



**Abstract Type : Poster exhibition**

**Abstract Submission No.: A-1004**

**Abstract Topic : Fluid, Electrolyte and Acid-base Disorder**

## **Prevalence and Overcorrection of Hyponatremia during Continuous Kidney Replacement Therapy: A Multi-Center Analysis**

**Hojin Jeon**<sup>1</sup>, Junseok Jeon<sup>1</sup>, Sang Ah Chi<sup>2</sup>, Kyungho Lee<sup>1</sup>, Jung Eun Lee<sup>1</sup>, WooSeong Huh<sup>1</sup>, Kyunga Kim<sup>2</sup>, Byung Ha Jeong<sup>3</sup>, Sejoong Kim<sup>4</sup>, Hye Ryoung Jang<sup>1</sup>

<sup>1</sup>Department of Internal Medicine-Nephrology, Samsung Medical Center, Korea, Republic of

<sup>2</sup>Department of Samsung Advanced Institute for Health Sciences and Technology, Sungkyunkwan University, Korea, Republic of

<sup>3</sup>Department of Internal Medicine-Nephrology, The Catholic University of Korea Seoul St. Mary's Hospital, Korea, Republic of

<sup>4</sup>Department of Internal Medicine-Nephrology, Seoul National University Bundang Hospital, Korea, Republic of

**Objectives :** Hyponatremia is common in critically ill patients and its correction during continuous kidney replacement therapy (CKRT) carries a high risk of rapid overcorrection. This multi-center study evaluated sodium correction patterns, the efficacy of preventive measures, and inter-center variability in patients initiating CKRT.

**Methods :** We conducted a retrospective cohort study of adult patients initiating CKRT across eight hospitals in South Korea. Patients with baseline sodium  $\leq 145$  mmol/L and a CKRT duration of  $\geq 3$  days were included. Patients were stratified by hyponatremia severity into severe ( $< 125$  mmol/L) and mild-to-moderate (125–134 mmol/L) groups. To assess institutional variance, participating hospitals were categorized into three groups based on center size. We evaluated the utilization of preventive measures (dextrose water administration) and the incidence of overcorrection of hyponatremia.

**Results :** Among 6,658 patients, the prevalence of hyponatremia ( $< 135$  mmol/L) was 39.3%, with 4.7% ( $n=314$ ) presenting with severe hyponatremia. Although preventive measures were applied more frequently in the severe group (11.9% vs. 3.9%), the overall utilization remained notably low. Consequently, the median 24-hour sodium correction rate was much faster in the severe group (6.0–12.0 mmol/L) than in the mild-to-moderate group (3.0–5.0 mmol/L), leading to a higher incidence of overcorrection of hyponatremia (9.7% vs. 7.5%). Furthermore, when stratified into the three hospital groups, despite uniformly low preventive measure application rates across all groups (ranging from 3.3% to 5.0%), the incidence of overcorrection of hyponatremia demonstrated significant institutional variance, ranging from 3.7% to 9.9%.

**Conclusions :** Approximately 40% of critically ill CKRT patients present with hyponatremia. The overall use of preventive measures remains low in real-world practice, causing patients with severe hyponatremia to frequently experience rapid overcorrection. Moreover, significant inter-center variability in overcorrection rates despite similar preventive efforts highlights the critical need for standardized protocols to safely manage sodium correction during CKRT.