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**Clinical significance of the Living kidney donor profile index in living kidney donors for predicting of post-transplant outcome: Korean Organ Transplantation Registry**

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**Objectives:** Recently, the number of deceased donor kidneys (DDK) has been limited, so living donor kidney transplantation (LDKT) accounts for nearly 40% of kidney transplants worldwide. We analyze the living kidney donor profile index (LKDPI) with data from Korea organ transplantation registry (KOTRY), and confirm if LKDPI could be a tool to predict the survival of allograft in living donor kidney transplantation

**Methods:** The study population was derived from the KOTRY database. From April 2014 to June 2019, 5403 kidney recipients registered in the KOTRY database were enrolled. Donor and recipients information (transplantation date, age, sex, race, blood type, BMI, previous medical history, HLA typing, lab finding, etc.) were observed. LKDPI was measured with these factors and analyzed whether the LKDPI score could predict the graft loss and prognosis.

**Results:** Of the 5403 kidney recipients, 2597 (Men: 1112, Women: 1485, median age: 47.7) who received LDKT were evaluated with LKDPI. Median LKDPI was 17.99. Patients were divided into two groups based LKDPI score. We validated that the higher LKDPI score was, the higher the all graft loss risk (HR = 1.668; 95% CI 1.041-2.675;  $P = 0.034$ ) and the death-censored graft loss risk (HR = 2.018; 95% CI 1.138-3.576;  $P = 0.016$ ). In multivariate analysis which corrected recipient factors affecting graft loss risk, the same results were founded. Higher LKDPI score group showed higher risk of all graft loss (HR = 1.727; 95% CI 1.072-2.784;  $P = 0.025$ ) and death-censored graft loss (HR = 2.016; 95% CI 1.132-3.592;  $P = 0.017$ ).

**Conclusions:**

In this study, we confirmed that LKDPI could be an independent predictor for assessing the risk of allograft failure and outcome in a Korea LDKT.