P55

지속적 신대체 요법을 시행받고 있는 급성신부전 환자에서 사망예측인자로서 적혈구분포폭의 역할

연세대학교 의과대학 내과학교실 신장내과

오형중 · 김승준 · 유동은 · 신동호 · 이미정 · 구향모 · 김은진 · 도화미 · 한승혁 · 최규헌 · 강신욱

Red Blood Cell Distribution Width is an Independent Predictor of Mortality in Acute Kidney Injury Patients Treated with Continuous Renal Replacement Therapy

Hyung Jung Oh, Seoung Jun Kim, Dong Eun Yoo, Dong Ho Shin, Mi Jung Lee, Hyang Mo Koo
Eun Jin Kim, Fa-Mee Doh, Seung Hyeok Han, Kyu Hun Choi, Shin-Wook Kang

Department of Internal Medicine, College of Medicine Yonsei University, Seoul, Korea

Background: Red blood cell distribution width (RDW) has been found to be independently associated with adverse outcomes in patients with heart failure and coronary heart disease. However, little is known on the relationship between RDW and clinical outcomes in acute kidney injury (AKI) patients treated with continuous renal replacement therapy (CRRT). This study was conducted to investigate whether RDW was associated with overall mortality in AKI patients treated with CRRT.

Methods: A total of 470 AKI patients, who were treated with CRRT at Yonsei University Health System, Seoul, Korea, were included. Patients were divided into 2 groups according to the RDW levels at CRRT initiation, and clinical and laboratory data, echocardiographic findings, and all-cause mortality at 28-day were compared between groups. Cox proportional hazard analysis was performed to determine the independent prognostic power for all-cause mortality of RDW and Kaplan-Meier curves were constructed to compare the difference in all-cause mortality between groups.

Results: RDW ranged from 11.7 to 28.0%, and 317 patients (67.5%) had RDW above the upper limit of normal (>14.5%). Patients with high RDW values had higher white blood cell (WBC) counts, and lower hemoglobin and total cholesterol levels compared to patients with normal RDW values. In addition, there were significant correlations between RDW values and WBC counts, hemoglobin levels, and total cholesterol concentrations. However, there were no significant differences in age, gender, SOFA score, eGFR, albumin, and echocardiographic parameters between the two groups. Patients with high RDW levels exhibited significantly higher 28-day mortality rates than patients with low RDW levels ($p<0.01$). Univariate Cox proportional hazard analysis revealed that baseline RDW levels, SOFA score, mean arterial pressure, and total cholesterol concentrations were associated with mortality. In multivariate analysis, RDW values at CRRT initiation was a significant independent predictor of 28-day all-cause mortality after adjusting for other risk factors.

Conclusion: The results of this study suggest that RDW could be an additive predictor for all-cause mortality in AKI patients on CRRT.

Key Words: 지속적 신대체 요법, 사망 예측인자, 적혈구분포폭
AKI, CRRT, Mortality, RDW