New KDIGO Blood Pressure Guideline Emphasizes Standardized Measurement, Tight Control

By Bridget M. Kuehn

But after careful consideration, their workgroup came to a conclusion that they should make the right recommendation to shoot for a target systolic blood pressure of less than 120 for patients with CKD, a recommendation supported by the results of the Systolic Blood Pressure Intervention Trial (SPRINT) and a large meta-analysis. Because all large outcome trials in hypertension were using standardized, not routine, blood pressure, they also made that target contingent on using standardized office-based blood pressure. They expected both recommendations would be controversial—and they were right.

Standardized blood pressure measurements, which require a series of steps to ensure a reliable reading, were used in SPRINT and are also recommended by the American College of Cardiology/American Heart Association (ACC/AHA)’s 2017 guideline for the management of high blood pressure. But this set of procedures for measuring blood pressure is far from routine in clinics crunched for time and under pressure to move patients efficiently through the office. Instead, most routine blood pressure measurements skip many of the steps, which can result in readings that can be as much as 10−30 points higher and sometimes lower than a standardized measurement for the same patient.

“You are slowing down the clinic workflow, although not by much,” explained Cheung, who is also Chief of the Division of Nephrology & Hypertension at the University of Utah. “Many people do not like to do that. But we are adjusting patients’ medications based on these often unreliable measurements if we stick to routine measurement techniques.”

Clinical impact

Without a reliable measurement, Cheung said, it is impossible to recommend a blood pressure target, so he and his colleagues were willing to “push the envelope” in the hope that over time more practices will adopt the recommendations despite some obstacles.

“If you measure blood pressure carefully, we are comfortable making the target below 120 mm Hg systolic with individualization as needed,” he said. The 120 target is not recommended for patients with a kidney transplant or those on dialysis or pediatric patients.

Cheung and his colleagues felt confident in the recommendation because SPRINT for the first time provided evidence of a 25% risk reduction in cardiovascular events.
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or deaths from cardiovascular causes in patients with CKD who were shifted to the lower target of 120 mm Hg compared with a 140-mm Hg target. It also found a 27% reduction in overall mortality, as well as cognitive benefits, all with an apparently overall neutral effect on kidney health, Cheung noted. He acknowledged that some clinicians may be concerned that tight control could lead to more adverse events, particularly in older patients, but he said tight blood pressure control is very important. He said research following standardized office-based blood pressure measurements showed that the 5-year probability of regression was similar to the 5-year probability of progression in patients with the moderate CKD group and 19.3% versus 20.4% in the severe CKD group.

In patients with moderate CKD, 5-year mortality increased from 9.6% for those under age 65 to 48.4% for those 85 or older. The age-related increase in the severe CKD group was from 10.8% to 60.2%. When the competing risk of death was considered, the risk of disease progression or kidney failure decreased significantly: from 32.3% at age 65 to 9.4% at age 85 or older in patients with the moderate CKD group and from 55.2% to 4.7% in those with severe CKD. Aging had a lesser effect on the probability of CKD progression: from 22.5% at age 65 to 15.4% at age 85 or older in the moderate CKD group and from 13.9% to 18.7% in the severe CKD group.

“The burden CKD is expected to increase worldwide as the global population ages, potentially increasing the demand for nephrology services,” the authors state. “Understanding whether CKD inevitably progresses or may regress can inform clinical decision-making and health policy.”

Reference

CKD Regression

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m²) in 35,929 patients, and severe (15 to 29 mL/min/1.73 m²) in 12,237 patients. Those in the mild CKD group had a mean age of 72.4 years, compared with 77.1 years for those in the moderate group, and 76.6 years for those in the severe group. The researchers analyzed rates of CKD progression and regression by age, based on a sustained increase or decrease in the eGFR category for more than 3 months or a 25% or greater increase or decrease in eGFR, respectively. Other outcomes included kidney failure (eGFR less than 15 mL/min/1.73 m²) and death. The analysis included measures to minimize the effects of regression of CKD after acute kidney injury or owing to the effects of variability in eGFR measurements.

For individuals 65 or under, annual CKD incidence was 180 per 100,000 population. For those 85 or older, annual CKD incidence increased to 7,250 per 100,000 population. In all three categories of mild, moderate, or severe kidney disease, the 5-year probability of progression was similar to that of previous years: 14.3% versus 14.6% in the mild CKD group, 18.9% versus 16.5% in the moderate CKD group, and 19.3% versus 20.4% in the severe CKD group.

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References

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