Hypertension in Middle Age May Lead to Brain Damage

People under 50 with elevated blood pressure might face an increased risk for brain damage as seniors.

September 2, 2021 By Jeanette L. Pinnace

Many people believe that only their present high blood pressure readings are important. However, recent findings published in the European Heart Journal show that individuals who begin to register elevated blood pressure (BP) measurements when they are under age 50 may increase their risk for brain damage later in life, reports ScienceDaily.com.

For the investigation, researchers at the Centre for Prevention of Stroke and Dementia at the University of Oxford in the United Kingdom reviewed the medical data of 37,041 people ages 40 to 69 registered in the UK Biobank study between March 2006 through October 2010. Scientists also collected additional follow-up health information—including MRI brain scans—on participants from August 2014 through October 2019. (The data were adjusted for variables such as age, sex, cigarette use, diabetes diagnosis and blood pressure readings.)

Next, researchers checked the scans for areas of damage in the brain called "white matter hyperintensities" (WMH) caused by injuries to small blood vessels in the organ as a result of aging and elevated BP.

Scientists noted that the systolic (top) number in an individual's blood pressure reading showed a significant link to increased areas of WMH. However, researchers also observed that people's past diastolic (bottom) readings, showed the strongest association with these areas.

"Our results suggest that to ensure the best prevention of white matter hyperintensities in later life, control of diastolic blood pressure, in particular, may be required in early midlife, even for diastolic blood pressure below 90 mmHg, whilst control of systolic blood pressure may be more important in late life," said Karolina Wartolowska, a clinical research fellow and an author of the study.

"The long-time interval between the effects of blood pressure in midlife and the harms in late life emphasizes how important it is to control blood pressure long term and that research has to adapt to consider the very long-term effects of often asymptomatic problems in midlife," she added.

To learn more about high blood pressure and age-related issues, read “High Blood Pressure Can Accelerate Cognitive Decline No Matter the Age of Onset” and “High Blood Pressure Common Among Young Black Americans.”

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