kg/m² (± 8.5) (Tables 1,2). African Americans (AA) comprised 48% (194/407) (Table 3) and females comprised 54% (220/407) of the cohort. 6% (25/407) of the patients required hospitalization within 14 days of mAb infusion, had a mean age of 58 yrs (± 17) (p-value 0.62) and a mean BMI of 32 kg/m² (± 9) (p-value 0.33). Females and AA comprised 56% (14/25) and 48% (12/25) of this subgroup respectively (p-value 1.0). No deaths were reported within 30 days of infusion in this cohort.

Table 1:

Age groups (years)	N (%) received mAb therapy
<18	2 (0.5)
18-29	22 (5.4)
30-39	44 (10.8))
40-49	58 (14.3)
50-59	99 (24.3)
60-69	104 (25.6)
70-79	54 (13.3)
80-89	24 (5.9)
90 and above	0
Total	407 (100)

Table 2:

BMI	N (%) received mAb therapy
20 and below	5 (1.2)
21-25	63 (15.7)
26-30	91 (22.6)
31-35	96 (23.9)
36-40	73 (18.2)
41-45	37 (9.2)
45 above	37 (9.2)
Total	402 (100) *
* 5 Unknown	

Table 3:

Race	N (%) received mAb therapy
African American	194 (47.7)
White/ Caucasian	192 (47.2)
Others (American Indian, Asian, Hispanic, Unknown, Other)	21 (5.2)
Total	407 (100)

Conclusion. Previously published reports cite a hospitalization rate in untreated high-risk COVID-19 infected patients of 9-15%. During the period of study, the county hospitalization rate and county mortality rate for all comers with COVID-19 was 6.6% and 2.7% respectively while our high risk cohort had a hospitalization rate of 6% and with no deaths reported. Our cohort had much lower rates of hospitalization and death than would be expected especially in a group which comprised of 48% AA in an underserved area. mAb therapy seems to have a protective effect with significant reduction in the hospitalization and mortality rate among high-risk patients with COVID-19 infection and should be prioritized for administration.

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

550. Bamlanivimab and Casirivimab/Imdevimab Treatment Outcomes: Results from a Large Healthcare System's Structured Implementation Experience

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Session: P-24. COVID-19 Treatment

Background. Neutralizing antibody therapies targeting SARS-CoV-2 have been released for emergency use authorization by the FDA. Little is published on their real-world experience. In this retrospective study we share the results of our early experience on patient outcomes from use of these neutralizing antibodies within a large healthcare system.

Methods. We retrospectively analyzed results of a healthcare system wide program to pro-actively identify and treat COVID-19 patients with neutralizing antibody therapy.

Results. The 449 patients identified for SARS-CoV-2 neutralizing antibody therapy during the study period were retrospectively classified as falling in one of the three groups: untreated (199), bamlanivimab (87) and casirivimab/indevimab (125) treated patients (Table 1). Reasons identified patients were not treated most commonly were patient declined (n=74), unable to be contacted (n=36), out of treatment window (n=23), asymptomatic and feeling better (n=21) or did not have transportation (n=9). Bamlanivimab infusion did not reduce emergency room (ER) visits or hospitalization compared to untreated patient within 30-days of follow up (Table 2), and among all patients treated with antibody therapy only treatment with bamlanivimab and non-white race were predictors of need for hospitalization (Table 3). Casirivimab/indevimab did reduce subsequent ER visits or hospitalization within 30 days post-infusion when compared to the untreated group. However, patients treated with either antibody therapy had lower acuity of COVID-19 disease as reflected in need for intensive care unit (ICU) stay, mechanical ventilation or death (Table 2).

