

The Road Less Traveled – the AKI–CKD connection

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There is mounting evidence that an episode of acute kidney injury (AKI) increases the risk for development of chronic kidney disease (CKD) and progression to end-stage renal disease (ESRD). Observations in models of AKI reveal that chronic alterations in the renal microvasculature occur following the initial insult that can predispose to the development of CKD. Peritubular capillary loss occurs after the inciting injury and this diminished microvascular reserve has been associated with persistent renal hypoxia. These alterations have been demonstrated to precede functional indicators of CKD. Recent insights into the mechanisms contributing to the loss of microvascular density following AKI, as well as, the complex mechanisms coordinating microvascular rarefaction, hypoxia, and renal fibrosis have provided potential therapeutic targets but have also raised new questions. This session will focus on the progress made towards understanding these interactions and provide a framework for future areas of investigation regarding the long term sequelae of AKI.