

CO-EXISTING PERITUBULAR CAPILLARY (PTC) BASEMENT MEMBRANE LAMINATION AND PODOCYTE EFFACEMENT ON EM IN KIDNEY TRANSPLANT ON CNI-FREE REGIMEN

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Chronic Humoral Rejection (CHR) is an evolving entity that now has definite diagnostic criteria, but unclear therapeutic options. Lamination of PTC is one of the features that distinguish it from Acute Humoral Rejection. We report an interesting case of early CHR with coexisting finding of podocyte effacement on EM, likely related to Sirolimus.

A 48 y/o male with ESRD secondary to Calcineurin inhibitor nephrotoxicity (CIN) from immunosuppression for a liver transplant for cryptogenic cirrhosis, received a living unrelated kidney transplant, and was placed on MMF/Sirolimus/ Steroid regimen. (He had neurotoxicity from Tacrolimus soon after liver transplant, hence was on Cyclosporine). About 6 months post transplant, a kidney biopsy was performed due to a mild rise in Scr and proteinuria of 3 gm / 24 hr. This showed acute cellular rejection, grade Ia, podocyte effacement, and lamination of the basement membrane in the PTC on EM, and C4d staining, in the presence of donor specific antibodies (DSA), suggesting CHR with concomitant Sirolimus induced foot process effacement.

This is a unique case of renal failure in a transplanted kidney with 2 distinct pathologies operating at the same time. Acute humoral rejection has been shown to respond to plasma exchange, IVIG, and Rituximab. There is, however, no consensus on management of CHR. Our patient received empiric IVIG. His serum creatinine has remained stable, and he is on diuretics and ACE inhibitors, as well. The long-term outlook is guarded, as there is evidence in the literature of decreased allograft survival in patients with CHR.

Prospective studies with protocol biopsies monitoring C4d deposition, with quantification of donor specific antibodies early post transplant, and at regular intervals are needed to help propose standardized guidelines for the management of CHR. Patients on Sirolimus also need to be watched closely for worsening proteinuria.