Table 1. Characteristics of infused vs uninfused patients

Variable	Untreated (n = 199)	Bamlanvimab (n=87)	Casirivimab/ Imdevimab (n=125)	P value
Female gender	112 (56%)	39 (45%)	63 (50%)	NS
Median age [range}	62 [20-92]	65 [23-91]	59 [18-98]	NS
Age >65	85 (44%)	46 (53%)	38 (30%)	<.05
Race / Ethnicity				
White	119 (60%)	60 (69%)	97 (78%)	<.05
African-American	56 (28%)	20 (23%)	17 (14%)	<.05
Hispanic	12 (6%)	5 (6%)	7 (6%)	NS
Asian	7 (3%)	1 (1%)	2 (1%)	NS
Other / Unknown	5 (2%)	1 (1%)	2 (1%)	NS
COPD	28 (14%)	8 (9%)	19 (15%)	NS
Hypertension	116 (58%)	45 (52%)	56 (45%)	NS
Heart disease	19 (9%)	11 (13%)	12 (10%)	NS
Immunosuppressed	20 (10%)	26 (30%)	19 (15%)	<.001
Chronic kidney disease	19 (9%)	20 (23%)	13 (10%)	<.05
Obesity BMI>35	66 (33%)	31 (36%)	42 (34%)	NS
Obesity BMI>40	30 (15%)	12 (14%)	20 (16%)	NS
Diabetes	57 (29%)	27 (31%)	36 (29%)	NS
>1 Comorbidity	105 (53%)	51 (59%)	54 (43%)	NS
Mean days to infusion from symptom onset [range}		6 [1-11]	5 [1-10]	<.001
Time to infusion from symptom onset >5 days		53 (61%)	48 (38%)	<.001

Table 2. Outcomes in treated vs untreated patients

		ER Visit (%)	Hospitalized (%)	ICU Stay (%)	Mechanical Ventilation required (%)	Death (%)
No treatment (n=199)	Total	21 (10%)	25 (12%)	8 (4%)	3 (1%)	4 (2%)
	COVID# related	18 (9%)	24 (12%)	8 (4%)	3 (1%)	4 (2%)
Bamlanivimab (n = 87)	Total	8 (9%)	12 (14%)	1 (1%)	0	0
	COVID# related	6 (7%)	10 (11%)	1 (1%)	0	0
Casirivimab/ Imdevimab (n=125)	Total	3 (2%)*	3 (2%)*	0	0	0
	COVID# related	1 (1%)*	3 (2%)*	0	0	0

#Reasons for visits non-COVID related: trauma (4), hematuria (1), ischemic colitis (1), diverticulitis (1), congestive heart failure(1), bacterial sinusitis(1), hand pain(1).
*p<.01 for Regeneron vs Untreated

Table 3. Risk factors for ED visits or hospitalization in infused patients

Variable	Infused		P value
	ED or Hospital Visit (n=26)	No Visits (n=186)	
Female gender	12 (46%)	90 (48%)	NS
Median age [range}	62 [32 – 84]	61 [18 – 98]	NS
Age >65	11 (42%)	73 (39%)	NS
Race / Ethnicity			
White	14 (54%)	143 (77%	<.05
African American	8 (31%)	29 (15%)	NS
Hispanic	3 (11%)	9 (5%)	NS
Asian	0	3 (2%)	NS
Other/ Unknown	1 (1%)	2 (1%)	NS
COPD	5 (19%)	22 (12%)	NS
Hypertension	17 (65%)	84 (45%)	NS
Heart disease	4 (15%)	19 (10%)	NS
Immunosuppressed	7 (26%)	38 (20%)	NS
Chronic Kidney disease	5 (31%)	28(35%)	NS
Obesity BMI>35	8 (31%)	65 (35%)	NS
Obesity BMI>40	5 (19%)	27 (14%)	NS
Diabetes	7 (27%)	56 (30%)	NS
>1 Comorbidity	16 (61%)	89 (47%)	NS
Mean days to infusion from symptom onset [range}	6 [3-11]	5 [1-11]	NS
Days to infusion from symptom onset >5	15 (57%)	86 (46%)	NS
Bamlanivimab therapy	19 (73%)	68 (36%)	<.001

Conclusion. Either neutralizing antibody therapy appears to markedly reduce acuity of COVID-19 disease even if patients do progress to requiring hospitalization. However, casirivimab/indevimab therapy also decreased ER visits and hospitalization suggesting better efficacy in our experience.

