COMPARISON OF A BLOOD-BASED 96 GENE EXPRESSION ASSAY AND BIOMARKERS IN CEREBROSPINAL FLUID IN THE DIAGNOSIS OF EARLY ALZHEIMER'S DISEASE

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Introduction: The use of biomarkers like t-tau, phospho-tau, and beta-amyloid in cerebrospinal fluid (CSF) are increasingly included as supportive information in the diagnosis of Alzheimer's disease (AD). A blood-based test is, however, more convenient both for the patient and the clinician. Independent studies have indicated that a blood-based test could be used for diagnosis of neurological diseases.

We have developed a blood-based gene expression test intended to aid in the diagnosis of mild to moderate AD by detecting systemic effects of the disease as a specific gene expression pattern\cite{Booij2018, Rye2018}. The ADtect\textsuperscript{®} is a 96 gene expression assay evaluated by an algorithm resulting in a test score indicating the presence or absence of AD.

Aims: The aim was to investigate the agreement of ADtect\textsuperscript{®} with CSF biomarkers.

Methods: ADtect\textsuperscript{®} and CSF biomarker analyses were performed on samples from both AD patients and cognitively healthy individuals.

Results: ADtect\textsuperscript{®} predicted both AD and healthy controls in high agreement with CSF biomarkers data. The sample number is limited but suggests a good agreement between CSF biomarkers and ADtect\textsuperscript{®}. Ongoing clinical studies will increase the sample size available and these results will be presented.

Conclusions: Preliminary findings indicate a good agreement between a positive ADtect\textsuperscript{®} and pathological CSF biomarkers suggesting that ADtect\textsuperscript{®} can be an alternative to CSF biomarkers as an aid in the diagnosis of early AD.

References:

\cite{Booij2018, Rye2018}