Longitudinal Changes of Cerebral Glucose Metabolism in Semantic Dementia

Abstract:
Background: Semantic dementia (SD). Objective: To identify the pattern of decline of cerebral glucose metabolism in SD using cerebral 18F-fluoro-2-deoxy-D-glucose positron emission tomography scanning (18F-FDG-PET). Methods: Eight patients with SD underwent 18F-FDG-PET at baseline and at re-examination in average 15 months later. Results: Compared with healthy control subjects, patients with SD showed a significant asymmetrical (left > right) hypometabolism of the temporal lobes, particularly of the anterior poles, at baseline. At follow-up, we observed a deterioration of cognitive abilities. However, in addition to the temporal lobes no other cortical or subcortical region showed a significant reduction of glucose metabolism except the anterior cingulate cortex (p<0.05). Conclusion: Subtle functional changes suffice to produce significant neuropsycho- logical deterioration.

Stichworte: Positron emission tomography; Semantic dementia; Frontotemporal dementia; Follow-up; Glucose metabolism

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