Disclosures. **Christopher Polk, MD**, **Atea** (Research Grant or Support)**Gilead** (Advisor or Review Panel member, Research Grant or Support)**Humanigen** (Research Grant or Support)**Regeneron** (Research Grant or Support) **Mindy Sampson, MD**, **Regeneron** (Grant/Research Support)

551. Remdesivir and Tocilizumab for the Treatment of Severe COVID-19 in a Community Hospital: A Retrospective Cohort Study

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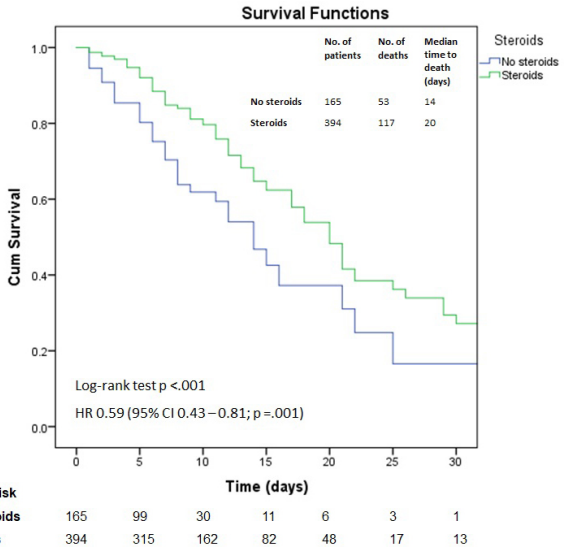
Session: P-24. COVID-19 Treatment

Background. Growing evidence supports the use of remdesivir and tocilizumab for the treatment of hospitalized patients with severe COVID-19. The purpose of this study was to evaluate the use of remdesivir and tocilizumab for the treatment of severe COVID-19 in a community hospital setting.

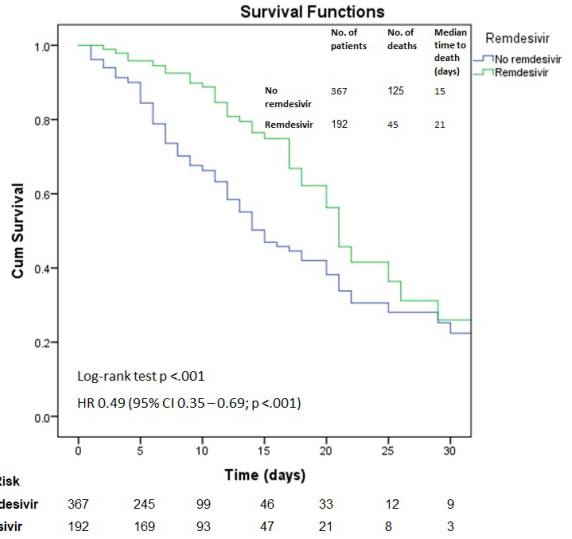
Methods. We used a de-identified dataset of hospitalized adults with severe COVID-19 according to the National Institutes of Health definition (SpO2 < 94% on room air, a PaO2/FiO2 < 300 mm Hg, respiratory frequency > 30/min, or lung infiltrates > 50%) admitted to our community hospital located in Evanston Illinois, between March 1, 2020, and March 1, 2021. We performed a Cox proportional hazards regression model to examine the relationship between the use of remdesivir and tocilizumab and inpatient mortality. To minimize confounders, we adjusted for age, qSOFA score, noninvasive positive-pressure ventilation, invasive mechanical ventilation, and steroids, forcing these variables into the model. We implemented a sensitivity analysis calculating the E-value (with the lower confidence limit) for the obtained point estimates to assess the potential effect of unmeasured confounding.

Figure 1. Kaplan–Meier survival curves for in-hospital death among patients treated with and without steroids



The hazard ratio was derived from a bivariable Cox regression model. The survival curves were compared with a log-rank test, where a two-sided P value of less than 0.05 was considered statistically significant.

Figure 2. Kaplan–Meier survival curves for in-hospital death among patients treated with and without remdesivir



The hazard ratio was derived from a bivariable Cox regression model. The survival curves were compared with a log-rank test, where a two-sided P value of less than 0.05 was considered statistically significant.

Results. A total of 549 patients were included. The median age was 69 years (interquartile range, 59 – 80 years), 333 (59.6%) were male, 231 were White (41.3%), and 235 (42%) were admitted from long-term care facilities. 394 (70.5%) received steroids, 192