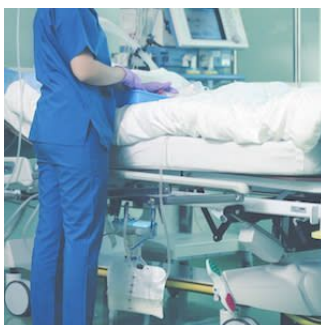


Delayed Initiation Strategy for Renal Replacement Therapy



Delaying renal replacement therapy (RRT) in critically ill patients with severe kidney injury and no severe complication is safe and can allow optimisation of the use of medical devices. However, uncertainty still remains regarding the duration for which RRT can be delayed without risk to the patient. In this study, the researchers evaluate a more-delayed initiation strategy and whether it would result in more RRT-free days compared with a delayed strategy.

The study involved 39 intensive care units in France. The researchers monitored 278 critically ill patients with severe acute kidney injury until they had oliguria for more than 72 hours or a blood urea nitrogen concentration higher than 112 mg/dL. 137 patients were randomly assigned to a delayed strategy in which RRT was started after randomisation, and 141 patients were assigned to a more-delayed strategy where RRT initiation was postponed until specific indications were observed such as hyperkalaemia, metabolic acidosis or pulmonary oedema or until blood urea nitrogen concentration reached 140 mg/dL.

The primary outcome of the study was the number of days alive and free of RRT between randomisation and day 28. Secondary outcomes included vital signs at ICU and hospital discharge at day 28 and day 60, the percentage of patients receiving RRT at least once, the number of RRT sessions between randomisation and day 28, the time between inclusion and RRT initiation, the number of patients with renal function recovery between randomisation and day 60, the number of ventilator-free and catecholamines-free days between randomisation and day 28, the duration from randomisation and ICU/hospital discharge, the reason for initiation of RRT, its modalities and duration, the number of dialysis catheter-free days between randomisation and day 28, the rate of bloodstream infection, the Barthel Activities of Daily Living Index at day 60, complications related to acute kidney injury or RRT, and the number of signets with treatment limitation, hydration and nutritional status.

Findings show that the number of complications related to acute kidney injury or RRT was similar in both groups. The median number of RRT-free days was 12 days in the delayed strategy group and 10 days in the more-delayed strategy group. No severe complication occurred that would mandate immediate RRT. Longer postponing of RRT initiation did not offer any additional benefit either. It resulted in fewer patients receiving RRT but was not associated with more RRT-free days, which was the primary goal. Survival did not differ significantly between the two groups. However, 60-day mortality was higher with the more-delayed strategy.

Overall, these findings suggest that in patients with acute kidney injury stage 3 with oliguria for more than 72 hours or blood urea nitrogen concentration higher than 112 mg/dL and no severe complication, a more-delayed RRT initiation does not offer any additional benefit and may be associated with potential harm.

Source: [The Lancet](#)

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Published on : Tue, 13 Apr 2021