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LETTER TO THE EDITOR

Obstructive Sleep Apnea is an Under-Recognized and Consequential Morbidity in Multiple Sclerosis

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The main conclusion of Kaminska et al.[1]—that obstructive sleep apnea (OSA) and its impact on fatigue in multiple sclerosis (MS) appear to be under-recognized—is entirely consistent with our report.[2] However, in contrast to previous reports discussed,[1] the primary objectives of our study were to assess the frequency of diagnosed OSA and elevated OSA risk, and relationships between fatigue, OSA, and OSA risk, all within the generalizable context of a tertiary MS clinic. Our resulting data were the first to characterize effects of both diagnosed OSA and OSA risk on fatigue, in a manner that maximized sample size, while allowing adjustment for a wide range of potential confounds and minimization of selection bias. Although prospective polysomnography might have been useful, consequent sacrifice in sample size and external validity may have resulted in duplication of previous findings, rather than novel insight. Our design also allowed for the first time comparison of the discrepancy between *clinically* diagnosed OSA and OSA risk in the MS clinical setting—providing new evidence that OSA is underdiagnosed in MS patients.

As stated,[2] OSA prevalence estimates based on previous PSG-based studies in MS vary widely (0-58%). Kaminska et al.[1] note that our data on OSA prevalence may reflect an underestimation, and highlight one of their own studies—which identified OSA in 58% of 62 assessed MS patients[3]—to support this conclusion. Yet, neither that study nor others were designed to assess OSA prevalence, as previously recognized by Kaminska et al.[4] In our study, medical records were used to determine the proportion of patients who carried a diagnosis of OSA. The resulting figure (21%) probably does reflect under-recognition of OSA in clinical practice; in fact, our estimate of those at risk for OSA as suggested by STOP-Bang scores (56%) supports mutual concerns that OSA is clinically underdiagnosed in MS. We also share speculation that PSG-based identification of OSA among all 195 of our subjects might have further strengthened the associations we already identified with fatigue.

Finally, our study was not designed to assess the effect of OSA treatment on fatigue. We have already acknowledged that small numbers of compliant CPAP users in our sample may have precluded identification of a treatment benefit.[1,2] Nonetheless, based on recent data, including our own from non-MS patients,[5] we remain optimistic that OSA treatment may reduce fatigue in MS patients with OSA, and offer a new, yet infrequently addressed approach to reduce one of the most vexing features of this neurological disorder.

CITATION

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DISCLOSURE STATEMENT

Dr. Braley has served as site P.I. for several industry-sponsored studies at the University of Michigan, including studies sponsored by

Sanofi-Genzyme, Hoffmann-La Roche, Biogen-Idec, and AB Science but received no direct compensation for this work, and these studies were not related to the research presented in this manuscript. She is the recipient of an American Sleep Medicine Foundation Bridge-to-K grant, awarded in 2012. She is also named in a provisional patent, held by the University of Michigan, concerning treatment for obstructive sleep apnea. Dr. Segal is PI for an investigator initiated educational grant from TEVA to support an academic lecture series, serves as mentor for an MS clinical fellowship grant sponsored by Biogen-Idec, and has given grand rounds lecture for Novartis. He has served as a consultant for Biogen-Idec and Genzyme. He is also named in a provisional patent, held by the University of Michigan, concerning treatment for obstructive sleep apnea. Dr. Chervin has received research grants from the NIH and the University of Michigan; he is on the Board of Directors for American Academy of Sleep Medicine, American Sleep Medicine Foundation, American Board of Sleep Medicine, Associated Professional Sleep Societies, and the International Pediatric Sleep Association; he is on the advisory board (volunteer) for Sweet Dreamzzz (not-for-profit community organization); He is a consultant for Proctor & Gamble through a contract established with University of Michigan; a consultant to MC3, and Zansors (not compensated); he developed a licensed questionnaire for Zansors through the University of Michigan; he is editor of UpToDate; is a Cambridge University Press book editor; and is named in copyrighted material and patents (including one for RCREC discussed in this report) held by the University of Michigan, for screening, assessment, and treatment of sleep disorders.