

**Abstract Type : Poster**

**Abstract Submission No. : 1161**

## **Early weight change and subsequent mortality in critically ill patients with continuous renal replacement therapy according to disease groups**

**Sung Bin Yoon**, Seongwon Han, Kyungho Lee, Hye Ryoung Jang, Jung eun Lee, Woosong Huh, Yoon-Goo Kim, Junseok Jeon  
Department of Internal Medicine-Nephrology, Samsung Medical Center, Korea, Republic of

**Objectives:** Negative fluid balance during continuous renal replacement therapy (CRRT) was associated with better clinical outcomes in previous studies. However, it is uncertain whether patients with heterogeneous characteristics share the same benefits of negative fluid balance during CRRT. Therefore, we aimed to evaluate the association between fluid balance and mortality according to the disease groups.

**Methods:** This retrospective study included 2,658 adult patients received CRRT for 4 days or more from 2009 to 2020. Patients were divided according to disease groups: medical, surgical, and cardiovascular medical, cardiovascular surgical. Fluid balance was assessed by percentage change of weight over time. D0 was defined as the day of CRRT initiation. Primary outcome was 90-days mortality.

**Results:** CRRT D0 to D1 was fluid overload phase (increase in weight) and D1 to D3 was fluid removal phase (decrease in weight) in all groups. More positive fluid balance in fluid overload phase was associated with 90-days mortality in medical patients (adjusted OR 1.036, 95% CI 1.002–1.071,  $P=0.036$ ). Less negative fluid balance in fluid removal phase was associated with 90-days mortality in medical and cardiovascular medical patients (adjusted OR 1.051, 95% CI 1.021–1.081,  $P=0.001$  and adjusted OR 1.066, 95% CI 1.012–1.122,  $P=0.015$ , respectively). These associations between weight change and mortality were not shown in surgical and cardiovascular surgical patients. Fluid balance assessed by cumulative input/output showed similar patterns with percentage weight change. However, in patient with discordance between cumulative input/output and weight change, the percentage change of weight showed consistent association with mortality.

**Conclusions:** Early negative fluid balance is associated with better survival in medical and cardiovascular medical patients, while surgical and cardiovascular surgical patients may require more careful decision for balance fluid. In addition, percent change of weight might be more useful in assessment of fluid balance than cumulative input/output in terms of mortality.

Table 1. Adjusted odd ratio of 90 day mortality after CRRT initiation in % bodyweight change