

ACUTE KIDNEY INJURY

Is it possible to predict recovery from acute kidney injury?

Plasma levels of neutrophil gelatinase-associated lipocalin (pNGAL) might be useful in determining whether a patient with acute kidney injury (AKI) as a result of community-acquired pneumonia will recover renal function, according to a paper published in *Kidney International*.

“Fewer than half of survivors completely recover renal function after an episode of AKI,” states corresponding author John Kellum. “Focusing on recovery therefore has to be a priority as many patients present with AKI and there is no way to prevent it.” Uncertainty exists about when to start renal replacement therapy (RRT) in patients with AKI, and this uncertainty motivated Kellum *et al.* to search for biomarkers that might help to predict which patients will spontaneously recover.

The researchers used the Risk, Injury, Failure, Loss and End-stage kidney disease (RIFLE) criteria to identify 181 patients who had severe AKI (RIFLE-F) following pneumonia. They compared median

pNGAL levels in patients who recovered renal function and those who did not. Recovery was defined as being alive at discharge and neither requiring RRT during hospitalization nor having persistent RIFLE-F at discharge.

Median pNGAL level on the first day of RIFLE-F was higher in patients who did not recover than in those who did. Patients who did not recover were older, had higher serum levels of creatinine and more severe illness than did patients who recovered. A pNGAL level of 257 ng/ml predicted failure to recover with an area under the curve of 0.74.

“Timing of initiation of renal replacement therapy is perhaps the most critical question facing clinicians caring for patients with AKI,” says Kellum. “Clinical uncertainty is high because patients who spontaneously and quickly recover from AKI are unlikely to benefit from RRT whereas those with protracted courses or nonrecovery may benefit. pNGAL



and other biomarkers may enable patient selection for clinical trials of early RRT initiation or other interventions.”

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Original article Srisawat, N. *et al.* Plasma neutrophil gelatinase-associated lipocalin predicts recovery from acute kidney injury following community-acquired pneumonia. *Kidney Int.* doi:10.1038/ki.2011.160