

## Association of dynamic Hb change and renal recovery in patients with severe AKI requiring CRRT

Department of Internal Medicine, Dongguk University Ilsan Hospital, Goyang, South Korea<sup>1</sup>, Clinical Trial Center, Dongguk University Ilsan Hospital, Goyang, South Korea<sup>2</sup>, Research Center for Chronic Disease and Environmental Medicine, Dongguk University College of Medicine, Gyeongju, South Korea<sup>3</sup>, Department of Internal Medicine, Seoul National University Hospital, Seoul, South Korea<sup>4</sup>, Department of Internal Medicine, Uijeongbu Eulji Medical Center, Eulji University, Gyeonggi-Do, South Korea<sup>5</sup>

Areumsongi Nam<sup>1</sup>, Sung Joon Shin<sup>1</sup>, Jang wook Lee<sup>1</sup>, Jungsoon Kim<sup>1</sup>, Jiyun Jung<sup>2,3</sup>, Dha Woon Im<sup>4</sup>, Yong Chul Kim<sup>4</sup>, Sung Woo Lee<sup>5</sup>, \*Jae Yoon Park<sup>1,2,3</sup>

**Background/Aims:** Anemia in patients with severe acute kidney injury (AKI) requiring continuous renal replacement therapy (CRRT) is associated with increased mortality and morbidity. However, the relevance of dynamic hemoglobin level variability (HbV) to renal recovery after AKI is still largely unknown. This study investigated the correlations between HbV and renal recovery at the time of discharge in patients with severe AKI who requiring CRRT.

**Methods:** We collected 1,897 AKI patients who underwent CRRT from two university hospitals between 2006 and 2021. The HbV was defined as the standard deviation (SD) and coefficient of variation (CV) during CRRT. To investigate the effects of HbV on RRT-dependence at discharge, we estimated the sub-distribution hazard ratio (HR) considering the mortality, adjusted by sex, age, charlson-comorbidity index, hypertension, SOFA, APACHE, and serum chemistry data.

**Results:** Of 1,897 AKI patients, 38 % were male, and the mean (standardized deviation) age was 66.1 (16.1) years. The proportion of outcome at discharge was 8% for RRT dependence, 29% for RRT independence, and 63% for mortality. The Cox regression analysis showed that HbV was positively correlated with RRT-dependence (SD, HR 0.77, 95% confidence interval [CI], 0.66 to 0.89; CV, HR 0.97; 95% CI 0.96 to 0.99).

**Conclusions:** This study showed that HbV during dialysis was associated with short-term renal recovery after severe AKI requiring CRRT.