Early recurrence of FSGS combined with acute calcineurin inhibitor nephrotoxicity after KT

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Primary FSGS is a glomerular disease that recurs in 30% of patients after KT and increases the risk of graft loss. Proteinuria is a common early sign of FSGS recurrence, although decreases in urine volume are uncommon. Herein, we present a case of a patient who had anuria following KT and was eventually diagnosed with FSGS recurrence. A 55-year-old man with ESRD caused by primary FSGS, underwent deceased donor KT. Pretransplant crossmatches were negative without presence of donor-specific anti-HLA antibodies. Basiliximab was used for induction, and tacrolimus, mycophenolate, and steroid were used for maintenance immunosuppression. On POD1, urine volume was good (6L/day), and the graft DTPA scan showed no specific abnormalities(Figure 1). However, the next day, urine volume decreased to 1L, and UPCR was 11.8g/g; tacrolimus trough level rose to 19.6mg/dL. On POD3, urine volume was decreased to less than 100mL and serum creatinine was increased, so tacrolimus was discontinued and anti-thymocyte globulin was applied. Despite the interventions, anuria continued, a graft biopsy was performed on POD7. In LM, glomeruli were normal, but isometric vacuolization in tubular cytoplasm and acute tubular injury were observed, suggesting CNI toxicity. We kept stopping CNI, but anuria persisted. On POD21, diffuse foot process effacement was confirmed in EM, suggesting FSGS. We performed plasmapheresis(PP) and urine volume increased after PP initiation. After 8 sessions of PP, serum creatinine decreased from 11.5 to 1.3mg/dL, and proteinuria decreased from 15.3 to 8.7g/g. Two weeks later, graft function decreased, so a second graft biopsy was performed. Typical FSGS findings were confirmed in LM without acute rejection evidence; an additional 5 sessions of PP were performed, and 200mg of rituximab was applied thereafter. On POD86, the patient's creatinine is stable at 1.2mg/dL with a UPCR 5.0g/g. This case highlights that FSGS can recur early after KT and that anuria can occur when combined with CNI toxicity. This complicates the diagnosis of FSGS recurrence. Therefore, clinicians should keep this possibility in mind and be careful not to delay the diagnosis of FSGS recurrence.