



## Hypertension before age 40 poses heart/stroke event risk



A Duke Health-led study finds that young adults with high blood pressure before age 40 have greater risk for cardiovascular disease (CVD) events – i.e., heart failure and strokes – as they grow older. The study is the first to assess risks for younger people using new guidelines issued in 2017 that lowered the clinical definition of high blood pressure from earlier levels.

The findings published in JAMA suggest that identifying and treating the condition in younger people might have long-term benefit.

Study lead author Yuichiro Yano, MD, PhD, stated: "This is a first step in assessing whether high blood pressure, as defined by the new criteria, is something that younger people should be concerned about as a potential precursor to serious problems."

In this observational study, Dr. Yano and colleagues analysed more than 4,800 adults who had blood pressure measurements taken before age 40 as part of the Coronary Artery Risk Development in Young Adults study (CARDIA), which began in 1985. About half of participants were African-American, and 55 percent were women.

Study participants were divided into four groups based on blood pressure levels set in 2017 by the American College of Cardiology and the American Heart Association: Normal (120 or lower systolic blood pressure over 80 diastolic or less); elevated (120-129 over less than 80); stage 1 hypertension (130-139 over 80-89); or stage 2 hypertension (140 or greater over 90 or greater).

The researchers then tracked whether these participants had serious cardiovascular events over a median follow-up period of about 19 years. Overall, 228 incidents occurred, with successively higher rates of events coinciding with successively higher blood pressure levels.

"Among young adults, those with elevated blood pressure, stage 1 hypertension, and stage 2 hypertension before age 40, as defined by the 2017 guidelines, had significantly higher risk for subsequent cardiovascular disease events, compared to those with normal blood pressure before age 40," according to Dr. Yano, assistant professor in the Department of Community & Family Medicine at Duke.

The results demonstrate that the new blood pressure guidelines are helpful in identifying those who might be at risk for cardiovascular events, Dr. Yano added.

Source: [Duke University Medical Center](#)

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