KSN 2020
FULLY VIRTUAL MEETING

Abstract Submission No. : IL-9097

AKI : CRRT (dialysis in critically ill AKI patient)

Kyung-hwan Jeong
Kyung Hee University Medical Center, Korea, Republic of

Acute kidney injury is a common complication in patients admitted to an intensive care unit (ICU) and is associated with a high mortality or major complications. Patients with severe AKI usually need Renal replacement therapy (RRT). Continuous renal replacement therapy (CRRT) is particularly useful for hemodynamically unstable patients with severe AKI.
The appropriate timing for the initiation of CRRT remains uncertain. Accepted urgent indications for RRT in patients with AKI generally include:

- Refractory fluid overload
  Uncontrolled severe hyperkalemia or rapidly rising potassium levels
  Signs of uremia, such as pericarditis, encephalopathy, or an otherwise unexplained decline in mental status
  Severe metabolic acidosis

A recently reported clinical trials have highlighted the controversy over when to optimally start RRT in critically ill patients with AKI. CRRT remains a challenge for critical care clinicians. Initiation of renal-replacement therapy can restore and maintain acid–base homeostasis, mitigate fluid accumulation, and reduce exposure to the metabolic hazards of untreated AKI.
According to the KDIGO Clinical Practice Guideline for AKI, the start time of RRT was not clearly defined, contrary to the definition of AKI. Recent clinical trials demonstrated that an accelerated strategy for the initiation of RRT did not result in a lower mortality at 90 days than a standard strategy in critically ill patients with severe AKI. Based on the evidence, the decision to start acute RRT should be individualized and not be based solely on renal function or stage of AKI.
No specific CRRT modality has been shown to provide better outcomes. In most cases, the choice of CRRT modality within individual institutions depends on availability and the expertise of the clinician. CRRT dose can be expressed by the amount of blood purified per unit of time and is quantified by effluent rate normalized to body weight (unit: mL/kg/h). In clinical practice, effluent consists of net ultrafiltrate (according to net fluid removal requirements) along with replacement
The KDIGO clinical practice guideline recommends the following:

- In clinical practice, in order to achieve a delivered dose of 20–25 ml/kg/h, it is generally necessary to prescribe in the range of 25–30 ml/kg/h, and to minimize interruptions in CRRT
  The dose should be frequently assessed, and prescription should be adjusted accordingly

Critically ill patients with AKI in ICU require special modalities of therapies to achieve hemodynamic stability, euvolemic status, and acid–base and electrolytes balance with an aim of renal recovery and avoiding deleterious consequences. Physicians need to be aware of the possibility of prescribing personalized treatments modality of CRRT