Abstract

The aim of this study was to characterize the patterns of brain atrophy in Alzheimer’s disease (AD) patients compared to FTD patients and healthy controls. This study assesses the brain gray matter (GM) and ROI abnormalities jointly to reveal differences in abnormal MRI patterns between the diseases. Hippocampal, amygdala, and cingulate gyrus volume was measured by Magnetic Resonance Imaging in patients with AD (n=25), FTD (n=10) and in healthy control subjects (n=20). The neuropsychological assessment was used to stratify subjects according to cognitive functions. VBM was performed to characterize the voxel-wise analysis of neuroanatomic changes that occur in AD and FTD based on 3D flash spoiled gradient sequence using standard parameters. Our findings suggest that the magnitude of amygdala atrophy is comparable to that of the hippocampus in the earliest clinical stages of AD and FTD. The severity of dementia increased associated with decreasing hippocampal volume. Measurement of hippocampal and amygdalar regions may facilitate differentiation between dementia subtypes. In this study, there was no evidence that cingulate regional atrophy is specifically associated with early-onset AD and FTD.
Volumetric Analysis of Regional Atrophy for the Differential Diagnosis of AD and FTD

References

- Michael PL, Devita, C, James CG, Grossman. "Using Voxel-Based Morphometry to Examine Atrophy-Behavior Correlates in Alzheimer's Disease and Frontotemporal..."


Index Terms

Computer Science
Bio-medical Sciences

Keywords

Alzheimer’s disease Frontotemporal Dementia Voxel Based Morphometry Mini Mental State Examination