

## Necessity of a uniform start for scanning after FDG injection in brain PET study

Kazunari ISHII,\* Yasuto HIGASHI,\*\* Masako TABATA,\*\* Masahiro MIYAISHI,\*\*  
Takashi MIZUTANI\*\*\* and Masahiro SASAKI\*\*\*

*\*Department of Radiology and Nuclear Medicine, Hyogo Brain and Heart Center*

*\*\*Department of Neurology, Himeji Central Hospital*

*\*\*\*PET Diagnostic Imaging Center, Himeji Central Hospital*

The authors' goal was to show the importance of starting scanning at a uniform time after F-18 fluorodeoxyglucose injection in positron emission tomography (PET) brain study. **Method:** Fifteen healthy normal subjects underwent FDG-PET to obtain glucose metabolic images starting 60 min and 70 min after FDG injection, respectively. The two sets of images were compared in a voxel-by-voxel analysis. **Results:** In the bilateral posterior cingulate gyrus, parietal and frontal association cortices, the FDG uptakes were larger on the 70 min scan images than on the 60 min scan images; the 60 min scans resembled Alzheimer's metabolic reduction area. Similarly the FDG uptakes were larger in the pons and vermis on the 60 min scan image than on the 70 min scan image. **Conclusions:** Regional FDG uptake is different depending on the time scanning starts after FDG injection, even with a 10 minute difference in start time and different scanning time may lead to misdiagnosis. It is important to standardize the start time of FDG PET after FDG injection in brain PET.

**Key words:** positron emission tomography (PET), F-18 fluorodeoxyglucose (FDG), normal human brain, scanning time