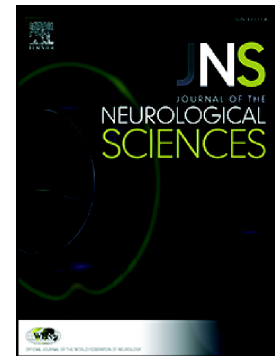


Accepted Manuscript

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

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PII: S0022-510X(16)30789-4

DOI: doi: [10.1016/j.jns.2016.12.006](https://doi.org/10.1016/j.jns.2016.12.006)

Reference: JNS 14998

To appear in: *Journal of the Neurological Sciences*

Received date: 30 January 2016

Revised date: 24 November 2016

Accepted date: 5 December 2016

Please cite this article as: Tuanfeng Yang, Li Wang, Yuan Li, Min Cheng, Jinsong Jiao, Qian Wang, Huailian Guo , 131I-MIBG myocardial scintigraphy for differentiation of Parkinson's disease from multiple system atrophy or essential tremor in Chinese population. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Jns(2016), doi: [10.1016/j.jns.2016.12.006](https://doi.org/10.1016/j.jns.2016.12.006)

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

Tuanfeng Yang^{1#}, Li Wang^{2#}, Yuan Li³, Min Cheng¹, Jinsong Jiao², Qian Wang³, Huailian Guo^{1*}

¹Department of Neurology, People's Hospital, Peking University, Beijing 100044, China

²Department of Neurology, China-Japan Friendship Hospital, Beijing 100029, China

³Department of Nuclear Medicine, People's Hospital, Peking University, Beijing 100044, China

*Corresponding author: Huailian Guo; Department of Neurology, People's Hospital, Peking University, No. 11 Xizhimen South Street, Xicheng District, Beijing, China, Postcode: 100044; Tel: +86 10 88326807 or +86 13661327709; Fax: +86 10 82805185; E-mail: guoh@bjmu.edu.cn.

T YANG and L WANG contributed equally to this work.

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 ¹³¹I-MIBG myocardial scintigraphy

Methods Patients with PD (25), MSA (18), or ET (11) and 10 healthy controls (HC) were enrolled. ¹³¹I-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 ¹³¹I-MIBG), representing the ¹³¹I-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

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