

24시간 평균 혈압의 대표값으로 측정할 혈압의 최적 시간

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The Optimal Time to Measure Blood Pressure as a Representative Value of 24-hour Mean Blood Pressure

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Background: Hypertension is one of treatment targets for the progression of chronic kidney disease. Average of 24 hour ambulatory blood pressure (BP) is gold standard for the measurement of high BP, which may not be a comfortable method. Optimal and representative time for the representative BP value in patients with chronic kidney disease (CKD) is still unknown.

Methods: We evaluated whether there may be proper time to measure BP for predicting the average of 24 hour BP in the nationwide, multicenter, cross-sectional study (n, 1317; mean age, 57 years; men, 62.9%; diabetic nephropathy, 25.0%).

Results: Regression analysis showed that systolic BP (SBP) at the 8 AM and 9 PM during the awaken period, best agreed with the 24-hr mean SBP ($r=0.654$, $r=0.668$, respectively). Agreement between SBP at 9PM and the 24 hr mean SBP in the dipper group was the highest value in the four different dipping groups, ($r=0.558$ in the extreme dipper group, $r=0.662$ in the dipper group, $r=0.708$ in the non-dipper group, $r=0.635$ in the reverse dipper group). The same Agreement in CKD 4 patients was the highest ($r=0.602$ in the stage 2 of CKD, $r=0.645$ in the stage 3 of CKD, $r=0.725$ in the stage 4 of CKD). That agreement in non-proteinuric patients was better than that in proteinuric patients ($r=0.875$ in no proteinuric patients, $r=0.622$ in proteinuric patients). The agreement between SBP at 9PM and 24 hr mean SBP was not different according to the presence of diabetes or left ventricular hypertrophy (LVH) ($r=0.648$ in non-diabetic patients, $r=0.672$ in diabetic patients; $r=0.659$ in no LVH patients, $r=0.484$ in probable LVH patients, $r=0.665$ in definite LVH patients).

Conclusion: This data suggest that BP measurement at an optimal time may be probably 9 PM, especially, in the patients with non-dipper, the stage 4 of CKD, or without proteinuria in this CKD cohort. However, BP measurement at a single time cannot replace the 24 hour mean SBP In other population. This study was sponsored by sanofi-aventis Korea Co. Ltd.

Key Words: 혈압, 만성콩팥병, 24시간

Blood pressure, Chronic kidney disease, 24 hours