Introduction: Autobiographical memory (AbM) entails a complex set of operations and poses significant challenges in capturing its behavioral and neuroanatomical correlates. In particular, the role of the medial temporal lobe (MTL) is controversial regarding the retrieval of its episodic component.

Aims: The loss of AbM in Alzheimer's disease (AD) gives the opportunity to explore the underlying neural network, especially the MTL structures.

Methods: Fifteen AD patients (pre-dementia and mild AD) were included in the study. A modified version of the Crovitz test (mCT) was used to assess the episodic component of AbM, whereas the Autobiographical Memory Interview (AMI) was used to assess personal semantics (PS). Their AbM deficits were correlated to local atrophy in MRI with a Voxel Based Morphometry method (VBM), using the software Matlab® (Statistical Parametric Mapping, Welcome Department of Cognitive Neurology, London, UK) and SPM5.

Results: They revealed deficits both in episodic AbM and PS, but they showed a different pattern of alteration. The loss of PS correlated to bilateral external temporal and prefrontal atrophy whereas the episodic AbM was related to a complex network, similar to the one usually described in functional imaging studies in healthy subjects, which includes the medial temporal lobe.

Conclusion: These results are consistent with the distinction, originally described by Tulving in 1972, between episodic and semantic memory and suggest a central role of the medial temporal lobe in the retrieval of episodic memories.