



CSF tau and amyloid β_{42} levels in Alzheimer's disease—A meta-analysis

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ABSTRACT

Alzheimer's disease International (ADI) estimates that there are currently 30 million people with dementia in the world. The main objective was to perform meta-analysis of studies of CSF tau and Amyloid β_{42} ($A\beta_{42}$) levels in Alzheimer's disease (AD) patients and controls. In the present study MEDLINE was reviewed from 1995 to 2009, supplemented by citation analysis from retrieved articles to select case control studies. Descriptive statistics showed that median effect size (raw mean difference) of CSF tau and $A\beta_{42}$ levels were 301 pg/ml (Range: 22 to 614 pg/ml) and -352 pg/ml (Range: -969 to 203 pg/ml) respectively. The pooled effect size CSF tau and $A\beta_{42}$ was 289.14 pg/ml (95% CI 253.278 to 325.013 pg/ml) and -329.02 pg/ml (95% CI -387.740 to -270.445 pg/ml) respectively. Heterogeneity in effect size of selected studies was present for both parameters (CSF tau: Q statistics = 1816.596, DF = 40, P = 0.000 and CSF $A\beta_{42}$: Q-statistics = 1259.358, DF = 24, p < 0.001). Based on the findings of meta-analysis in the present study, CSF tau and $A\beta_{42}$ levels in AD and controls may be considered as potential biomarker along with the clinical phenotype to perform them during high quality diagnostic testing in dementia.

KEYWORDS

Alzheimer's Disease; Dementia; CSF Amyloid β_{42} ; CSF Tau; Meta-Analysis

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