KSN 2022
SEOUL, KOREA MAY 26 - 29

Abstract Submission No. : 1201

A Case Report of Recurrent Focal Segmental Glomerulosclerosis and Antibody-Mediated Rejection after Kidney Transplantation

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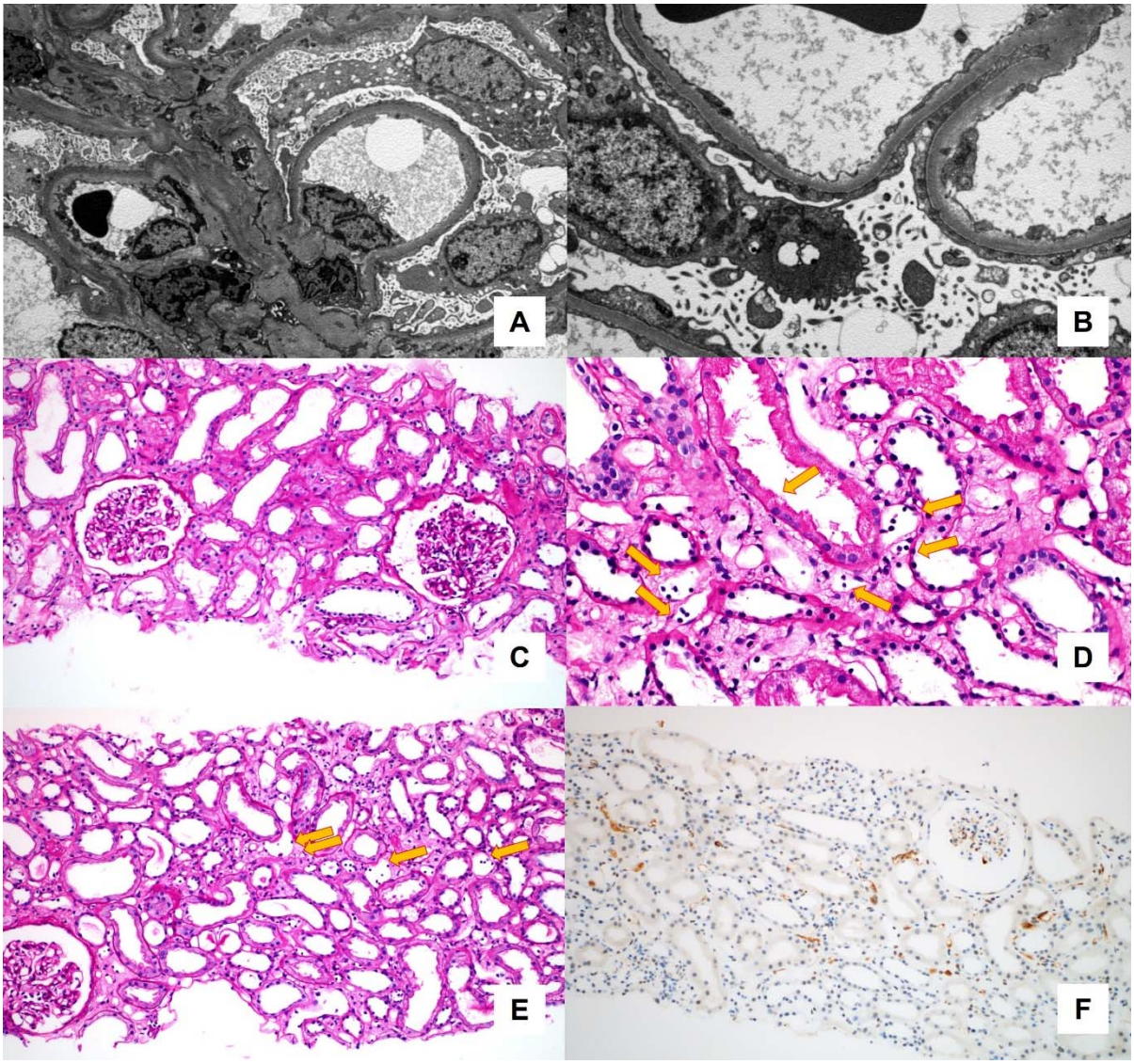
Case Study

Recurrent focal segmental glomerulosclerosis (FSGS) is reported approximately 40% of kidney transplantation and is a major risk factor of allograft loss. Here we report a case of partially controlled recurrent FSGS and combined antibody-mediated rejection (ABMR) after kidney transplantation.
A 41-year-old man with end-stage renal disease caused by primary FSGS received a kidney transplant from a 65-year-old deceased donor. Initially, He had been diagnosed minimal change disease at age 4 and underwent steroid therapy but experienced frequent relapse. Two additional kidney biopsies at age 26 and 34 reported FSGS, and intensive immunosuppressive therapy followed. The patient received hemodialysis for 7 years until transplantation. Pre-operative plasmapheresis was not performed, and standard immunosuppressive therapy was administered.

Immediately after transplantation, there was a significant allograft dysfunction; prolonged anuria with azotemia. Intermittent hemodialysis was performed and a biopsy specimen from the allograft on day 13 (Figure 1) revealed a diffuse effacement of epithelial foot processes with microvillous transformation, consistent with early recurrence of FSGS. Also, C4d in 20% of peritubular capillaries were detected suggesting antibody-mediated rejection (ABMR)

From day 16, six sessions of plasmapheresis with intravenous infusion of immunoglobulin (IVIg) were performed every other day and a single dose of rituximab was given on day 16. From day 17, the allograft regained its function. Serum creatinine levels decreased from 10.54mg/dL to 1.97mg/dL and daily urine output increased from 10mL/day to 1500-2500mL/day, even though there was persistent proteinuria of 2.236g/g. The patient was discharged on day 27. At 3 months after transplantation, he presented with fever and was diagnosed bloodstream cytomegalovirus (CMV) infection. Antiviral therapy with valganciclovir was initiated and his glomerular filtration rate remained above 60mL/min/1.73m^2 with persistent proteinuria (2.416g/g). This case supports that treating recurrent FSGS after kidney transplantation with plasmapheresis and rituximab can lead to partial remission and preservation of allograft.

Figure 1. Biopsy of kidney allograft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