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Hypertension in chronic kidney disease, Korean perspectives

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Hypertension is a main cause of chronic kidney disease (CKD), and CKD itself can cause blood pressure (BP) to increase. Hypertension accelerates the age-related decline of renal function if BP is not adequately controlled. And CKD substantially increase the risk of hypertension-related cardiovascular events. Kidney Disease Improving Global Outcomes (KDIGO) and the eighth Joint National Committee (JNC 8) recommended broader and higher BP targets than before. But a recent meta-analysis showed that systolic BP (SBP) reduction decreased cerebro-cardiovascular disease events and all-cause mortality with similar proportional reductions irrespective of starting BP. The target BP, especially in CKD patients, remains a matter of debate.
Association between Blood Pressure and Target Organ Damage in Patients with Chronic Kidney Disease and Hypertension (APrODiTe) and APrODiTe-2 studies in Korea showed that majority of Korean CKD patients had uncontrolled BP and abnormal nocturnal dipping patterns. Poor control of BP was associated with lower renal function and higher urinary protein excretion; and better BP control and dipping status changes were associated with better renal function and proteinuria as well as less cerebro-cardiovascular damages.
In the survey about the target BP in CKD patients in Korea, Two-thirds of physicians considered the target BP for CKD to be < 130/85 mmHg. The SBP thresholds for diabetic CKD, proteinuria ≥ 300 mg/day, 30 ≤ GFR < 60 ml/min/1.73 m2, age < 60 years, and the presence of atherosclerotic (ASO) complications were significantly lower than the SBP thresholds of the opposite parameters. The target BP achievement rates using the SBP thresholds in this survey were as follows: non-diabetic (69.3%); diabetic (29.5%); proteinuria < 300 mg/day (72.3%); proteinuria > 300 mg/day (33.7%); GFR ≥ 60 (76.4%); GFR < 30 (47.8%); no evidence of ASO (67.8%); and the presence of ASO (42.9%). The four major hurdles to controlling BP were non-compliance to life-style modification and medications, self-report of well-controlled home BP, and co-prescription from other specialties. 78.6% and 97.3% of physicians prescribed home and ambulatory BP monitoring to less than 50% of their patients, respectively.
In determining individualized target BP, we should attempt to acquire more data regarding patients' BP values through frequent home BP or ambulatory BP monitoring as well as frequent assessment of adverse events related to BP control. In addition, it is required to be more delicate to design studies regarding target BP in CKD patients with considering individualized risk scoring

of cerebro-cardiovascular events and medication-associated adverse events.