



**Abstract Type : Poster exhibition**

**Abstract Submission No.: A-0250**

**Abstract Topic : Acute Kidney Injury**

## **Development of a Novel Protocol for Kidney Function Assessment while Maintaining Continuous Kidney Replacement Therapy: a Multicenter Prospective Observational Study**

**Yohan Park**<sup>1</sup>, Sua Lee<sup>2</sup>, Ji Won Lee<sup>1</sup>, Seokjin Hwang<sup>2</sup>, Daun Song<sup>1</sup>, Se-Hee Yoon<sup>1</sup>, Won Min Hwang<sup>1</sup>, Sung Ro Yun<sup>1</sup>, So Young Lee<sup>2</sup>, Jong Ho Shin<sup>2</sup>

<sup>1</sup>Department of Internal Medicine-Nephrology, Konyang University Hospital, Korea, Republic of

<sup>2</sup>Department of Internal Medicine-Nephrology, Eulji University Hospital, Korea, Republic of

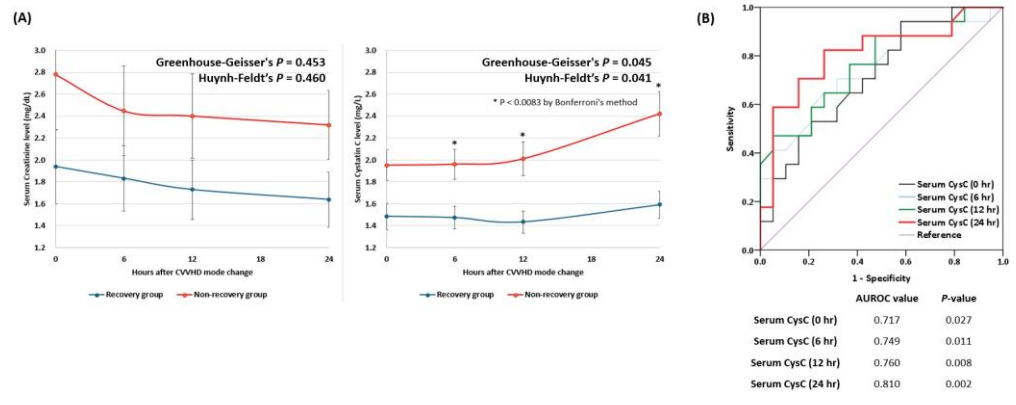
**Objectives :** Continuous kidney replacement therapy (CKRT) discontinuation remains undefined due to the lack of biomarkers for assessing kidney function recovery. This study aims to establish a protocol for assessing kidney function while maintaining CKRT and validate its clinical utility.

**Methods :** In this multicenter prospective observational study, an interim analysis was conducted on 36 patients with complete data. Non-recovery was defined as kidney replacement therapy (KRT) re-initiation within seven days of CKRT discontinuation. The CKRT mode was changed from continuous veno-venous hemodiafiltration (CVHDF) to continuous veno-venous hemodialysis (CVVHD), and serum creatinine (Cr) and cystatin C (CysC) were measured at 0, 6, 12, and 24 hours after the mode change. Differences in temporal changes in serum Cr and CysC between the recovery and non-recovery groups were analyzed, and receiver operating characteristic (ROC) curve analysis was performed using serum CysC levels at each time point to predict non-recovery.

**Results :** Following the change to CVVHD, the serum Cr trend showed no significant difference between recovery and non-recovery groups. In contrast, while serum CysC remained stable in the recovery group, it exhibited a prominently increasing trend in the non-recovery group (Figure 1A). For non-recovery prediction, the area under the ROC (AUROC) values of serum CysC progressively improved over time after the mode change to CVVHD, reaching a notable 0.810 at 24 hours (Figure 1B).

**Conclusions :** CVVHD has lower clearance for larger molecules than CVHDF. Given that CysC (13 kDa) is a middle-molecular-weight protein, we hypothesized that its CKRT clearance would be lower in CVVHD, allowing serum CysC to better reflect native kidney function (Figure 2). As expected, serum CysC after changing to CVVHD proved useful for assessing kidney function recovery. This method allows evaluation without stopping CKRT, relying only on mode change. With further data and validation, it could redefine CKRT discontinuation.

KSN2025\_CKRT\_초록\_Figure\_1.jpg



KSN2025\_CKRT\_초록\_Figure\_1.jpg

