Impact of SARS-CoV2 viremia ICU patients

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Argomento: COVID-19

BACKGROUND: Sars-CoV-2 is a pandemic virus that causes a viral illness characterized predominantly by respiratory and gastrointestinal symptoms, with multiple organ involvement in severe disease. Viral RNA has been detected in several body fluids but viral dynamics in blood samples remains to be better clarified. The aim of this study was to evaluate the correlation between SARS-CoV-2 viremia during ICU stay with severity of disease and treatments performed.

METHODS: In this retrospective observational single-centre research 138 patients with severe COVID19 interstitial pneumonia were enrolled. At ICU admission, 79 patients (57,2%) had quantitative blood SARS-CoV-2 > 250 copies/ml.

RESULTS: The ICU and hospital mortality rates were higher (p=0,002) in viraemic patients compared to non-viraemic. During ICU stay, a larger proportion of viraemic patients required invasive mechanical ventilation (p=0,011) and developed secondary bacterial infections, blood CMV reactivation and probable invasive pulmonary Aspergillosis. Trend analysis indicated that at day 2 and day 4 the SARS CoV2 copies in the blood decreased more rapidly in patients treated with remdesivir (40) than in patients treated with monoclonal antibodies (35).

CONCLUSION: Our data confirmed that SARS-CoV-2 viremia is related with severity of disease and high risk of mortality and that Remdesivir seems to provide a more rapid clearance of SARS-CoV-2 virus in the blood.

	All patients n=138	Remdesivir n=40	Monoclonal antibodies n=35	Remdesivir + Monoclonal antibodies n=3	No treatment n=60	p value
Viremia t_0 (median, IQR)	544 (0-4212)	715 (250-7370)	1095 (0-3182)	250 (0-5421)	290 (0-1269)	0,189
Viremia t_2 (median, IQR)	250 (0-1048)	531 (0-1923)	303 (0-967)	531 (514-547)	250 (0-700)	0,244
Viremia t_4 (median, IQR)	250 (0-310)	250 (0-349)	250 (250-310)	250 (250-250)	250 (0-250)	0,275
Normalized Viremia t_2 (median, IQR)	0,32 (0,08-0,59)	0,22 (0,08-0,50)	0,40 (0,15- 0,56)	1,14 (0,09-2,19)	0,29 (0- 0,67)	0,845
Normalized Viremia t_4 (median, IQR)	0,08 (0,01-0,24)	0,06 (0-0,20)	0,12 (0,07-0,21)	0,52 (0,05-1,00)	0,06 (0-0,32)	0,391

Sars-COV-2 viremia trend analysis in treatment groups.