DE NOVO CELLULAR FOCAL SEGMENTAL GLOMERULOSCLEROSIS (FSGS) ASSOCIATED WITH SIROLIMUS: A CASE REPORT

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Background: Switching from Calcineurin Inhibitors (CNI) to sirolimus when Chronic Allograft Nephropathy (CAN) is suspected has become a frequent practice. Sirolimus use has been associated with development of proteinuria and de-novo FSGS of classical type. Cellular variant is the least common form of FSGS identified in only 3% of the biopsies. Histological variants are thought to provide prognostic value. Cellular FSGS has been associated with prognosis intermediate between collapsing and tip variants. De-novo cellular FSGS in renal allograft has never been reported. We report a case of de-novo cellular FSGS associated with switch from CNI to sirolimus.

Case report: 47-year-old African American female on hemodialysis secondary to Autosomal dominant polycystic kidney disease received a deceased donor allograft in March 2006. Maintenance immunosuppression was switched from tacrolimus to sirolimus after 3 months secondary to glucose intolerance. New onset nephrotic range proteinuria of 4.12gm developed over the next three months. Sirolimus was discontinued with partial resolution of proteinuria to 1.5gm. Recurrence of nephrotic range proteinuria of 6.3gm despite sirolimus withdrawal prompted an allograft biopsy that revealed cellular FSGS. Trial of therapeutic plasmapheresis for 4 months resulted in stabilization of renal function.

Discussion: Switching from CNI to sirolimus to offset CAN or islet cell toxicity is limited by reports of proteinuria. CNI withdrawal per se may unmask underlying CAN/Glomerular damage resulting in proteinuria, but the kinetics of proteinuria increasing gradually over a period of months after conversion as in our case argues against it. Sirolimus is renoprotective in early FSGS in experimental animals but may be associated with nephrotoxicity in patients with chronic FSGS and history of prior cyclosporine therapy. The specific risk factors, histological variant and subset of patients in whom sirolimus therapy is beneficial or detrimental are not yet known. Monitoring for urinary protein excretion in addition to its well-known effects on hematopoietic system and lipid profile is justified.