Poster presentation

Temporal lobe factor in verb fluency

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Background

This study evaluated whether decreased word fluency in Mild Cognitive Impairment and related disorders is related to hypoperfusion in particular brain regions.

Materials and methods

93 subjects referred for memory trouble participated in the study. Subjects had either Subjective (non-objective) Cognitive Impairment, Mild (Objective) Cognitive Impairment, or Alzheimers dementia. Hypoperfusion quotes from 38 brain regions were obtained from SPECT, plus temporally resolved verb and noun fluency scores. Factor analysis was used to assess hypoperfusion in larger anatomical regions. Regression analysis was applied to the hypoperfusion factor scores and word fluency data.

Results

Impaired verb fluency was predicted by a temporal lobe hypoperfusion factor and years of education, whereas impaired noun fluency was predicted by age and hypoperfusion in the parietooccipital-parietotemporal region. Hypoperfusion in anteromedial temporal areas were more strongly associated with decreased verb fluency.

Discussion

Impaired verb fluency was predicted by a temporal lobe hypoperfusion factor and years of education, whereas impaired noun fluency was predicted by age and hypoperfusion in the parietooccipital-parietotemporal region. Hypoperfusion in anteromedial temporal areas were more strongly associated with decreased verb fluency.

References

1. Braah H, Braak E: **Neuropathological staging of Alzheimer-related changes.** *Acta Neuropathologica* 1991, **82**:239-259.
2. Piatt A, Fields JA, Paolo AM, Tröster AI: **Action (verb naming) fluency as an executive function measure: convergent and divergent evidence of validity.** *Neuropsychologia* 1999, **37**:1499-1503.

3. Damasio A, Tranel D: **Nouns and verbs are retrieved with differently distributed neural systems.** *Proceedings of the National Academy of Sciences of the United States of America* 1993, **90**:4957-4960.
4. Pulvermüller F: *The Neuroscience of Language* Cambridge: Cambridge University Press; 2003.