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Letter

Cyclosporine A and COVID-19 – The COQUIMA cohort

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Dear Editor:—We would like to congratulate the Spanish group [1], who evaluated several repurposed drugs for coronaviral disease-19 (COVID-19) in their cohort study, whereby they came to a similar conclusion as the SOLIDARITY study of the WHO [2]. Two aspects were different: They did not evaluate remdesivir, but included Cyclosporine A (CsA).

None of these drugs reduced mortality significantly, with the exception of CsA, showing a 4-fould decrease in observed mortality in the Spanish study, resulting in an impressive survival curve, significantly different from all other treatments.

Treatment with CsA leads to a decrease of hyperinflammation and probably to a decreased viral replication as well [3].

Although CsA is a typical immunosuppressive drug in transplant medicine, its use for COVID-19 in immunocompetent patients requires adapted instructions: the study adds clear information on the dosing (cumulative dose at least 300 mg), duration (max 3 weeks) and trough drug level monitoring.

Interestingly, the authors mention that CsA use moved swiftly from being a "salvage therapy in refractory cases to initial therapy at triage" based on their experience. Now the evidence for CsA in COVID-19 is clearly stronger than for tacrolimus, the other calcineurin inhibitor. The results from two interventional studies investigating these compounds are pending [4,5].

CsA additionally has the advantage of the intravenous application route, which may be crucial in critically ill patients.

Two important questions remain: Firstly, when should CsA be given (what disease stage)? Is the effective cumulative dose based on oral or intraveneous administration, since dosing differs by a factor 3?

Declaration of Competing Interest

None.

References

[1] Guisado-Vasco P, Valderas-Ortega S, Carralón-González MM, et al. Clinical characteristics and outcomes among hospitalized adults with severe COVID-19 admitted to a tertiary medical center and receiving antiviral, antimalarials, glucocorticoids, or immunomodulation with tocilizumab or cyclosporine: a retrospective observational study (COQUIMA cohort). EClinicalMedicine 2020:100591 [Internet]Available from: http://www.ncbi.nlm.nih.gov/pubmed/33078138 https://doi:10.1016/j.eclinm.2020.100591.

[2] Pan H., Peto R., Abdool Karim Q., et al. Repurposed antiviral drugs for COVID-19 – interim WHO SOLIDARITY trial results. medRxiv Preprint Server [Internet] Available from: https://doi.org/10.1101/2020.10.15.20209817

[3] Hage R, Steinack C, Schuurmans MM. Calcineurin inhibitors revisited: a new paradigm for COVID-19. Braz J Infect Dis 2020 [Internet]Available from: https://linkinghub.elsevier.com/retrieve/pii/S1413867020300842 https://doi.org/10.1016/j.bjid.2020.06.005.

[4] Trial Cyclosporine in Patients With Moderate COVID-19 [Internet]. Available from: https://clinicaltrials.gov/ct2/show/NCT044127851/7

[5] Clinical Trial to Evaluate Methylprednisolone Pulses and Tacrolimus in Patients With COVID-19 Lung Injury (TACROVID) [Internet]. [cited 2020 Aug 7];Available from: https://clinicaltrials.gov/ct2/show/study/NCT04341038

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