HIPPOCAMPAL CAVITIES IN ELDERLY SUBJECTS - PREVALENCE, EVOLUTION AND IMPACT ON COGNITION

F. Riese\(^1\), O. Ballach\(^1\), H. Suliman\(^1\), C. Hock\(^1\), H.-J. Gertz\(^2\), H. Wolf\(^1\)

\(^1\)Psychiatry Research and Geriatric Psychiatry, University of Zurich, Psychiatric University Hospital, Zurich, Switzerland, \(^2\)Psychiatry, Memory Clinic, University Hospitals, Univ. of Leipzig, Leipzig, Germany

Introduction: CSF-isointense "holes" within the hippocampus, termed hippocampal cavities (HcC), are a frequent finding in brain MRIs of elderly subjects. The prevalence, evolution and clinical significance of these cavities are unclear.

Method: A population-based sample of nondemented elderly subjects aged 75-85 and a comparison group with Alzheimer's disease were included for cross-sectional (n=107), longitudinal (n= 86, 69 nondemented, mean follow-up time 3.3 years) and serial MR analyses (n=42). HcC numbers and volume were recorded from volumetric T1w MRI scans. Cognitive functions were assessed with the SiDAM and Clinical Dementia Rating. Confounding variables included hippocampal (hc) and brain volume, medial temporal lobe atrophy, white matter lesions (WML) and ApoE genotype.

Results: The prevalence of HcC was 59% with no differences between cognitive groups and gender. The effect of HcC volume on global cognition and episodic memory was non-linear with the highest risk for decrease associated with small and intermediate HcC volumes. HcC were significant predictors of memory performance independent of hc atrophy and WML. HcC appeared to be relatively stable over time. However, we provide anecdotal evidence for both incident and shrinking HcC.

Conclusion: HcC may be an independent risk factor for decline in episodic memory performance in elderly subjects.