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> our work expands the differential diagnosis of AKI in elderly patients

TUBULAR DISEASE

Anti-LRP2 nephropathy

Anti-brush border antibodies are a unique and likely under-reported cause of severe, acute renal tubular injury, say researchers Christopher Larsen, Laurence Beck and colleagues. They identified ten elderly patients who presented with acute kidney injury (AKI) and subnephrotic proteinuria and had similar renal biopsy findings, including extensive tubular injury with loss of brush border and IgG-positive immune deposits in the basement membrane. All of these patients had circulating IgG that bound to the brush border of normal proximal tubules.

"Based on the similarity in clinical presentation, histopathological pattern, and presence of serum autoantibodies against a brush border antigen, we thought it was likely that these patients had a common pathophysiological mechanism underlying their disease," explains Larsen. Using immunoprecipitation and mass spectrometry, the researchers identified LRP2 (also known as megalin) as the target antigen of the autoantibodies.

"It is striking that autoantibodies to LRP2 seem to be associated with such consistent clinical and histopathological features — a constellation of findings that we propose should be called anti-LRP2 nephropathy," says Beck. "Tubular injury as a result of circulating autoantibodies is not currently part of the diagnostic evaluation of AKI. Therefore, our work expands the differential diagnosis of AKI in elderly patients and describes a potential diagnostic test that could be used to detect anti-LRP2 nephropathy."

As anti-LRP2 nephropathy is an autoimmune disease, Larsen suggests that immunosuppressive therapies might improve patient outcomes. He also comments that monitoring of anti-LRP2 autoantibody levels could potentially be used to tailor the type and duration of therapy in individual patients.

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ORIGINAL ARTICLE Larsen, C. P. *et al.* LDL receptor-related protein 2 (megalin) as a target antigen in human kidney anti-brush border antibody disease. *J. Am. Soc. Nephrol.* http://dx.doi.org/10.1681/ASN.2017060664 (2017)