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MR-proADM has a good ability to predict 28-day mortality in critically ill patients with SARS-CoV-2 pneumonia: Beware of some potential confounders!



We read with great interest the article by van Oers et al. who conclude that baseline and serial mid-regional proadrenomedullin (MR-proADM) had a good ability to predict 28-day mortality in critically ill patients with SARS-CoV-2 pneumonia [1]. Indeed, MR-proADM was 1.88 for survivors and 1.01 nmol/L for non-survivors ($p = 0.001$) [1]. We would also like to highlight the validity of MR-proADM measurements during continuous renal replacement therapy (CRRT) [2]. Indeed, when looking at Table 1 with the characteristics of patients with SARS-CoV-2 pneumonia with regards to survival up to 28 days, we see that CRRT is used in 5.3% of the survivors versus 14.7% of the non-survivors and even though p value was 0.06, CRRT was used three times more in the non-survivor group [1]. MR-proADM molecular weight (MW) is between 4 and 5.5 kDa [3], and, therefore, it may also be removed by CRRT. Indeed, Mueller et al. showed a significant decrease in MR-proADM (45–65%) if a high-flux membrane was used (with a cut-off of 35,000 Da) [4]. This cut-off is similar to what is used in contemporary CRRT membranes [5]. Hence, among CRRT patients plasma levels of MR-proADM could be falsely low due to elimination by CRRT. Also, as CRRT was seen to be used three times more in non-survivors (14.7%) versus non-survivors (5.3), the level could be artificially lower due to removal by CRRT. Knowing that the difference between survivors and non-survivors was quiet small (1.88 in survivors vs 1.01 nmol/L in non-survivors, it stands to reason that CRRT, which is most frequently used in the non-survivors, could have artificially lowered the level of MR-proADM. With no doubt, this could be seen as a potential confounder in this study and could put the results somewhat in balance.

Author's contributions

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Competing interests

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