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## ⑧ Sleep Apnea and Chronic Obstructive Pulmonary Disease Overlap: More Common Than You Think?

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To the Editor:

The Global Initiative for Chronic Obstructive Lung Disease 2023 Report gave clarity to many diagnostic nuances that arise when we treat patients with chronic obstructive pulmonary disease (COPD). Agustí and coworkers (1) provided a concise and highly informative update to prior reports. We particularly appreciated the special attention to specific presentations of COPD without a strong cigarette exposure such as those that result from indoor cooking, prematurity, or genetic drivers.

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One area of importance we believe may have been underemphasized in the Report relates to sleep. Obstructive sleep apnea (OSA) is an extremely common respiratory condition with an estimated prevalence as high as 1 billion people worldwide. The Report's Executive Summary states that OSA is found in 14% of patients with COPD; however, the cited reference by Soler and coworkers (2) actually demonstrated that, among 44 patients with severe COPD in whom a full polysomnography was performed, 29 (65.9%) were found to have OSA (apnea-hypopnea index >5/h). Thus, the prevalence of comorbid COPD and OSA, also known as overlap syndrome, may be closer to two-thirds of patients with severe COPD, although it is clearly highly variable in the literature depending on COPD severity. The diagnostic criteria for OSA in COPD are the subject of much discussion because the prevalence figures vary depending on the administration of supplemental oxygen (which can obscure desaturations), the use of a nasal cannula to assess airflow limitation, and problems with the apnea-hypopnea definition (e.g., a 10-min hypoventilation episode could be labeled as a single hypopnea or missed entirely if capnometry were not being used). Thus, we recommend further work to quantify the impact of sleep disturbances on patients with COPD.

Overlap syndrome has increased cardiovascular morbidity compared with OSA or COPD alone. Marin and coworkers (3), in a prospective, observational cohort study, showed an increased incidence of cardiovascular events in patients with untreated overlap syndrome compared with patients receiving treatment with positive airway pressure (PAP) and patients with COPD alone. Several studies have reported potential benefits to nocturnal noninvasive ventilation

in chronic hypercapnic COPD (4); notably, this is one of the few interventions with compelling hard outcome data in COPD. We recently observed that PAP use in overlap syndrome was associated with reduced all-cause hospitalizations and emergency room visits, diminished severe acute exacerbations, and decreased healthcare costs (5). Although the mechanisms of benefit are unclear, PAP can help to reduce hypoxemia, hypercapnia, catecholamine surges, and arousals from sleep, and may help to improve cardiovascular risk as well as function. Poor sleep quality is quite common in COPD, and, in some studies, may be a harbinger of exacerbations (6). As patient-reported outcomes become an increasing focus, we believe attention to sleep issues may help address these concerns. We applaud Agustí and coworkers on an important contribution. ■

**Author disclosures** are available with the text of this letter at [www.atsjournals.org](http://www.atsjournals.org).

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