Critical Care

CORRESPONDENCE

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PSP is a promising biomarker of sepsis; however, potential elimination by RRT must be considered

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According to Lopez et al. pancreatic stone protein (PSP) is "a promising biomarker to diagnose infections in hospitalized patients," distinguishing infections from non-infections and outperforming C-reactive protein (CRP) and procalcitonin (PCT) [1]. PSP is a 16 kDa C-type lectin protein [1]. In patients admitted for sepsis, the value of PSP at admission correlates with the Sequential Organ Failure Assessment (SOFA) score and can predict intensive care unit (ICU) mortality [1]. Lopez et al. based most of their findings on a study looking at 90 severe patients in a burn ICU [2]. Septic shock induced acute kidney injury (AKI) in at least 50% and 25% needed continuous renal replacement therapy (CRRT) [3]. However, looking at the molecular weight of PSP, we do need to consider potential elimination by RRT using membranes with a cut off of 35–40 kDa [4]. New highly adsorptive membranes (HAM) could also absorb PSP in addition to the removal by convection [5]. Since the risk of elimination by CRRT is very likely, PSP is potentially unreliable for predicting either septic shock or patients needing to be transferred to the ICU. Before analyzing the accuracy of PSP studies are needed to determine if PSP is significantly eliminated or not by CRRT.

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Abbreviations
PSP: Pancreatic stone protein; CRP: C reactive protein; PCT: Procalcitonin; SOFA: Sequential organ failure assessment; ICU: Intensive care unit; AKI: Acute kidney injury; CRRT: Continuous renal replacement therapy; HAM: High adsorptive membranes.

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References

1. Lopes D, Chumbinho B, Bandovas JP, et al. Pancreatic stone protein as a biomarker of sepsis. Crit Care. 2022;26(1):100. https://doi.org/10.1186/s13054-022-03953-x.
2. Klein H, Niggemann P, Buehler P, et al. Pancreatic stone protein predicts sepsis in severely burned patients irrespective of trauma severity. Ann Surg. 2021;274(6):e1179–86. https://doi.org/10.1097/SLA.0000000000003784.
3. Peters E, Antonelli M, Wittebole X, et al. A worldwide multicentre evaluation of the influence of deterioration or improvement of acute kidney injury on clinical outcome in critically ill patients with and without sepsis at ICU admission: results from The Intensive Care Over Nations audit. Crit Care. 2018;22(1):188. https://doi.org/10.1186/s13054-018-2112-z.
4. Honore PM, Redant S, De Bels D. Reliability of biomarkers of sepsis during extracorporeal therapies: the clinician needs to know what is eliminated and what is not. Crit Care. 2020;24(1):553. https://doi.org/10.1186/s13054-020-03277-8.
5. Honore PM, Spapen HD. What a clinician should know about a renal replacement membrane? J Transl Int Med. 2018;6(2):62–5. https://doi.org/10.2478/jtim-2018-0016.

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