Increased CKD Risk after Community-Acquired AKI

Patients with acute kidney injury (AKI) seen in the emergency department are at increased risk of chronic kidney disease (CKD) and death within 5 years, reports a study in the American Journal of Transplantation. The prospective cohort study included 616 patients admitted to the emergency department of a Portuguese tertiary hospital and followed up for a median of 5 years. Of these, 130 met criteria for AKI. Another 159 had transient azotemia and 15 had stabile CKD; the remaining 312 had normal kidney function. Risks of CKD and mortality associated with community-acquired AKI were assessed, along with the added predictive value of plasma biomarkers measured in the emergency department. A subgroup analysis of 266 patients with AKI for adjustment for confounders, patients with AKI were at significantly increased risk of stage 3 CKD, hazard ratio (HR) 5.7; and death, HR 1.9. In a model including biomarkers, serum cystatin C increased predictive ability for both markers: HR 1.5 for stage 3 CKD and 1.6 for death. Plasma neutrophil gelatinase-associated lipocalin had no predictive value in addition to AKI. Patients with transient azotemia were also at increased risk of CKD: HR 2.4.

Critically ill hospitalized patients who survive an episode of AKI have a known increased risk of progression to CKD. Less is known about the risk of CKD or death associated with community-acquired AKI, a less severe but more common condition. The new study shows a fivefold increase in the risk of stage 3 CKD among patients with community-acquired AKI, compared to emergency department patients with normal renal function. The AKI patients also show a modest but significant increase in mortality risk. The researchers conclude: “Our findings highlight the importance of follow-up of patients with community-acquired acute kidney injury, for potential early initiation of renal protective strategies.” [Soto K, et al. The risk of chronic kidney disease and mortality are increased after community-acquired acute kidney injury. Kidney Int 2016; 90:1090–1099].

Findings

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Belatacept Improves Long-Term Renal Function after EDC Kidney Transplant

Compared to cyclosporine, belatacept-based immunosuppression improves long-term outcomes in extended criteria donor (EDC) kidney recipients, reports a study in the American Journal of Transplantation. The researchers present 7-year follow-up data on 543 kidney recipients from the “Belatacept Evaluation of Nephroprotection and Efficacy as First-Line Immunosuppression Trial–Extended Criteria Donors” (BENEFIT-EXT) study. Patients were assigned to primary immunosuppression with a more-intensive or less-intensive belatacept regimen, or to a cyclosporine regimen. Patient and graft survival and estimated glomerular filtration rate (eGFR) were assessed at 7 years follow-up.

With both the more- and less-intensive belatacept regimens, time to death or graft failure was similar to that with cyclosporine. At 7 years, mean estimated eGFR was 53.9 mL/min/1.73 m² with more-intensive and 54.2 with less-intensive belatacept, compared to 55.3 with cyclosporine. Patients receiving less-intensive belatacept were less likely to meet a composite endpoint of death, graft loss, or eGFR of 20 mL/min/1.73 m² or less: hazard ratio 0.706. Acute rejection rates and safety outcomes were similar across regimens. The belatacept groups had lower rates of de novo donor-specific antibodies.

Belatacept might have advantages for ECD transplant recipients, who may be more vulnerable to nephrotoxicity from calcineurin inhibitors. As in the 5-year results, ECD kidney recipients receiving belatacept show improvement in eGFR through 7 years’ follow-up. Risks of death and graft loss were similar with belatacept versus cyclosporine, as are safety outcomes [Durbach A, et al. Long-term outcomes in belatacept-versus cyclosporine-treated recipients of extended criteria donor kidneys: final results from BENEFIT-EXT, a phase II randomized study. Am J Transpl 2016; 16:3192–3201].