

LETTER

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Letter to the editor regarding “Accelerated versus standard initiation of renal replacement therapy for critically ill patients with acute kidney injury: a systematic review and meta-analysis of RCT studies”

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To the Editor

On the heels of the Standard versus Accelerated Initiation of Renal-Replacement Therapy in Acute Kidney Injury (STARRT-AKI) trial [1], Pan et al. [2] recently published a systematic review and meta-analysis of randomised controlled trials (RCTs) on the timing of renal replacement therapy for critically ill patients with acute kidney injury. They concluded that accelerated dialysis might benefit survival in a subgroup of surgical ICU patients, but not in a mixed ICU population. They also found that early initiation might have benefited patients who received CRRT, but not those who received other dialysis modalities. These results are based on subgroup analyses that included trials conducted solely in surgical ICU settings, or, in the second instance, where CRRT was the only type of dialysis used. The two trials conducted in surgical ICU settings, Sugahara et al. [3] and Zarbock et al. [4], included only 28 and 231 patients, respectively. In contrast, the STARRT-AKI trial, which was not factored into this analysis, included an overall population of 2927 patients of whom 965 were surgical patients. We determined that if these surgical patients had been included in the subgroup analysis, it would

have resulted in a null effect for early initiation (OR 0.96, 95% CI 0.77, 1.21). Likewise, a subgroup analysis of trials involving only CRRT ignores that approximately 70% of the patients in the STARRT-AKI received CRRT as the initial RRT modality. Lastly, we note the omission of another potentially eligible trial, from Jamale et al. [5], which also reported no benefit with accelerated renal replacement therapy. On the whole, omitting the surgical or CRRT subgroups from the trials done in mixed ICU populations, particularly those from the STARRT-AKI trial, renders fallible the conclusion that accelerated renal replacement therapy initiation might reduce all-cause mortality in these settings. An individual patient-level meta-analysis might be more informative, but otherwise, the results of the largest trial, namely STARRT-AKI, are more robust than subgroup analyses that only considered patients from underpowered trials.

Acknowledgements

None.

Authors' contributions

KM drafted the letter, EC provided substantial revisions to the manuscript, and SH performed the calculations and provided substantial revisions to the manuscript. All authors read and approved the final manuscript.

Funding

None.

Availability of data and materials

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

EC and SH were the Ottawa site investigators for the STARRT-AKI trial.

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Received: 23 February 2021 Accepted: 2 March 2021

Published online: 09 March 2021

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