CLINICAL DIAGNOSIS AND BIOMARKER CONSTELLATION IN AD IN A CLINICAL SETTING: HOW CONGRUENT ARE THE BIOMARKER FINDINGS

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Objectives: In clinical practice biomarkers are thought to confirm or exclude the diagnosis of AD.

Methods: Cross-sectional observational study with 54 patients with mild cognitive impairment or dementia due to AD or not due to AD. Biomarkers of neuronal injury were medial temporal lobe atrophy (MTA) on magnetic resonance imaging (MRI) and tau concentration in the cerebrospinal fluid (CSF). CSF Aβ 1-42 and amyloid-targeting positron emission tomography (PET) were considered as biomarkers of amyloid pathology.

Results: Forty cases were diagnosed as AD, 14 cases as non-AD based on clinical, neuropsychological and routine MRI assessment. In the AD group completely consistent pathological biomarkers were found in 32.5%. In 62.5% the findings were inconsistent. Congruence of biomarkers was 67.5% for neuronal injury and 75% for amyloid dysfunction. In two patients clinical diagnosis switched to non-AD due to completely consistent non-pathological biomarker findings. The criteria of the international working group (**IWG-2, Dubois et al. 2014**) were met in 75.0% of the clinically diagnosed AD cases.

Conclusions:

Different explanations of incongruent biomarker results need to be considered.

Technical inaccuracies

Too rigid cut off points

The different biomarker constellations represent distinct types or stages of AD