Eculizumab as rescue therapy in a renal transplant recipient with atypical hemolytic uremic syndrome: a case report

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Background: Atypical hemolytic uremic syndrome (aHUS) after kidney transplantation (KT) can cause irreversible graft failure by over-activation of the alternative complement pathway. Eculizumab is a humanized monoclonal antibody against the human complement component C5 and has been used to treat aHUS. Herein, we report a case of a KT recipient with aHUS, which was salvaged with eculizumab.

Case report: A 61-year-old female with end-stage renal disease received a KT from a deceased donor. The surgery was performed successfully and serum creatinine (sCr) level decreased to 0.74 mg/dL without acute rejection episodes. The patient received tacrolimus, mycophenolate mofetil and methylprednisolone as maintenance immunosuppressants. Four months after the KT, the patient complained of general weakness and diarrhea. Her sCr level increased to 1.50 mg/dL. The hemoglobin and platelet count decreased to 7.0 g/dL and 20,000/ μ L, respectively. In addition, LDH increased to 3,207 IU/L. The kidney biopsy showed severe glomerular thrombotic microangiopathy. Under a diagnosis of aHUS, intense plasmapheresis was initiated. However, sCr level increased to 4.32 mg/dL and anuria did not resolve for more than 10 days. Eculizumab was initiated as per usual protocol (900 mg weekly for 4 weeks followed by 1,200 mg every other week) at admission day 11. Anti-meningococcal vaccination was administered before the first dose of eculizumab. Four weeks after eculizumab treatment, platelet count normalized to 236,000/ μ L and sCr level declined to 2.05 mg/dL. There were no significant side effects except for urinary tract infection controlled with antibiotics. Eculizumab was discontinued 3 months after treatment. Currently, 12 months after the presentation, renal allograft function has remained stable and there has been no evidence of aHUS recurrence.

Conclusions: Since aHUS after KT is associated with a high rate of allograft failure, prompt use of eculizumab along with plasmapheresis can be a valuable treatment to save renal allograft.

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