Don’t overlook young adult patients for hypertension concerns

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Until now, research into the association between elevated blood pressure and the risk of cognitive impairment, dementia and cerebrovascular disease has largely focused on the transition from middle age to old age. Little was known about how trajectories of blood pressure play out earlier.

A study, published in JAMA Network Open, looked at whether blood pressure trajectories in early adulthood are associated with brain structure and integrity in midlife. Among young adults with moderate to high levels of BP, it found a gradual increase in blood pressure may increase the risk in diffuse small vessel disease and lower brain perfusion.

“Timely treatment of high BP could prevent known effects of elevated BP as a risk factor for cognitive impairment and dementia,” wrote the authors, including Lenore J. Launer, PhD, senior investigator in the Laboratory of Epidemiology and Population Sciences at the National Institute on Aging in Baltimore. “Additionally, evidence suggests that midlife measures may be more informative than concurrently measured BP about future risk for preventing late-life cognitive impairment, dementia and brain pathology.”

Know the top answers to patients’ questions about normal blood pressure.

Young adults take note

In a cohort of 853 adults followed for 30 years, the study’s investigators looked at mean arterial pressure as an integrative measure of systolic and diastolic BP. They then analyzed the associations of five BP trajectories with brain structures, adjusting for demographics, cardiovascular risk factors and use of antihypertensive medication.

Researchers used data from Coronary Artery Risk Development in Young Adults (CARDIA), a prospective longitudinal study of Black and white men and women 18 to 30 years old who were...
examined up to eight times from 1985 to 2016. Participants underwent brain magnetic resonance imaging in their 25th- or 30th-year examinations.

“The main finding of this study was that, compared with BP trajectories that capture low levels and stable trajectories from young adulthood to middle age, trajectories with a gradual increase in” mean arterial pressure, such as moderate-increasing and elevated-increasing, “were more likely to have indications of poor brain health, including lower total gray matter volume, abnormal white matter volume and lower gray matter cerebral blood flow after adjusting for sociodemographic factors and multiple comparisons,” the authors wrote.

Read about the steps patients can take to lower their high blood pressure.

**Policymakers take note too**

“This study showed that moderate-increasing and elevated-increasing BP trajectories during early adulthood are associated with differences in structural brain outcomes as early as midlife,” the authors wrote, adding that preventing increases in BP during young adulthood might be a promising strategy for preventing dementia.

“Examining the association of young adulthood to midlife BP trajectories with brain integrity in midlife may provide insight into windows of opportunity for intervention and point to subgroups that may be at higher risk for later cognitive impairment,” they wrote.

This study had several limitations, the authors noted, including that it did not examine the modulatory effect of sex or race on the association between each trajectory group and its brain outcomes.

The AMA has developed online tools and resources created using the latest evidence-based information to support physicians and care teams to help manage their patients’ high blood pressure. These resources are available to all physicians and health systems as part of Target: BP™, a national initiative co-led by the AMA and American Heart Association.

Learn how online training helps get—and keep—BP measurement skills sharp.