

Optimal timing for renal replacement therapy initiation in acute kidney injury

Renal Replacement Therapy (RRT) is an important therapeutic option in the management of critically ill patients with Acute Kidney Injury (AKI). In the presence of life threatening complications of AKI, the decision to initiate RRT is unequivocal. However, in patients with AKI not exhibiting severe complications of AKI, the timing of RRT initiation is unclear. Institution of “early” RRT may help achieve electrolyte, acid-base, uremic and fluid homeostasis early and avoid complications of AKI. However, this strategy may expose patients who may have recovered their renal function to increased risks of bleeding, hemodynamic instability, infections etc. On the other hand, “late” initiation of RRT, in response to complications of AKI, may possibly allow time for spontaneous recovery of renal function, avoid potential therapy related complications and provide better use of health care resources. However, the impact of this strategy on patient outcomes is unclear. Instead of classifying RRT initiation as “early” or “late”, it may be prudent to consider “precisely timed” initiation RRT which would be defined by various factors such as patient and AKI phenotype, clinical status, possible use of biomarkers etc.