

## Loss of <sup>123</sup>I-Metaiodobenzylguanidine Uptake by the Heart in Parkinson's Disease

**TO THE EDITOR:** I read with interest the article by Satoh et al. (1) reporting on the usefulness of myocardial metaiodobenzylguanidine (MIBG) scintigraphy for diagnosing Parkinson's disease.

Recently, decreased accumulation of cardiac MIBG in patients with Parkinson's disease has been reported, and researchers have suspected that the involvement of ganglionic and postganglionic sympathetic neurons causes this decrease (2). Although Satoh et al. reported that the heart-to-mediastinum (H/M) count ratio in patients with Hoehn and Yahr (HY) stage I Parkinson's disease was normal, it has been reported elsewhere that the H/M ratio can be low in many patients with HY stage I Parkinson's disease (2,3). This discrepancy in results was not explained. I believe this discrepancy was caused by the small number of patients with HY stage I Parkinson's disease.

The heterogeneity in Satoh et al.'s (1) central nervous system (CNS) control group also presents some problems. Their CNS control group consisted of patients with cerebrovascular disease (CVD) and patients with neurodegenerative diseases such as progressive supranuclear palsy (PSP), spinocerebellar degeneration (SCD), and amyotrophic lateral sclerosis (ALS). Although it is conceivable that patients with CVD have normal cardiac accumulation of MIBG, reduced cardiac MIBG uptake in patients with PSP, SCD, and ALS has been found (2,4,5). I do not understand the logic of including patients with these diseases in 1 series, or the necessity of comparing the cardiac uptake of MIBG between PD and SCD or ALS.

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**Reply:** We appreciate the comments of Yoshita, who reported that the H/M ratio was low in many of Hoehn and Yahr (HY) stage I patients with Parkinson's disease (1). In our study (2), the H/M ratio in HY stage I patients with Parkinson's disease was normal. Myocardial metaiodobenzylguanidine (MIBG) scintigraphy was performed in 6 HY stage I patients with Parkinson's disease on admission and 1 y later. The H/M ratio on admission was in the

normal range in all patients but decreased in 3 of 6 patients 1 y later, and HY stage in these patients was determined to be stage II. The other 3 patients' disease remained classified as HY stage I, but the H/M ratio decreased in 2 of 3 patients. Orimo et al. (3) reported that 5 of 9 patients with HY stage I Parkinson's disease showed a normal H/M ratio, and the H/M ratio of patients with HY stage I was significantly higher than that in patients with stages III, IV, and V Parkinson's disease (3). These results indicate that the H/M ratio may be decreased at the time of examination even in patients with HY stage I disease.

In our article (2), the central nervous system (CNS) control group consisted of patients with CVD, PSP, CBD, and ALS. The H/M ratios of these neurodegenerative diseases (SCD, 2.13; PSP, 2.0; CBD, 2.06; ALS, 2.1) were not decreased compared with the ratio of CVD. For this reason, we included these patients with neurodegenerative diseases as the CNS control group. Reduction of cardiac MIBG uptake in patients of with PSP, SCD, and ALS have been reported (1,4,5). Some patients with these neurodegenerative diseases showed reduction of cardiac MIBG uptake, but the degree and the frequency of the reduction of cardiac MIBG uptake were less significant than that in patients with Parkinson's disease (1,4,5).

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## Small-Animal PET Cameras

**TO THE EDITOR:** I read with interest the July 1999 editorial by Tornai et al. (1), which praised the development of and results from a small-animal PET scanner, microPET (University of California, Los Angeles, Los Angeles, CA) (2). I would like to suggest that microPET is not quite as "state-of-the-art" as the authors asserted, at least as far as field-of-view, spatial resolution, and sensitivity are concerned.

My institution's dual-detector, 3-D, HIDAC-PET camera (3)—which consists of 5 million lead, 0.5-mm-diameter, gas-avalanche