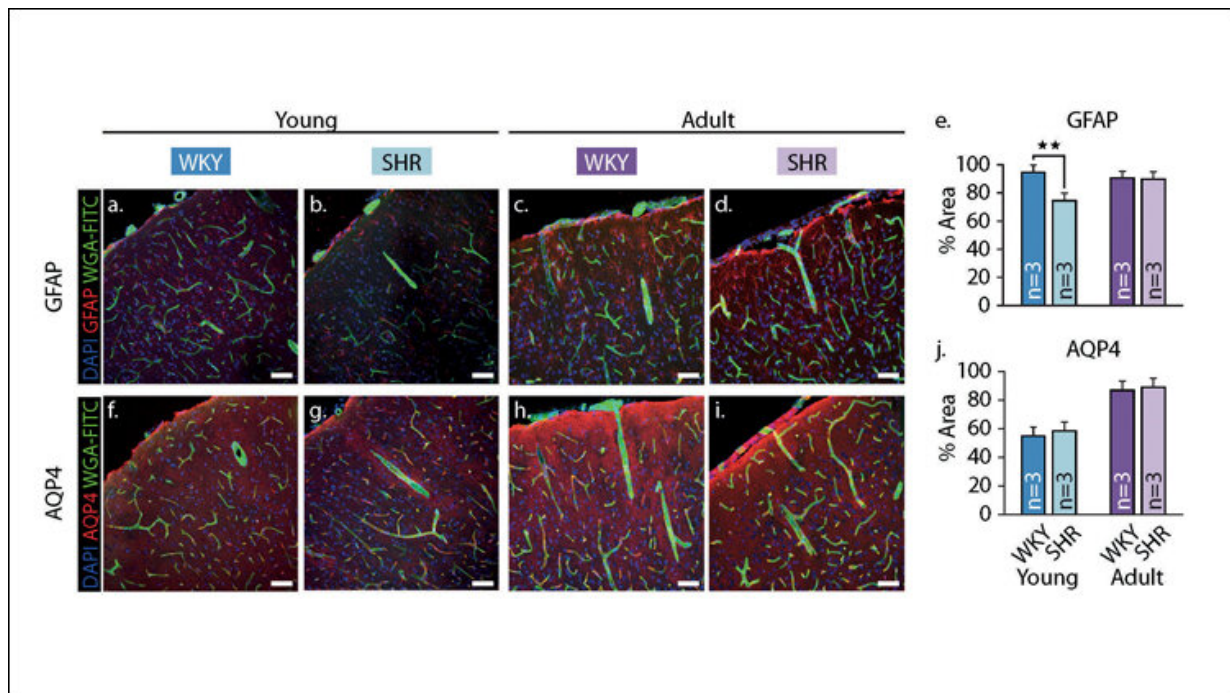


Healthy blood vessels may delay cognitive decline

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Distribution of astrocytes and aquaporin channels in rat brain sections. Credit: Nygaard Mortensen et al., *JNeurosci* 2019

High blood pressure may affect conditions such as Alzheimer's disease by interfering with the brain's waste management system, according to new research in rats published in *JNeurosci*. Maintaining blood vessel health could therefore help stave off cognitive decline.

Hypertension causes stiffening and elasticity loss in [blood vessels](#), which hinders clearance of waste molecules from the brain. Using a rat model of hypertension, Maiken Nedergaard and colleagues at the University of Copenhagen and Yale School of Medicine studied how the condition affects the movement of cerebrospinal fluid into and interstitial fluid out of [brain cells](#).

The researchers tracked the flow of cerebrospinal fluid and found that the hypertensive rats exhibited larger ventricles, decreased brain volume, and impaired fluid transport. They concluded that hypertension interferes with the clearance of macromolecules from the brain, such as the Alzheimer's pathology protein β -amyloid. Treatments targeting hypertension could in turn reduce β -amyloid buildup and delay the onset of Alzheimer's disease.

More information: Impaired Glymphatic Transport in Spontaneously Hypertensive Rats, *JNeurosci* (2019). [DOI: 10.1523/JNEUROSCI.1974-18.2019](#)

Provided by Society for Neuroscience

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