

## Improvement in Tc-99m HMPAO brain SPECT findings during donepezil therapy in a patient with pure akinesia

Gorsev G. YENER,\* Gamze Çapa KAYA,\*\* Vesile ÖZTÜRK\* and Gulden AKDAL\*

\*Department of Neurology, Dokuz Eylül University, Medical School, Izmir, Turkey

\*\*Department of Nuclear Medicine, Dokuz Eylül University, Medical School, Izmir, Turkey

A 58-year-old man presented with a history of disturbance in initiating gait. His history revealed meningoencephalitis five years prior to admission. Neurological examination included gait disturbance as difficulty in initiation and a hesitating speech with many freezing episodes and micrographia. Magnetic resonance imaging (MRI) showed diffuse hyperintensity of frontal subcortical white matter on T2 weighted images. He was diagnosed with PA. L-Dopa up to the dosages of 1000 mg/day and selegiline 10 mg/day were given. First brain SPECT using technetium-99m labeled D,L-hexamethylpropylene amine oxime (Tc-99m HMPAO) was performed when he was taking L-dopa and selegiline. In visual evaluation, hypoperfusion in bilateral frontoparietal cortex was seen (Fig. 2). Treatment with L-dopa and selegiline produced no benefit. Donepezil 10 mg/day was begun. This therapy regimen resulted in dramatic clinical improvement within several days that was confirmed by blinded raters who watched the patient's video recordings. During this response second brain perfusion SPECT study was repeated during donepezil therapy. Markedly increased perfusion in bilateral frontoparietal cortex was observed. This is the first case of PA to develop possibly after an episode of bacterial pneumococcal meningoencephalitis and who responded to donepezil as documented by changes in clinical findings and Tc-99m HMPAO brain SPECT studies.

**Key words:** pure akinesia, Tc-99m HMPAO brain SPECT, donepezil