

신장이식 후 혈압의 일주기성 리듬의 변화

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The Change of Circadian Rhythm of Blood Pressure after Kidney Transplantation

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Background: It is known that hypertension is well controlled with successful kidney transplantation (KT), but the effect of KT on circadian rhythm has not been fully investigated. The aim of this study is to investigate the change of circadian rhythm before and after KT.

Methods: Forty-six patients took the ambulatory blood pressure monitoring (ABPM) before KT and 1 year after KT. According to the nocturnal reduction of systolic blood pressure (Δ SBP), we divided patients into dipper (Δ SBP \geq 10%), non-dipper ($0 < \Delta$ SBP \leq 10%), and reverse dipper (SBP nocturnal rise). We investigated change of circadian rhythm both before KT and at 1 year after KT. We also evaluated the mean blood pressure, proportion of hypertensive patients and number of anti-hypertensive medication before and after KT.

Results: Circadian rhythm before and after KT showed diverse pattern. Proportion of dipper, non-dipper and reverse dipper before KT was 15% (7/46), 59% (27/46) and 26% (12/46), respectively. After KT, proportion of three patterns was similar to those of pre KT. However, dippers were decreased from 15% (7/46) to 8% (4/46), and reverse dippers were increased from 26% (12/46) to 33% (15/46) at 1 year post-transplant. Mean blood pressure did not differ before and after KT ($125 \pm 18/82 \pm 13$ vs. $121 \pm 10/81 \pm 9$ mmHg, $p > 0.05$) and proportion of hypertensive patients (with or without medications) also did not differ before and after KT (83% (38/46) vs 39% (18/46), $p > 0.05$). But, number of anti-hypertensive medication was significantly decreased after KT (1.7 ± 1.2 vs 0.6 ± 0.9 , $p < 0.05$).

Conclusions: The overall blood pressure improved, but abnormal circadian rhythm does not improve in most patients even after successful kidney transplantation.

Key Words: 일주기성 리듬, 혈압, 신장이식

Circadian rhythm, Blood pressure, Kidney transplantation