

Blood biomarkers of Alzheimer's disease and progression of brain atrophy and cerebrovascular burden in cognitively healthy older adults

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Conclusions: Blood biomarkers of Alzheimer's disease (AD) may capture different structural brain changes already at early stages, even in absence of clinical symptoms

Aim

To examine the associations between **blood biomarkers** of AD and longitudinal changes in markers of:

➤ **Brain atrophy**

➤ **Cerebrovascular burden**

In community-dwelling, cognitively unimpaired, older adults

Methods



361 cognitively unimpaired participants



69.9 (8.6) years old



Blood biomarkers p-tau217, NfL, GFAP



MRI at baseline, 3 and 6 years

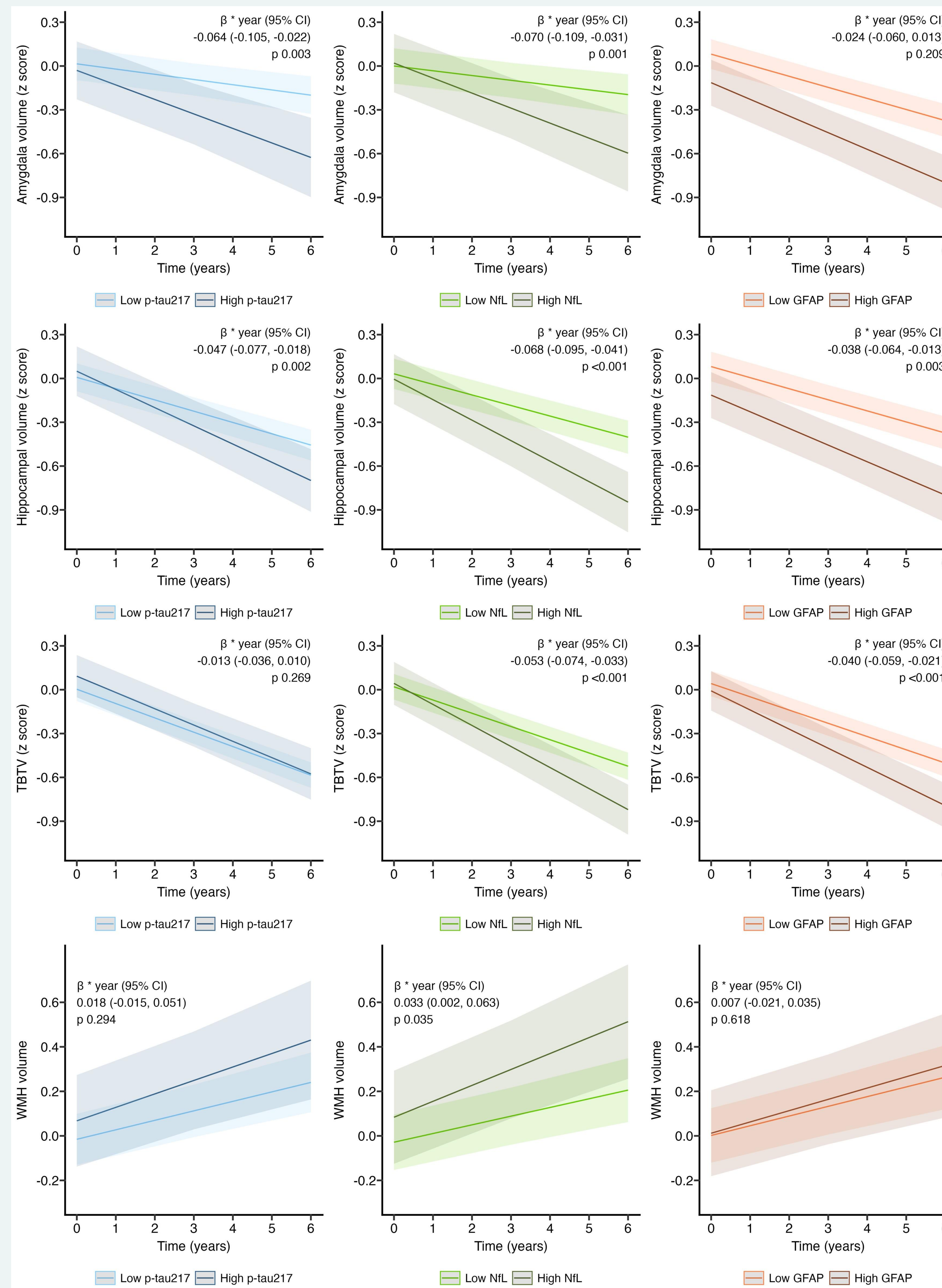


Figure Association between baseline levels of p-tau217, NfL and GFAP and longitudinal changes in volumes of amygdala, hippocampus, total brain tissue (TBTV), and white matter hyperintensities (WMH).

Results

- High levels of **p-tau217** → **volume loss only in AD-specific regions**; i.e., faster shrinkage of hippocampus and amygdala and faster increase in medial temporal lobe atrophy (MTA) score
- High levels of **NfL** and **GFAP** → **widespread volume loss**; i.e., faster shrinkage of hippocampus and amygdala and faster increase in MTA score, but also faster total brain tissue volume (TBTV) loss and faster ventricular enlargement
- High levels of **NfL** → **accumulation of microvascular pathology**; i.e., faster accumulation of white matter hyperintensities (WMH)

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