

TRANSPLANTATION

Urine—but not serum—suPAR might predict FSGS recurrence

A new paper published in *Transplantation* reports that urinary levels of soluble urokinase receptor (suPAR), but not serum suPAR levels, may be useful in predicting the recurrence of focal segmental glomerulosclerosis (FSGS) in renal transplant recipients.

“We frequently see patients with FSGS as potential kidney transplant candidates, and quantifying the risk of disease recurrence after transplantation is an important part of the evaluation of these patients,” explains Hatem Amer, an author on the latest paper. “When Wei and colleagues published their work showing that serum suPAR has a potential role in FSGS, we decided to evaluate this molecule as a potential biomarker for disease recurrence. Given our group’s previous work investigating urine proteins in transplant patients, we decided to assess suPAR both in the serum as well as the urine, with the hypothesis that urine may be a better source than blood for a biomarker to assess the intra-renal milieu, and may provide a more accurate reflection of events in the kidney, whereas blood could be influenced by many other organs.”

Franco Palacios *et al.* measured serum and urine suPAR levels that had been taken from 86 renal transplant recipients before transplantation and stored in a biospecimen bank. They also measured serum and urine suPAR levels in samples from 10 healthy living kidney donors (controls) stored in the same biospecimen bank. Samples taken closest to the transplant event were used for the analyses. Transplant recipients were grouped into the following groups on the basis of the primary cause of their native kidney disease: primary FSGS (recurrent and nonrecurrent;



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$n = 28$), IgA nephropathy ($n = 15$), membranous nephropathy ($n = 13$), diabetic nephropathy ($n = 15$) and autosomal dominant polycystic kidney disease (ADPKD, $n = 15$).

The researchers found that both serum and urine suPAR correlated with proteinuria and albuminuria. Serum suPAR level was increased in all renal transplant candidates compared with the healthy controls, and could not be used to differentiate the different disease diagnoses. Urine suPAR levels, however, were found to be significantly higher in the subset of patients who had recurrent FSGS than in those with other causes of end-stage renal disease and controls. “Urine suPAR might therefore be useful for predicting FSGS cases at risk of recurrence after transplantation,” notes Amer. “This finding is of great interest but should be approached with caution given the small number of cases of recurrent FSGS for whom we have biobanked urine available.”

Rebecca Kelsey

Original article Franco Palacios, C. R. *et al.* Urine but not serum soluble urokinase receptor (suPAR) may identify cases of recurrent FSGS in kidney transplant candidates. *Transplantation* doi:10.1097/TP.0b013e3182977ab1

Further reading Wei, C. *et al.* Circulating suPAR in two cohorts of primary FSGS. *J. Am. Soc. Nephrol.* 23, 2051–2059 (2012)