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LETTERS TO THE EDITOR

Night-to-night fluctuations in sleep apnea severity: diagnostic and treatment implications and the need to be less prescriptive in guidelines

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The authors Dzierzewski et al[1] have raised important issues regarding retesting with home sleep apnea tests (HSAT) in managing patients with obstructive sleep apnea. Their finding that, "More than a quarter of individuals who displayed an AHI [apnea-hypopnea index] < 15 events/h on their first night HSAT, which is the commonly used clinical cut point for diagnosis and PAP [positive airway pressure] therapy, regardless of daytime symptoms, displayed an AHI ≥ 15 events/h on the second night HSAT" has significant implications in the management of patients. This is consistent with the study by Punjabi et al,[2] who showed that approximately 20% of patients with mild and moderate sleep-disordered breathing on the first night of testing were misdiagnosed either as not having sleep apnea or as having mild disease, respectively. From these studies, repeat studies clearly may be needed if first-night and second-night tests are negative with high clinical probability. It is unlikely that patients would seek the help of sleep medicine physicians unless the patient or their spouse has significant symptoms.

However, testing a second or third time with HSAT if the initial HSAT is negative is not consistent with the American Academy of Sleep Medicine's current clinical practice guideline for diagnostic testing for adult obstructive sleep apnea[3]: "We recommend that if a single home sleep apnea test is negative, inconclusive or technically inadequate, polysomnography be performed for the diagnosis of obstructive sleep apnea (STRONG)." The American Academy of Sleep Medicine is a premier sleep organization, and the guideline is a powerful tool that is being used by health insurers to approve or disapprove second or third home sleep studies, which may be more informative than polysomnography owing to the problem of the first-night phenomenon. Being prescriptive may also mean that physicians are losing the ability to get a second or third HSAT approved by health insurance companies when clinically necessary. Physicians can be targets of regulatory agencies and health insurance companies if they are performing retesting not consistent with the American Academy of Sleep Medicine guidelines. It may be in the best interest of both patients and physicians to modify the guidelines so that patients can get a second-night HSAT when presenting with significant symptoms.

The popularity of wearable devices with technology that can measure peripheral oxygen saturation also has the potential to aid in the screening for obstructive sleep apnea. With these technologies, we may be able to diagnose obstructive sleep apnea with multiple nights of data, which can account for night-to-night variability.[4]

CITATION

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