Questionnaire-based Diagnosis of REM Sleep Behavior Disorder in Parkinson's Disease

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Objective: To validate a combination of patient and bed-partner questionnaires for diagnosis of rapid eye movement (REM) sleep behavior disorder (RBD) in Parkinson's Disease (PD).

Background: RBD is present in up to 40% of PD patients and may portend more severe PD manifestations. It can also pose increased risk of injury, but is treatable. Definitive diagnosis of RBD requires demonstration of REM sleep without atonia on polysomnogram, but this is costly, time-intensive, and not practical for large-scale studies.

Design/Methods: We prospectively validated the patient-administered REM sleep behavior disorder questionnaire (RBSQ) and bed-partner-administered question 1 of the Mayo questionnaire in a convenience sample of 75 PD patients. A diagnosis of RBD was made based on International Classification of Sleep Disorders-II criteria: polysomnographic evidence of REM sleep without atonia and a clinical history of dream enactment behavior, determined through interview with the patient and his/her bed-partner.

Results: 75 PD patients (51 male, 68 Hoehn and Yahr stage I and II) participated. 48 had a clinical history of RBD. A cut-off on the RBSQ of 7 classified 78% of those with RBD correctly. Among those who achieved REM sleep (n=65), sensitivity was 74.2% (95% CI 55.1-87.5) for the RBSQ alone but was 100% [95% CI 86.3-100] when a combination of both questionnaires was compared to the gold standard of polysomnogram-confirmed RBD. Specificity was highest at 82.4% [95% CI 64.8-92.6] for the RBSQ used alone.

Conclusions: A combination of patient and bed-partner questionnaires is a useful tool to detect RBD in PD. Questionnaire-based diagnosis is more practical than diagnostic criteria that require polysomnographic confirmation. Combined use of patient and bed-partner questionnaire to diagnose RBD in the PD population would be an ideal screen. It is hoped that accurate questionnaire-based diagnosis will facilitate large-scale cohort studies to better understand the implications of RBD in PD.

Trainee Award Eligible