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Session Title : Astellas Korea Inc.

Optimal Level of Tacrolimus to Prevent Rejection in Kidney Transplantation

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Tacrolimus is an immunosuppressive medication commonly used to prevent organ rejection in individuals who have undergone kidney transplantation (KT). The optimal level of tacrolimus in the blood is crucial in balancing the prevention of rejection with the risk of toxicity. The optimal level may vary from person to person, and healthcare providers closely monitor these levels to ensure efficacy and minimize the risk of adverse effects.

The therapeutic range for tacrolimus is typically expressed as a trough level, representing the lowest drug concentration in the blood before the next dose. While the specific target levels may vary, a common range for tacrolimus trough levels in KT is over 5 ng/ml. The KDIGO guideline suggested low-dose tacrolimus, defined as a trough concentration of 3 to 7 ng/ml based on the Symphony study. Recent practical recommendation suggests a trough level between 5-10 ng/mL in the first year after KT. From a Korean multicenter cohort study, tacrolimus trough levels higher than approximately 6 ng/mL might not be required after a year of KT.

In addition to trough level, inpatient variability and medication adherence also significantly impact determining transplant outcomes. The tacrolimus level and dosage should be adjusted based on these factors to maintain an appropriate balance between preventing rejection and minimizing the risk of adverse effects.