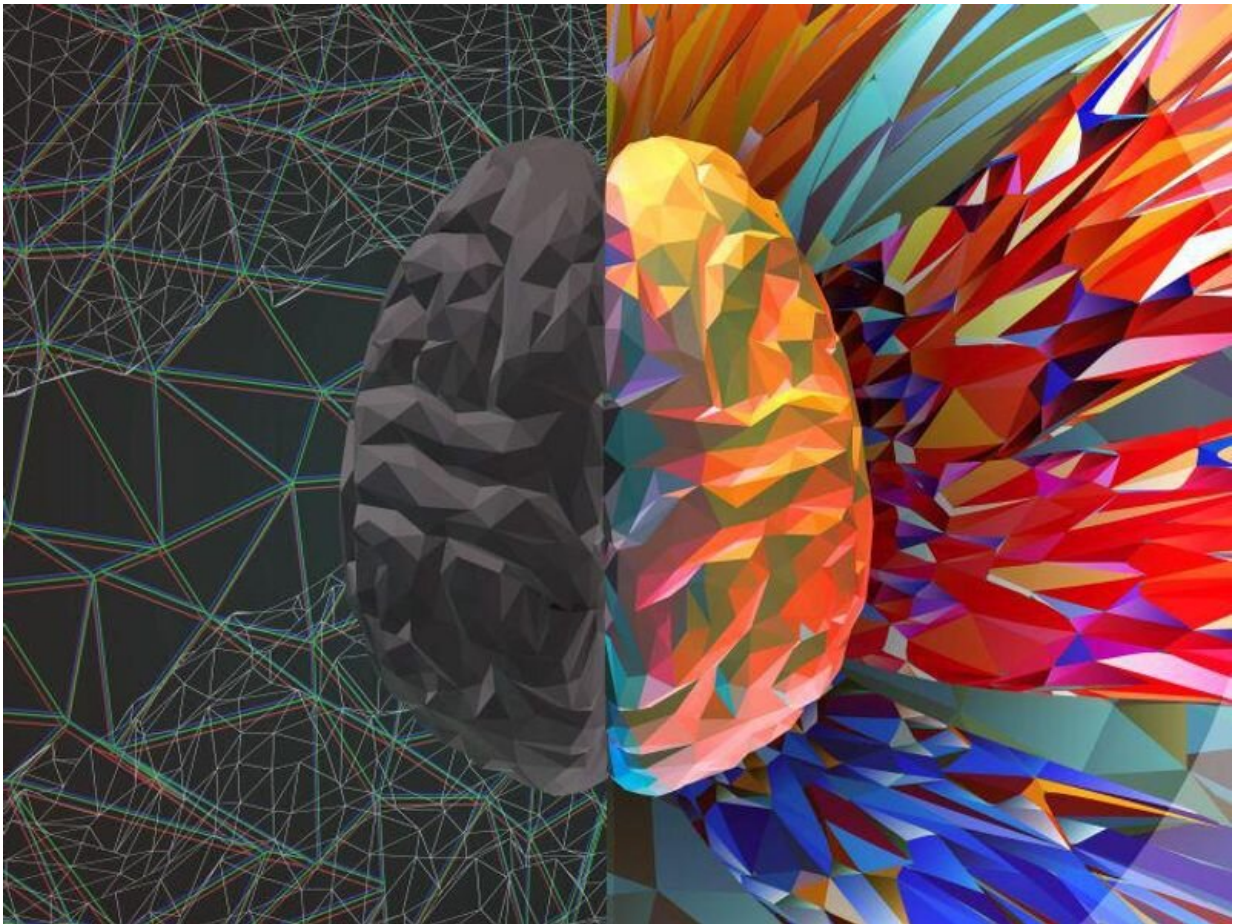


# Increasing BP trajectory to midlife tied to brain changes

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For young adults with moderate or elevated levels of blood pressure

(BP), an increasing BP trajectory to middle age is associated with an increased risk for brain structural changes, according to a study published online March 10 in *JAMA Network Open*.

Yi-Han Hu, Ph.D., from the National Institute on Aging in Baltimore, and colleagues used data from U.S. adults from the Coronary Artery Risk Development in Young Adults prospective longitudinal study to identify BP trajectory patterns from young adulthood to midlife that are associated with [brain structure](#) in midlife. A total of 885 participants were examined up to eight times over 30 years (1985-1986 to 2015-2016) and underwent [magnetic resonance](#) imaging (MRI) in the 25- or 30-year examinations; brain MRI analyses were conducted on 853 participants.

- The researchers found that the mean arterial pressure trajectory distribution was low-stable, moderate-gradual, moderate-increasing, elevated-stable, and elevated-increasing in 21.1, 43.5, 8.0, 23.1, and 4.3 %, respectively.
- Individuals in the moderate-increasing and elevated-increasing groups were more likely than those in the low-stable trajectory group to have higher abnormal white matter volume.
- After adjustment for sociodemographics and cardiovascular risk factors, those in the elevated-increasing group had lower gray matter cerebral blood flow. The difference was consistent for abnormal white matter volume after adjustment for antihypertensive medication use.

"Taken together with evidence from late-life studies, preventing BP increases during young adulthood to [middle age](#) may be a promising strategy for prevention of dementia," the authors write.

**More information:** Yi-Han Hu et al, Association of Early Adulthood 25-Year Blood Pressure Trajectories With Cerebral Lesions and Brain

Structure in Midlife, *JAMA Network Open* (2022). DOI: [10.1001/jamanetworkopen.2022.1175](https://doi.org/10.1001/jamanetworkopen.2022.1175)

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