**SERUM LEVELS OF BETA-AMYLOID-PEPTIDES IN PATIENTS WITH ALZHEIMER'S DISEASE (AD), MILD COGNITIVE IMPAIRMENT (MCI) AND HEALTHY ELDERLY SUBJECTS**


*Division of Psychiatry Research and Psychogeriatric Medicine, University of Zurich, Psychiatric University Hospital, Zurich, Switzerland*

**Introduction:** Serum biomarkers that could both corroborate the diagnosis of MCI or AD and additionally predict cognitive decline in healthy subjects or patients with MCI would be helpful in clinical practice situations and for the identification of eligible subjects for preventive therapies.

**Aim:** To investigate the differential expression patterns of serum Abeta 38, Abeta 40 and Abeta 42 peptides in AD patients, patients with MCI and healthy volunteers.

**Methods:** Baseline serum samples of 27 AD patients (age av. 77.16, SD 6.03, 10m / 17f), 42 MCI patients (age av. 73.68, SD 7.65, 20m / 22f) and 147 healthy elderly volunteers (age av. 69.31, SD 5.80, 58m / 89 f) were analyzed by using MULTI-SPOT® Human (6 E10) Abeta Triplex Assay (Mesoscale Discovery, USA). Pairwise analyses was calculated using the Wilcoxon test, variance analysis by ranks was done using the Kruskal Wallis test.

**Results:** Results demonstrated no significant differences in Abeta 38 and Abeta 42 levels, but significantly higher Abeta 40 in the MCI group compared to HCS and AD groups using the Kruskal Wallis test, (p=0.028): HV(Median: 179.28 pg per ml (IQR:71.97), MCI (Median: 218.49 pg per ml (IQR: 82.76), AD (Median: 185.95 pg per ml (IQR: 68.34). Pairwise analysis using Wilcoxon test also showed that Abeta 40 was significantly higher in MCI than in HV (p=0.008).

**Conclusions:** Increased serum Abeta 40 levels during MCI stage should be further investigated as a potential biomarker for the prediction of cognitive decline and the conversion of MCI to AD.