J Alzheimers Dis Parkinsonism 2017, 7:6(Suppl)
DOI: 10.4172/2161-0460-C1-034

Predictive molecular diagnosis of Alzheimer's Dementia: Towards new clinical models for preventive treatment

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There is an unmet need for first preventive, that is disease-modifying, treatments of Alzheimer´s dementia (AD). However, preventive treatment calls for predictive diagnosis since novel preventive treatment options can only be offered if patients are identified during preclinical stages of the incipient AD. Per definition, a preclinical stage can not be detected by clinical tools and accordingly, patients at high risk for later AD have to be identified by biomarker guided predictive diagnostics. The presentation will demonstrate that patients with preclinical AD can meanwhile be identified within the clinically heterogenous cohort of Mild Cognitive Impairment (MCI) with positive and negative predictive values of at least 90% by a multiparameter biomarker approach relying on CSF dementia biomarkers, MRI volumetry and/or F18-Amyloid-PET. In view of a prevalence of approximately 20% of preclinical AD within the MCI risk cohort the latter predictive values are clinically significant. Morevover, it will be critically discussed in how far first blood-based assays may support the identification of preclinical AD. Finally, the presentation will exemplify that novel diagnostic targets may indicate promising novel therapeutic targets.

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