NEW RESEARCH

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CASE REPORTS

CPAP Treats Muscle Cramps in Patients with Obstructive Sleep Apnea

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We describe a case series of 4 patients with varying degrees of obstructive sleep apnea who incidentally had a history of nocturnal leg cramps. None of the patients had periodic limb movements during the study and denied symptoms consistent with restless legs syndrome. In 3 of the 4 patients, nocturnal leg cramps resolved with CPAP treatment for OSA, while the fourth patient noted near-resolution of cramping after starting CPAP. In patients presenting with muscle cramps, obstructive sleep apnea should be considered.

Keywords: CPAP, leg cramps, spasms

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Leg cramps are highly prevalent within the population and are reported by 50% to 60% of adults.[1] The pathophysiology of legs cramps remains unknown, but they appear to result from spontaneous discharges of motor nerves rather than from within the muscles themselves.[2] They may be the result of lower motor neuron dysfunction, acute extracellular volume depletion, metabolic derangements, genetic disorders, or medications.

A case report in 2009 identified a 71-year-old patient who developed fasciculations and muscle cramps associated with the onset of obstructive sleep apnea.[3] Several weeks after continuous positive airway pressure (CPAP), the cramps and fasciculations resolved. Here we provide further support with a series of 4 patients who report improvement in cramping with the use of CPAP therapy for OSA.

REPORT OF CASES

The first patient is a 58-year-old woman with a history of treated hypothyroidism and a BMI of 39 kg/m^2. She had been referred for snoring but also noted severe nocturnal leg cramps on review of systems. She was diagnosed with obstructive sleep apnea by polysomnography (PSG) with an apnea-hyponea index (AHI) of 35/hour. Her arousal index was noted to be 37.7/h with no limb movement arousals. The patient started CPAP after an in-lab titration. At her follow-up visit, she reported that after starting CPAP her cramps entirely resolved.

Soon thereafter, a second patient presented with similar complaints. A 34-year-old woman with a BMI of 40.8 kg/m^2 and a history of deep vein thrombosis was referred to the sleep clinic for snoring. She also endorsed a 13-year history of leg cramping which occurred more frequently at night. The patient was diagnosed with moderate sleep apnea with an AHI of 15.4/h. The arousal index was 22.2/h with a limb movement index of 4.4/h. CPAP was prescribed. At the return visit she mentioned that her leg cramps fully resolved 3 weeks after initiating nightly CPAP. Furthermore, several months after CPAP initiation, the patient was without electricity and was unable to use CPAP. She reported that during these weeks, the cramps returned, though less severely than before initiating CPAP. The cramps abated again after restoration of electricity and resumption of CPAP.

The third case involved a 55-year-old woman who presented for evaluation of snoring and daytime sleepiness. She also described a history of cramps that affected both the arms and legs. She recalled one episode during which cramping was so severe that she presented to the emergency room. She denied a diurnal pattern to the cramping. The patient was diagnosed by PSG with obstructive sleep apnea based on an AHI of 29.8/h. The arousal index was noted to be 31.2/h with no limb movement arousals. She was started on CPAP for treatment of her OSA. After starting CPAP, she reported a significant reduction in the frequency and intensity of the cramps, now occurring less than once per week.

Finally, a 54-year-old woman was referred for PSG to rule out OSA. Her AHI was 37.8/h with an arousal index of 41.4/h. No periodic or isolated limb movements were seen. At her subsequent initial sleep clinic evaluation, she revealed that she had nocturnal leg cramps on review of systems, but this was not pursued further at that visit. She agreed to a trial of auto-titrating CPAP.

Upon follow-up 3 months later, however, she spontaneously commented that she had not had any leg cramps since initiating CPAP therapy. She indicated that for several years she had been having leg cramps in 1- to 2-week bursts separated by no more than a month without cramps. The 3 months on CPAP were the longest cramp-free period she could remember. She attributed the improvement in cramps to starting CPAP.

DISCUSSION

This is a case series of subjective improvement in cramps during the use of CPAP for OSA. All of our patients were

female with moderate to severe obstructive sleep apnea. The association between obstructive sleep apnea and nocturnal leg cramps is not well described but warrants further investigation. Undiagnosed obstructive sleep apnea should be considered when patients complain of leg cramps. For patients with leg cramps and OSA, CPAP could be a viable treatment option for both conditions. Additional research is needed to determine the mechanism by which CPAP helped improve cramping. Possible mechanisms include eliminating the leg movements associated with respiratory arousals or correcting underlying metabolic disturbances.[4]

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