Key Summary of Published Article

Alzheimer's Disease

Clinical utility of Aβ42/40 ratio

What is the clinical utility of plasma Aβ42/40 ratio in patients being evaluated for Alzheimer's disease?

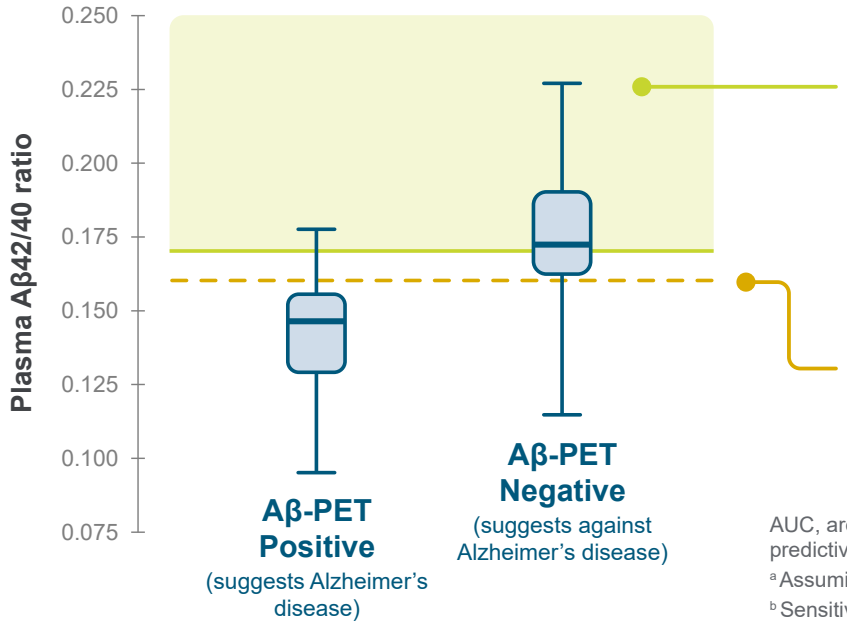
Background

One of the characteristics of Alzheimer's disease is the accumulation of beta-amyloid (Aβ) plaques in the brain, which have traditionally been assessed by positron emission tomography (PET) imaging or measurement of cerebrospinal fluid. While the role of blood-based biomarkers in the assessment of Aβ plaques is still being explored, blood-based biomarkers, including the ratio of peptides Aβ42/40 in plasma, have been found to correspond with Aβ-PET status and may guide or complement PET.

Methods and Results

The study population included 250 participants who provided plasma samples and underwent an amyloid PET scan. Aβ42/40 ratio was measured by liquid chromatography-tandem mass spectrometry (LC-MS/MS).

Diagnostic performance of plasma Aβ42/40 ratio for Aβ-PET status[1]



AUC, area under curve; Aβ, beta-amyloid; NPV, negative predictive value; PET, positron emission tomography.

[a] Assuming moderate (40%) prevalence.

[b] Sensitivity, 91%; specificity, 76%; AUC, 0.84.

Patients with Aβ42/40 ratio ≥0.170 have a low likelihood of Aβ-PET positivity (Alzheimer's disease pathology) and may be able to avoid PET imaging, thus allowing doctors to focus on other causes of cognitive impairment.

1. Weber DM, Taylor SW, Lagier RJ, et al. Clinical utility of plasma Aβ42/40 ratio by LC-MS/MS in Alzheimer's disease assessment. *Front Neurol*. 2024;15:1364658. doi:10.3389/fneur.2024.1364658

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