Abstract

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Real-Life Use of Tixagevimab-Cilgavimab for the Treatment of Early Covid-19

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Background

Tixagevimab-cilgavimab are effective for treatment of early COVID-19 among outpatients with risk factors for progression to severe illness, as well as for primary prevention and post-exposure prophylaxis. We aimed to retrospectively evaluate the Hospital stay, prognosis and COVID19 related inflammation in patients with immune system deficiency underwent Tixagevimab–cilgavimab.

Materials and Methods

In this observational retrospective study we enrolled 42 patients who were nasal swab positive for SARS-COV-2 (Antigenic and molecular) and hospitalized at the first division of the Cotugno Hospital in Naples from 8 july 2022 to 10 january 2023. We randomly selected from our database patients matched for age, sex and disease: Group A (27 patients) affected from chronic degenerative disorders and Group B (15 patients) affected oncohaematological diseases (LNH, LLC).

Results

According to our data we observed that mean stay of patients in group A was (21±5 days) vs (25±5 days) Group B without any statistical significance differences Sign Test ($p < 0.05$); exitus were 4 in both groups; no differences in IL-6 levels between studied groups; we found differences only in PCR at admission being higher in group A compered group B. Patients enrolled in group A came to our observation after 10 days from the detection of positivity to COVID-19 unlike the other types of patients enrolled in this study. The mean stay in hospital of patients in Group A was 21±5 days vs 25±5 days in Group B. Twenty patients resulted negative after a median of hospitalization stay of 16 days (IQR: 18-15.25), of them 5 (25%) patients belonged to group B.

We observed that patients with Lymphoprolipherative disorders had lower PCR levels compared to those with chronic degenerative disorders; however both groups despite the use with active of tixagevimab-cilgavimab in association with Remdesivir does not have any significant benefit in terms of days of infection or prognosis.

Conclusion

Patients with active hematological malignancy are those with the worst prognosis for COVID-19, despite the therapy with tixagevimab-cilgavimab and remdesivir. It could be useful to sensitize hematologists and patients with active hematological malignancies to early start the pharmacological treatment (within 10 days from the detection of COVID-19 positivity). Further studies with an adequate sample size are needed to better elucidate the efficacy and safety of tixagevimab-cilgavimab in patients with COVID-19 and affected by chronic comorbidities or an impaired immune response.

	A	**B**	**Overall**
	(N=27)	(N=15)	(N=42)
Age			
Mean (SD)	66.8 (18.2)	69.9 (10.1)	68.0 (15.6)
Median [Min, Max]	71.0 [35.0, 98.0]	73.0 [49.0, 88.0]	71.0 [35.0, 98.0]
Missing	2 (7.4%)	0 (0%)	2 (4.8%)
Gender			
F	15 (55.6%)	6 (40.0%)	21 (50.0%)
M	12 (44.4%)	9 (60.0%)	21 (50.0%)
CRP			
Mean (SD)	16.3 (12.6)	25.3 (30.9)	19.3 (20.5)
Median [Min, Max]	16.1 [0.0200, 44.9]	13.2 [4.70, 94.0]	14.8 [0.0200, 94.0]
Missing	7 (25.9%)	5 (33.3%)	12 (28.6%)
IL6			
Mean (SD)	176 (509)	36.6 (28.6)	116 (387)
Median [Min, Max]	19.0 [3.20, 2030]	27.7 [3.10, 96.3]	22.9 [3.10, 2030]
Missing	11 (40.7%)	3 (20.0%)	14 (33.3%)
D-Dimer			
Mean (SD)	1880 (1910)	521 (477)	1400 (1680)
Median [Min, Max]	1030 [220, 6890]	290 [103, 1470]	776 [103, 6890]
Missing	5 (18.5%)	3 (20.0%)	8 (19.0%)
Fibrinogen			
Mean (SD)	539 (254)	493 (107)	527 (221)
Median [Min, Max]	554 [179, 1140]	451 [387, 666]	519 [179, 1140]
Missing	14 (51.9%)	10 (66.7%)	24 (57.1%)
Procalcitonin			
Mean (SD)	2.57 (5.82)	0.788 (2.54)	1.92 (4.91)
Median [Min, Max]	0.940 [0.0200, 26.6]	0.0500 [0.0200, 8.86]	0.140 [0.0200, 26.6]
Missing	6 (22.2%)	3 (20.0%)	9 (21.4%)
IgA			

Mean (SD)	247 (124)	124 (135)	196 (140)
Median [Min, Max]	235 [35.0, 519]	78.5 [11.0, 495]	156 [11.0, 519]
Missing	10 (37.0%)	3 (20.0%)	13 (31.0%)
IgM			
Mean (SD)	125 (133)	29.4 (11.5)	95.5 (119)
Median [Min, Max]	73.0 [29.0, 580]	25.5 [21.0, 53.0]	62.5 [21.0, 580]
Missing	9 (33.3%)	7 (46.7%)	16 (38.1%)
IgG			
Mean (SD)	953 (413)	631 (315)	822 (404)
Median [Min, Max]	991 [245, 1780]	662 [149, 1290]	771 [149, 1780]
Missing	8 (29.6%)	2 (13.3%)	10 (23.8%)
Antiviral therapy			
Remdesivir (10 mg)	4 (14.8%)	9 (60.0%)	13 (31.0%)
Remdesivir (5 mg)	7 (25.9%)	3 (20.0%)	10 (23.8%)
No treatment	11 (40.7%)	1 (6.7%)	12 (28.6%)
Molnupiravir	1 (3.7%)	0 (0%)	1 (2.4%)
Missing	4 (14.8%)	2 (13.3%)	6 (14.3%)
COVID-19 vaccine			
Not vaccinated	12 (44.4%)	4 (26.7%)	16 (38.1%)
2 dose	5 (18.5%)	1 (3.7%)	6 (14.3%)
3 dose	8 (29.6%)	10 (66.7%)	18 (42.8%)
4 dose	2 (7.4%)	-	2 (4.8%)

C-reactive protein (CRP); Interleukin-6 (IL6); Standard deviation (SD)

Table 1. The demographic, laboratory and clinical characteristics of the 42 patients with COVID-19 receiving tixagevimab-cilgavimab. Group A: patients affected by chronic disorders; Group B: patients affected by oncohematological disorders.

References

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