

Mortality Prediction of Plasma Presepsin in Sepsis requiring Continuous Renal Replacement Therapy

건양대학교병원 내과¹

이기범¹, 윤세희¹, 윤성로¹, 황원민¹, 이지원¹, *박요한¹

Background/Aims: Presepsin is a more specific biomarker of sepsis, and many research results have been reported recently. However, since presepsin is highly affected by kidney function, acute kidney injury (AKI), especially the situation requiring continuous renal replacement therapy (CRRT), has a significant impact on presepsin dynamics and has not been elucidated. This study analyzed the relationship between plasma presepsin and mortality in patients requiring CRRT due to AKI.

Methods: From April 2022 to March 2023, patients who underwent a presepsin test just before CRRT were included. A total of 57 patients were enrolled, of which 35 were sepsis and 22 were non-sepsis. The predictive values of APACHE-II score, SOFA score, and plasma presepsin for 28-day mortality were analyzed using receiver operating characteristics (ROC) curve analysis.

Results: In predicting 28-day mortality in the overall cohort, area under the ROC (AuROC) values of APACHE-II score, SOFA score, and serum presepsin were 0.663, 0.731, and 0.636, respectively, which the presepsin showed the lowest predictive value. However, in the analysis of only sepsis patients, the AuROC values of APACHE-II score, SOFA score, and serum presepsin were 0.651, 0.697, and 0.799, respectively, which the presepsin was the best predictive marker for 28-day mortality.

Conclusions: Presepsin was not a useful marker of 28-day mortality in overall CRRT patients, including non-sepsis. However, in patients with sepsis, it was observed as the good predictive marker of mortality, which is thought to be because presepsin is a very specific marker for infection. Presepsin may be helpful in clinical practice for predicting mortality in CRRT patients with clinically suspected sepsis.

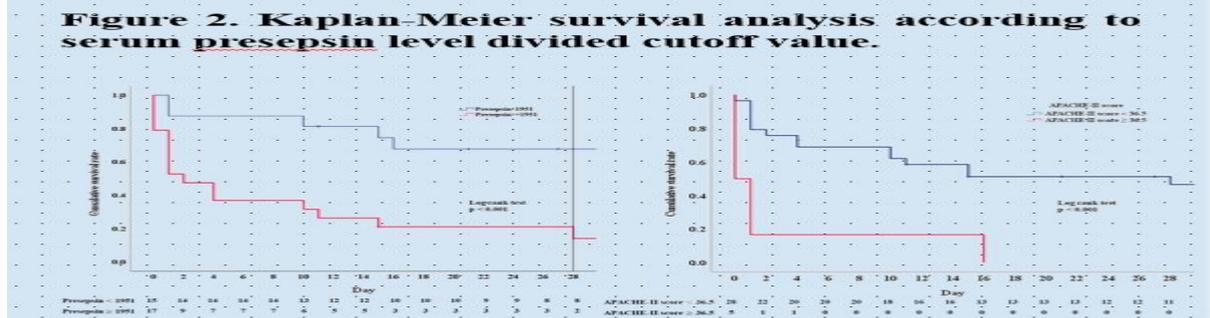
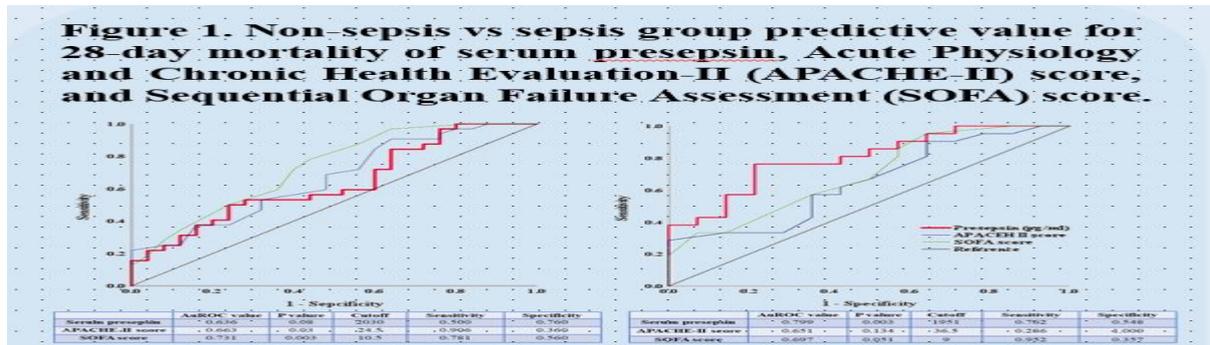


Table 1. Cox regression analysis for 28 days mortality.

	Hazard ratio (95% confidence interval)	p value
Presepsin ≥ 1951 pg/ml	2.264(1.105-4.636)	0.026
APACHE-II score ≥ 36.5	5.120(2.092-12.530)	<0.001