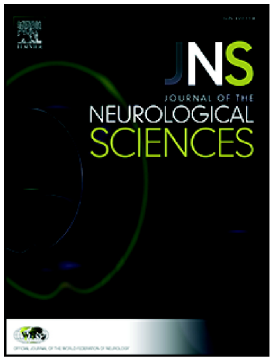

131I-MIBG myocardial scintigraphy for differentiation of Parkinson's disease from multiple system atrophy or essential tremor in Chinese population

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^{131}I-MIBG Myocardial Scintigraphy for Differentiation of Parkinson's Disease from Multiple System Atrophy or Essential Tremor in Chinese population

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Abstract

Objective Clinical distinction of Parkinson's disease (PD) from multiple system atrophy (MSA) or essential tremor (ET) is sometimes difficult. The purpose of this study was to assess changes in cardiac sympathetic nerve function in PD, MSA, and ET by ^{131}I-MIBG myocardial scintigraphy

Methods Patients with PD (25), MSA (18), or ET (11) and 10 healthy controls (HC) were enrolled. ^{131}I-MIBG myocardial scintigraphy was performed for each subject, and heart/mediastinum (H/M) ratios were calculated at two sample times (15 min and 4 h after the injection of ^{131}I-MIBG), representing the ^{131}I-MIBG myocardial uptake ratios. The washout ratio (WOR) of MIBG which indicates the activity tone of the presynaptic sympathetic nerves was calculated for each subject.

Results The H/M ratios at the two sample times (15 min and 4 h) were 1.65±0.36 and 1.50±0.43 in the PD group, 1.97±0.36 and 2.08±0.57 in the MSA group, 2.34±0.34 and 2.46±0.51 in the ET group, and 2.41±0.26 and 2.66±0.47 in the HC group. The H/M ratios at the two sample times were lower in the PD group than in the MSA, ET, or HC groups, with statistical significance (all P<0.05). The H/M ratios at the two sample times were significantly lower in the MSA group than in the HC group (all P<0.05). There was no significant difference in H/M ratios at either sample time between the ET and HC group (all P>0.05). The washout ratios (WORs) of MIBG were significantly increased in