F-C5

체세포양이 작은 것은 지속적 신대체요법을 요하는 급성신부전에서 환자 생존에 유리하게 작용할 수 있다

부산대병원 신장내과[1], 부산대병원 간호부[2]

이하린[1], 장금숙[2], 이경희[2], 이장원[1], 신민지[1], 양병윤[1], 송상헌[1], 성은영[1], 곽임수[1]

Lower Body Cell Mass Might have a Survival Benefit in Patients with Acute Kidney Injury Requiring Continuous Renal Replacement Therapy

Harin Rhee[1], Keum Sook Jang[2], Kyung Hee Lee[2], Jang Won Lee[1], Min Ji Shin[1]
Byung Yoon Yang[1], Sang Heon Song[1], Eun Young Seong[1], Ihm Soo Kwak[1]

Pusan National University Hospital Nephrology[1]
Pusan National University Hospital Nursing Part[2]

Introduction: Acute kidney injury(AKI) is a highly catabolic condition that requires increased energy expenditure. However, the increased energy metabolism results in the increased production of metabolic wastes that again raises nitrogen burden to injured kidney. In AKI patients, the amount of energy expenditure is various according to the disease severity, however, it is basically dependent on the basal energy expenditure which is determined by the body cell mass (BCM). BCM is a fat free mass without bone mineral mass and extracelluar water, which involves in oxygen consumption and resting energy metabolism. In this study, we tested the association of BCM and in-hospital mortality in AKI patients requiring continous renal replacement therapy (CRRT).

Methods: We retrospectively reviewed medical records of the patients with AKI who underwent CRRT from Jan. 2013 to Feb. 2014. Baseline clinical data including CRRT initiating time and actually delivered doses were collected. BCM was measured using multifrequency bioimpedence analysis (Inbody S20, Seoul, Korea) at the time of ICU admission. Univariate and multiple linear regression analysis were performed to define independent factors for the patient survival.

Results: A total of 327 patients were enrolled in this study. 63.8% of the patients were male and their mean ages were 64.89±14.01 years old. The mean BCM was 31.25±7.07 kg. During the mean ICU stay of 17.25±55.08 days, 47.8% of the patients were dead. In the univariable and multivariable analysis, higher BCM (HR:1.131 (1.051-1.217), p:0.001), higher SOFA score (HR:1.108 (1.001-1.227, p:0.048), longer CRRT initiation time from ICU admission (HR: 1.055 (1.006-1.107), p:0.027) and lower serum albumin (HR: 0.348 (0.180-0.672, p:0.002) were independent factors associated with the higher in-hospital mortality. When the ROC curves were constructed, BCM improved the prediction power with the area under the curve (ACU) for 0.78 (95% CI 0.74-0.82) up to AUC of 0.82 (95% CI 0.78-0.86).

Conclusions: Lower BCM is independently associated with the higher in-hospital mortality in patients with AKI undergoing CRRT.

Key Words: 급성신부전, 지속적 신대체요법, 체세포양
Acute Kidney Injury, CRRT, Body cell mass