SP752 **IMPACT OF TACROLIMUS TROUGH LEVEL IN KIDNEY TRANSPLANT RECIPIENTS ON THE POST-TRANSPLANT CLINICAL OUTCOME**

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INTRODUCTION AND AIMS: Tacrolimus is a main maintenance immunosuppressant in kidney transplantation (KT), and the level at the early period after KT is very important for the prognosis of allograft. However, the common criteria of tacrolimus trough level (TTL) are uncertain. We investigated the impact of TTL in KT recipients on the post-transplant clinical outcome.

METHODS: We retrospectively investigated the patients performed KT between July 2007 and June 2016. We investigated TTLs at 1 week, 2 week, 3 week, 1 month, 3 months, 6 months and 12 months after KT. We evaluated the incidence of acute rejection and cytomegalovirus (CMV) infection, and graft survival according to the TTLs.

RESULTS: A total of 429 patients who received KT during the study period were enrolled. The mean age of KTRs was 46.3 $\pm$ 11.5 years and male was 55.5%. TTLs (ng/mL) at 1 week, 2 week, 3 week, 1 month, 3 months, 6 months and 12 months after KT were 6.2 (5.0 - 7.9), 7.1 (5.8 - 8.6), 7.8 (6.3 - 9.6), 7.6 (6.0 - 9.5), 6.8 (5.5 - 8.4), 6.5 (5.2 - 7.8), and 5.9 (4.8 - 7.1). The incidence of acute rejection within 1 year after KT was significantly higher when TTLs at 3 months was less than 4.0 ng/mL ($P = 0.020$). On the contrary, the incidence of CMV infection after 1 year was significantly higher when TTLs at 12 months was 10 ng/mL or more ($P = 0.015$). However, the incidence of CMV infection within 1 year was not associated with TTL within 1 year. Death-censored graft survival rate was significantly lower in KTRs with acute rejection and CMV infection ($P < 0.001$ and 0.008). In multivariate analysis, TTL less than 4 ng/mL at 3 months after KT was an independent risk factor for graft failure.

CONCLUSIONS: Acute rejection and CMV infection are important risk factors for allograft failure. Therefore, TTL should be kept at least 4 ng/mL or more at 3 months after KT to reduce the incidence of acute rejection within 1 year after KT and below 10 ng/mL since 1 year after KT to reduce the incidence of CMV infection since 1 year after KT.