

Lower systolic blood pressure reduces risk of hypertension complication

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Lowering systolic blood pressure below the currently recommended target can reduce the risk of left ventricular hypertrophy (LVH), the most common complication of high blood pressure, according to new research.

The study, led by Elsayed Z. Soliman, M.D., director of the Epidemiological Cardiology Research Center at Wake Forest Baptist Medical Center, is published in the early online edition of *Hypertension*.

LVH, the enlargement and thickening of the walls of the left ventricle, the heart's main pumping chamber, is associated with an increased risk of heart failure, stroke and even sudden cardiac death. Although doctors have known that reversal of LVH can be achieved by sustained lowering of systolic [blood pressure](#) - the upper number on a blood pressure reading - it wasn't known if a strategy aimed at lowering blood pressure beyond the recommended level would reduce the risk.

In this study, the researchers examined the effect of lowering systolic blood pressure to 120mmHg compared to the standard target of 140mmHg on LVH. Data from 4,331 participants in the Action to Control Cardiovascular Risk in Diabetes (ACCORD) Blood Pressure trial were included in the analysis. The ACCORD trial, which was sponsored by the National Heart, Blood and Lung Institute, was a randomized, multicenter trial involving middle-aged and older patients with Type 2 diabetes at risk of cardiovascular disease.

Approximately half of the study participants were randomly assigned to standard BP regimen and half were assigned to the intensive version. The baseline prevalence of LVH was similar in both groups, but after 4.4 years, the intensive-therapy group was associated with a 39 percent lower risk of LVH as compared to the standard-therapy group, according to the study authors.

"Our study provides evidence that making less than 120 the target [systolic blood pressure](#) in people with hypertension and diabetes reduces LVH," Soliman said. "Lowering blood pressure even below the standard is good for heart muscle."

This, he added, is in line with the recent report from the SPRINT trial showing that blood pressure lowering below 120 mmHg reduces cardiovascular events by almost a third, as compared to the target systolic pressure of 140 mmHg.

"Notably, only stroke [risk](#) - not other cardiovascular events - was reduced in the ACCORD trial, which could be due to certain risks associated with implementing both intensive blood pressure lowering and intensive blood glucose lowering in the same patient," Soliman said.

Provided by Wake Forest University Baptist Medical Center

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