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Obstructive sleep apnea and chronic opioid use

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Abstract

The use of opioids has been associated with development of sleep-disordered breathing, including central apneas, nocturnal oxygen desaturations, and abnormal breathing patterns. We describe sleep-disordered breathing and its subsequent treatment in a group of obstructive sleep apneic patients on chronic opioid therapy. Clinical evaluation followed by diagnostic overnight polysomnogram was performed in subjects on chronic opioid therapy who met the study criteria. All subjects had an initial CPAP titration followed by a repeat clinical evaluation. Subjects with an apnea-hypopnea index (AHI) ≥ 5 continued to report symptoms and had follow-up titration with bilevel positive therapy; then bilevel positive-pressure therapy with a back-up rate was then performed. Age-, sex-, and disease-severity-matched obstructive sleep apnea patients served as controls. Forty-four study participants, including a large group of women (50%), and 44 controls were enrolled in the study. Opioid subjects had $AHI = 43.86 \pm 1.19$, with a central apnea index of 0.64 ± 1.36 . Two abnormal breathing patterns were seen, including decreased inspiratory effort during an obstructive event and longer than expected pauses in breathing. Despite adequate titration with CPAP and bilevel positive-pressure therapy, nocturnal awakenings and central apnea awakenings persisted (AHI and central apnea indices of 13.81 ± 2.77 and 11.52 ± 2.12 , respectively). Treatment with bilevel positive-pressure therapy with a back-up rate controlled the problem. Nonobese OSA patients with opioid intake have obstructive breathing with a different pattern. In this study, bilevel positive-pressure therapy with a back-up rate was the most effective treatment.

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