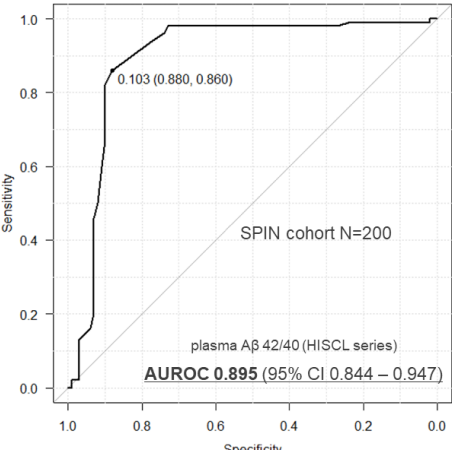


【Overview presentation】

AD/PD™ 2024 International Conference on Alzheimer's and Parkinson's Diseases

Performance of plasma Aβ₄₂/40 ratio to predict Aβ pathology status defined by CSF testing in SPIN cohort

Authors	<p>Yuko Sasaki^a, Roman Boeer^b, Yuko Saruta^a, Javier Arranz^c, Daniel Alcolea^c</p> <p>^a Sysmex R&D Center Europe GmbH, Hamburg, Germany</p> <p>^b Sysmex Europe SE, Norderstedt, Germany</p> <p>^c Department of Neurology, Sant Pau Memory Unit, Hospital de la Santa Creu i Sant Pau – IIB Sant Pau, Barcelona, Spain</p>
Overview presentation	<p>Background and Objectives</p> <p>Predicting the Amyloid status in brain by blood-based assays is useful for screening of Alzheimer's disease. The excellent performance of plasma Aβ₄₂/40 ratio measured by an Automated Immunoassay System HISCL™-5000 / HISCL-800 to predict Aβ pathology status defined by Amyloid PET was previously reported. In this study, we aimed to evaluate the performance of plasma Aβ₄₂/40 ratio to predict Aβ pathology defined by CSF testing in another cohort.</p> <p>Methods: This study included 200 participants: 50 cognitively unimpaired (CU), 49 mild-cognitive impairment (MCI) due to Alzheimer's disease (AD), 50 MCI due to non-AD and 51 AD from The SPIN (Sant Pau Initiative on Neurodegeneration) cohort which was enrolled at Hospital de la Santa Creu i Sant Pau from 2013 to 2022. The Aβ pathology was defined by CSF Aβ₄₂/40 ratio measured by Lumipulse (Fujirebio-Europe). The plasma Aβ₄₂/40 ratio was measured by HISCL-5000.</p> <p>Results</p> <p>Plasma Aβ₄₂/40 ratio can predict the Aβ pathology determined by CSF Aβ₄₂/40 ratio at AUROC: 0.895 (95% CI 0.844 – 0.947) (Fig). The calculated threshold determined by Youden Index was an Aβ ratio of 0.103 which is similar to the previously reported threshold 0.102. The sensitivity, specificity, PPV and NPV at the threshold 0.103 were 86.0%, 88.0%, 87.8% and 86.3%, while at 0.102 were 82.0%, 90.0%, 89.1% and 83.3%, respectively. The addition of ApoE4 allele possession status didn't improve the performance significantly. (AUROC 0.903</p>

	<p>(de Long's test $p=0.519$, compared to $A\beta$ ratio only)). When analyzed only within MCI patients (due to AD and not due to AD), AUROC was 0.902 (95% CI 0.828 – 0.975).</p> <p>Conclusions</p> <p>Plasma $A\beta_{42/40}$ ratio achieved high accuracy in predicting $A\beta$ pathology determined by CSF testing similarly to the previous report comparing with Amyloid PET in another cohort.</p> 
Session	POSTER: THEME A (P0436 / #2772)