

Pre-transplant angiotensin receptor II type 1 antibodies and risk of post-transplant focal segmental glomerulosclerosis recurrence.

[Mujtaba MA](#)¹, [Sharfuddin AA](#)², [Book BL](#)³, [Goggins WC](#)³, [Khalil AA](#)², [Mishler DP](#)², [Fridell JA](#)³, [Yaqub MS](#)², [Taber TE](#)².

Author information

- ¹Division of Nephrology, University of Texas Medical Branch, Galveston, TX, USA.
- ²Division of Nephrology, Indiana University School of Medicine, Indianapolis, IN, USA.
- ³Division of Transplant Surgery, Indiana University School of Medicine, Indianapolis, IN, USA.

Abstract

Post-kidney transplant recurrence of focal segmental glomerulosclerosis (FSGS) is a major problem. AT1R is expressed on podocyte; its expression is elevated in the proteinuric state. Using an ELISA, we tested pre-transplant sera of 28 patients with history of idiopathic FSGS for anti-AT1R levels and serum soluble urokinase-type plasminogen activator receptor (suPAR) as a biomarker for risk of recurrence of FSGS. Sera from 11 patients with polycystic kidney disease (PKD) were used as controls. Twelve patients had biopsy proven post-transplant FSGS recurrence at 1.5 months. No difference was found in the pre-transplant suPAR levels of FSGS patients (5993 ± 2292 pg/mL) vs. PKD (7334 ± 4538 pg/mL) ($p = 0.23$). Serum suPAR levels in patients with FSGS recurrence (5786 ± 1899 pg/mL) vs. no FSGS recurrence (6149 ± 2598 pg/mL) ($p = 0.69$) were not different. Anti-AT1R levels in patients with FSGS were 12.66 ± 11.85 U/mL vs. 8.69 ± 6.52 U/mL in PKD ($p = 0.32$); however, a difference was found in patients with and without FSGS recurrence 20.41 ± 14.36 U/mL 6.84 ± 4.181 U/mL, respectively ($p < 0.01$). Area under curve for suPAR and anti-AT1R to predict post-transplant FSGS recurrence was 0.51 and 0.84, respectively. Pre-transplant anti-AT1R levels appear to be a helpful biomarker in identifying patients at high risk of post-transplant FSGS recurrence.