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Initial Emergency Room-6 hours urine volume is an important factor for critically ill patient's survival.

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Objectives: Severe AKI patients requiring renal replacement therapy results in a high mortality. To aim to assess earlier and simpler predictive factors for critically ill patient mortality and renal recovery after acute kidney injury.

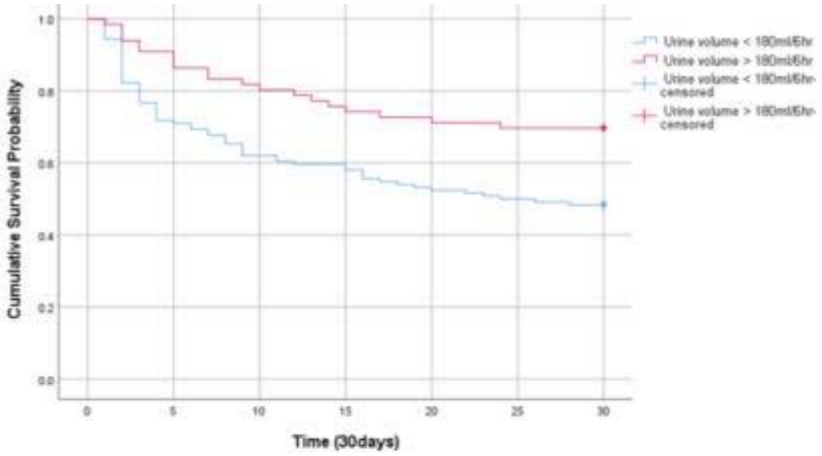
Methods: We performed a retrospective chart review study from March 2018 to May 2021 in single center, Chungnam National university hospital, Daejeon, South Korea. The primary outcomes were 30-day mortality and 90-day mortality. Secondary outcome was 90-day dialysis free duration.

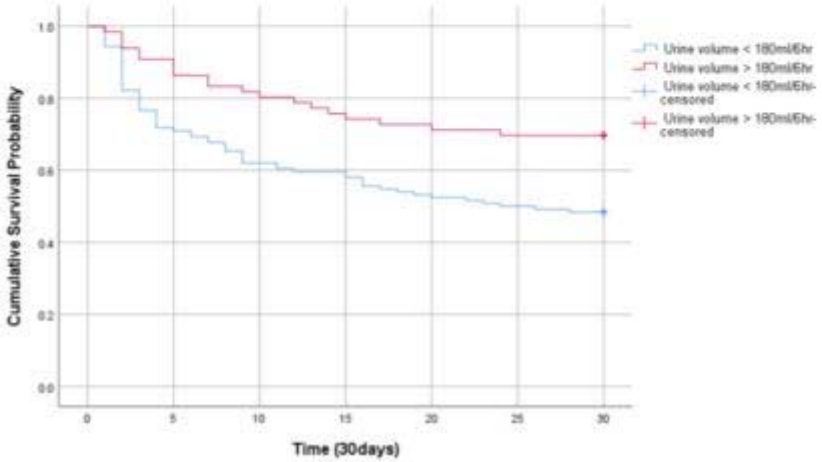
Results: By Kaplan-Meier analysis, only a high urine output (HUO) above 180 ml per six hour was important factor associated with 30-day mortality (p value 0.004). There were no significant factors such as initial eGFR, plasma NGAL level. As the same, for 90-day mortality, sustained urine volume was also predictive value of patient's survival (p value 0.001).

Secondary outcome was 90-day dialysis free duration which meant capability of renal recovery. By Kaplan-Meier analysis, high urine output was meaningful results compared with initial eGFR and plasma NGAL level.

Conclusions: There are many scoring systems for critically ill patients such as APACHE II, SAPS and SOFA. However, these are complicated and take time longer. For critically ill patients' mortality, earlier and simpler predictive factor is sustained urine volume in Emergency Room.

Figure 1. Kaplan-Meier curves for cumulative probability of 30-day and 90-day mortality. Low Urine Output (LUO) group is higher mortality compared with High Urine Output (HUO) group (p value 0.004 and p value 0.001, respectively)


Cumulative Survival Probability
1.0
0.8
0.6
0.4
0.2
0.0
0
5
10
15
20
25
30
Time (30days)
Urine volume < 180ml/6hr
Urine volume > 180ml/6hr
Urine volume < 180ml/6hr-censored
Urine volume > 180ml/6hr-censored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