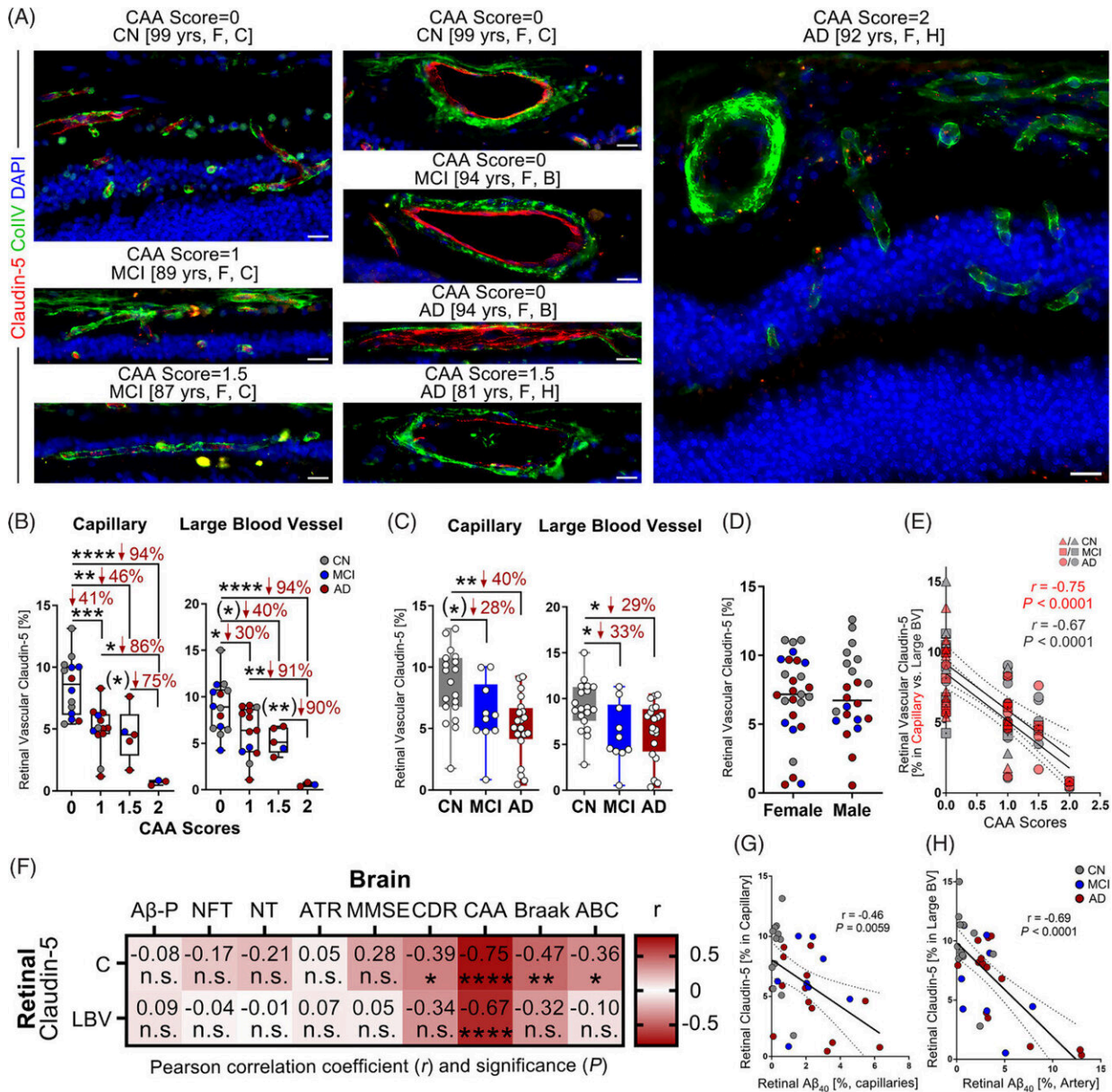


Study: Blood vessel damage could be an Alzheimer's driver

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Loss of retinal endothelial claudin-5 in MCI and AD patients in relation to retinal vascular amyloidosis, CAA, and cognitive deficit. A, Representative images of immunofluorescent staining for claudin-5 (red), collagen IV (ColIV, green), and DAPI (blue) on *post mortem* cross-sections of retina from CN ($n = 21$ [control]) patients as well as from patients with MCI ($n = 10$) and those with AD ($n = 21$) with different degrees of CAA severity scores. All scale bars = 20 μm . B,C, Quantitative analysis of retinal vascular claudin-5 IR separately in capillaries and LBVs from all experimental groups stratified by (B) CAA severity scores and by (C) diagnostic groups ($n = 53$ in total). D, Average of retinal vascular claudin-5 IR in capillaries and LBVs stratified by sex in the same cohort ($n = 53$ total). E, Pearson's coefficient (r) correlation between CAA severity scores and claudin-5 in retinal capillaries (red) and LBVs (gray) ($n = 35$ total). F, Heatmaps illustrating Pearson's correlations between retinal claudin-5 in capillaries and LBVs versus brain pathology and cognitive decline, including $A\beta$ plaques ($A\beta$ -P), NFTs, NTs, ATR, MMSE scores, CDR scores, CAA severity scores, Braak stages, and A (amyloid) B (Braak) C (Consortium to Establish a Registry for Alzheimer's Disease) average scores in AD ($n = 18$), MCI ($n = 10$), and CN ($n = 9$) human donors ($n = 37$ total). Pseudo-color red and numbers demonstrate the strength of (r) correlation power; statistical significance is demonstrated as follows: n.s., not significant, * P

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