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PRELIMINARY STUDY OF REGIONAL CEREBRAL DYSFUNCTION IN ALZHEIMER'S DISEASE USING POSITRON EMISSION TOMOGRAPHY (PET) AND F-18 FDG. A.Ichimiya, H.Nakao, Y.Ichiya, Y.Kuwabara, Z.Ayabe, Y.Miyake. Faculty of Medicine, Kyushu University, Fukuoka.

Regional cerebral metabolism was examined with PET using F-18-fluoro-2-deoxy-D-glucose, in 9 patients with clinically diagnosed Alzheimer's disease in presenium. The regional cerebral metabolic rates of glucose(rCMRglc) values were measured in 6 patients.

The PET images of all patients showed reduced glucose uptake in parietotemporal and frontal association cortices. However glucose uptake in primary sensori-motor and visual cortex and medial region of frontal cortex is relatively preserved.

The rCMRglc in parietotemporal cortex, especially in the left hemisphere tends to decrease according to the severity of dementia.

Clinically a patient with severe language impairment showed lower rCMRglc in the left hemisphere than the right. Also in a patient with visuo-spatial dysfunction severer than the other symptoms, rCMRglc in the right hemisphere was more reduced than the left. Another patient in whom the character was changed in spite of 1st stage, hypometabolism in frontal lobe was observed.

These results suggest that some of the clinical symptoms observed in Alzheimer's disease are due to impairment of cortical functions.
