Clinical Significance of Use of Mycophenolate Mofetil in Kidney Transplant Recipients

Woo Yeong Park, Sang Mok Yeo, Hayeon Park, Jin Hyuk Paek, Seong Sik Kang, Kyubok Jin, Sung Bae Park, Seungyeup Han
Department of Internal Medicine, Keimyung University School of Medicine, Keimyung University Kidney Institute, Korea, Republic of

Objectives: The most effective immunosuppressants in kidney transplantation (KT) have been known for the combination of calcineurin inhibitor (CNI), steroid, and mycophenolate mofetil (MMF) until now. MMF has been discontinued and CNI alone or combination of CNI and steroid has been used for many reasons, but the clinical course of the KT recipients after discontinuation of MMF is not known clearly. The purpose of this study is to investigate the clinical outcome of KT after discontinuation of MMF.

Methods: We retrospectively analyzed the medical records of 626 kidney transplant recipients (KTRs) performed KT between 2000 and 2016. We evaluated the incidence of acute rejection, allograft and patient survival rates, and risk factors related with graft failure according to the usage of MMF.

Results: Mean age of KTRs was 44.1 ± 11.6 years. Median time between KT and discontinuation of MMF was 6.4 (range, 3.2 – 32.1) months. Common causes of discontinuation of MMF were infection (70.7%), hematologic abnormalities (9.1%), and gastrointestinal trouble (7.7%). The rate of cytomegalovirus infection (60.5%) was the highest among all infections, followed by BK virus infection (18.4%). The proportion of female and the incidence of BPAR were significantly higher in the MMF discontinuation (MD) group compared with the MMF continuation (MC) group (57.7% vs. 34.4%, P < 0.001; 27.4% vs. 8.9%, P < 0.001). Death-censored graft survival and patient survival rates were significantly lower in the MD group compared with the MC group (P < 0.001; P < 0.001). In multivariate analysis, discontinuation of MMF was an independent risk factor for graft failure after adjustment for recipient age, gender, infection, and deceased donor KT (HR 6.058, 95% C.I., 3.172-11.569, P < 0.001).

Conclusions: The incidence of rejection, graft failure, and patient mortality in KT were high after discontinuation of MMF. Therefore, discontinuation of MMF should be considered carefully.