Critical Care

LETTER Open Access

Endocan removal during continuous renal replacement therapy: does it affect the reliability of this biomarker?

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This comment refers to the article available at https://doi.org/10.1186/s13054-018-2222-7.

We read the narrative review by De Freitas Caires et al. with great interest [1]. Acute kidney injury (AKI) is prevalent among patients with sepsis, and a substantial proportion of patients with sepsis-associated AKI (SA-AKI) require renal replacement therapy (RRT) [2]. Continuous RRT (CRRT) is increasingly used (~ 20% SA-AKI) among hemodynamically unstable septic shock patients [2]. Endocan as a novel endothelium-derived soluble dermatan sulfate proteoglycan has a molecular mass of around 20 kDa [3]. The contemporary CRRT membranes are able to remove molecules as large as 35 kDa. Hence, endocan could be removed by CRRT [4]. When new highly adsorptive membranes (HAM) with high absorptive abilities are used, the ability of CRRT to eliminate endocan could be even enhanced [4]. Therefore, the reliability of endocan during CRRT could be altered. De Freitas Caires et al. show that endocan appeared as a consistent good diagnostic criterion as well as procalcitonin (PCT) and could potentially be used for de-escalation therapy in the future (requiring new studies obviously) as PCT. Accordingly (if endocan is used for de-escalation in the future), falsely low endocan in CRRT patients, in turn, could lead to an earlier de-escalation of antibiotics and level of care for septic patients. There has been no investigation on the performance of endocan on patients who receive CRRT. Therefore, we believe there is a critical need for a future study with a focus on the performance of the currently known sepsis biomarkers among those who receive CRRT [5].

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Abbreviations
AKI: Acute kidney injury; CRRT: Continuous renal replacement therapy; HAM: Highly adsorptive membranes; PCT: Procalcitonin; RRT: Renal replacement therapy; SA-AKI: Sepsis-associated AKI

Acknowledgements
None.

Funding
None.

Availability of data and materials
Not applicable.

Authors' contributions
PMH and KK designed the paper. All authors participated in drafting the manuscript. All authors have read and approved the final version.

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

Publisher's Note

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Received: 20 April 2019 Accepted: 7 May 2019
Published online: 22 May 2019

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