Journal of Alzheimer's Disease 35 (2013) 1–2
IOS Press

Supplementary Data

Associations Between Magnetic Resonance Imaging Measures and Neuropsychological Impairment in Early and Late Onset Alzheimer's Disease

Annelies E. van der Vlies[a,*], Salka S. Staekenborg[a], Faiza Admiraal-Behloul[b], Niels D. Prins[a], Frederik Barkhof[c], Hugo Vrenken[c,d], Johan H.C. Reiber[b], Philip Scheltens[a] and Wiesje M. van der Flier[a]

[a]*Alzheimer Center & Department of Neurology, Neuroscience Campus Amsterdam, VU University Medical Center, Amsterdam, The Netherlands*

[b]*Division of Image Processing, Department of Radiology, Leiden University Medical Center, Leiden, The Netherlands*

[c]*Department of Radiology, Image Analysis Center and Alzheimer Center, VU University Medical Center, Amsterdam, The Netherlands*

[d]*Department of Physics and Medical Technology, VU University Medical Center, Amsterdam, The Netherlands*

Handling Associate Editor: Heidi Jacobs

Accepted 10 January 2013

*Correspondence to: Annelies E. van der Vlies, Department of Neurology and Alzheimer Center, VU University Medical Center, PO Box 7057, 1007 MB Amsterdam, The Netherlands. Tel.: +31 20 4440816; Fax: +31 20 4448529; E-mail: ae.vdvlies@vumc.nl.

ISSN 1387-2877/13/$27.50

Supplementary Table 1

	Frontal WMH	Temporal WMH	Parietal WMH	Occipital WMH
MMSE				
Model 1	n.s.	n.s.	n.s.	n.s.
Model 2	n.s.	n.s.	n.s.	n.s.
Model 3	n.s.	n.s.	n.s.	n.s.
Model 4	n.s.	n.s.	n.s.	n.s.
Digit span forward				
Model 1	n.s.	n.s.	n.s.	n.s.
Model 2	n.s.	n.s.	n.s.	n.s.
Model 3	n.s.	n.s.	n.s.	n.s.
Model 4	n.s.	n.s.	n.s.	n.s.
Digit span backward				
Model 1	n.s.	n.s.	n.s.	n.s.
Model 2	n.s.	n.s.	n.s.	n.s.
Model 3	n.s.	n.s.	n.s.	n.s.
Model 4	n.s.	n.s.	n.s.	n.s.
VAT memory				
Model 1	n.s.	−0.38*	0.55*	n.s.
Model 2	n.s.	−0.43*	0.58*	n.s.
Model 3	n.s.	−0.51*	0.58*	n.s.
Model 4	n.s.	−0.59*	0.86*	n.s.
VAT naming				
Model 1	n.s.	n.s.	n.s.	n.s.
Model 2	n.s.	n.s.	n.s.	n.s.
Model 3	n.s.	n.s.	n.s.	n.s.
Model 4	n.s.	n.s.	n.s.	n.s.
TMT-A[1]				
Model 1	0.23*	n.s.	n.s.	n.s.
Model 2	0.23*	n.s.	n.s.	n.s.
Model 3	0.25*	n.s.	n.s.	n.s.
Model 4	n.s.	n.s.	n.s.	n.s.
TMT-B[1]				
Model 1	n.s.	n.s.	n.s.	n.s.
Model 2	n.s.	n.s.	n.s.	n.s.
Model 3	n.s.	n.s.	n.s.	0.24*
Model 4	n.s.	n.s.	n.s.	n.s.
TMT-B minus A[1]				
Model 1	n.s.	n.s.	n.s.	n.s.
Model 2	n.s.	n.s.	n.s.	n.s.
Model 3	n.s.	n.s.	n.s.	0.23*
Model 4	n.s.	n.s.	n.s.	n.s.
Category fluency				
Model 1	n.s.	n.s.	n.s.	n.s.
Model 2	n.s.	n.s.	n.s.	n.s.
Model 3	n.s.	n.s.	n.s.	n.s.
Model 4	n.s.	n.s.	n.s.	n.s.

Model 1: linear regression models with lobar WMH volumes as independent variables, neuropsychological test score as dependent variable and age, gender, and education as covariates. Model 2: model 1 with additional adjustment for global atrophy. Model 3: model 2 with vascular risk factors (hypertension, diabetes mellitus, hypercholesterolaemia and myocardial infarction) as additional covariates. Model 4: Model 2 with CSF biomarker levels of amyloid-β 1–42, total tau, and tau phosphorylated at threonine-181 (Ptau-181) as additional covariates.
All data are presented as standardized β to allow comparison of effect sizes.
*$p < 0.05$
[1]Lower scores signify better (i.e., faster) performance. WMH, white matter hyperintensities; MMSE, Mini Mental State Examination; VAT, Visual Association Test; TMT, Trail Making Test.