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New risk factors to chronic kidney disease

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There are many risk factors for prediction of progression of chronic kidney disease (CKD). Accordingly, diverse biomarkers have been introduced for early detection of kidney function decline. A biomarker can be literally defined as a measurable indicator of some biological state or condition. Understanding biological process of certain markers in context of disease progression course are needed for these markers to be implemented in clinical practice. These are often measured and evaluated to examine normal pathogenic processes, or pharmacologic responses to a therapeutic intervention. In patients with acute kidney injury, a number of biomarkers have been reported to be elevated earlier before serum creatinine level rises. Among these, NGAL, KIM-1, NAG, and L-FABP are potential biomarkers that can replace serum creatinine in clinical conditions of rapidly declining kidney function. Such tubular injury markers have also been tested in patients with CKD. However, the predictive performances of these makers for CKD progression are not greater than those of serum creatinine, cystatin C, and proteinuria. These conventional markers are still widely accepted for assessment of kidney function in slowly progressing kidney disease and no other alternative biomarkers has yet been used in clinical practice. In this session, I'll talk about several issues on biomarkers in CKD and introduce some potential tubular markers for CKD progression in light of their biologic and clinical meaning.