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The usefulness of combined brain perfusion SPECT, DAT-SPECT and MIBG scintigraphy for the diagnosis of dementia with Lewy bodies**Seiju Kobayashi^{1,2}, Kanae Makino², Shigeki Hatakeyama², Tomo Iwamoto², Hanako Tsujino², Wataru Ukai², Eri Hashimoto², Kumiko Utsumi³ and Chiaki Kawanishi²**¹Nakae Hospital, Japan²Sapporo Medical University, Japan³Sunagawa City Medical Center, Japan

Background & Aim: Current diagnostic criteria recommend neuroimaging as a diagnostic support tool for the clinical diagnosis of dementia with Lewy bodies (DLB). Because DLB causes characteristic impairments and disabilities, such as neuroleptic hypersensitivity, which may significantly increase morbidity and mortality, its prompt and correct diagnosis is very important. The aim of this study was to evaluate the extent with which diagnostic accuracy can be increased using a combination of brain perfusion SPECT (bp-SPECT), I-metaiodobenzylguanidine Myocardial Scintigraphy (MIBG scintigraphy) and DAT-SPECT. Taking finances and patient burden into consideration, we compared the tests to determine priority.

Methods: 34 patients with probable DLB (75.0±8.3 years old, 14 male: 20 female) underwent bp-SPECT, MIBG myocardial scintigraphy and DAT-SPECT.

Results: Our comparison of three functional imaging techniques indicated that MIBG scintigraphy (79%) or DAT-SPECT (79%) had better sensitivity for characteristic abnormalities in DLB than bp-SPECT (53%). The combination of the three modalities could increase sensitivity for diagnosis of DLB to 100%. Additionally the ratio of patients with rapid eye movement sleep behavior disorder (RBD) was significantly higher in MIBG (+) group than in MIBG (-) group.

Conclusions: In the stand-alone diagnostic means, priority should be placed on MIBG scintigraphy or DAT-SPECT for the diagnosis of DLB. However, our results suggest that the combination of bp-SPECT, MIBG scintigraphy and DAT-SPECT increased accuracy of the clinical diagnosis of DLB.

Biography

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