Editorial

Respiratory sleep disorders and fibromyalgia*

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Fibromyalgia is a chronic, painful condition that is diagnosed by identifying chronic, diffuse muscular-skeletal pain upon compression of at least eighteen determined anatomical points. Although not constituting diagnostic criteria, sleep fragmentation events, such as brief awakenings (arousals), increased oscillations in the cyclic alternating pattern of sleep, and alpha-wave intrusion into non-rapid eye movement sleep, are common in individuals with sleep disorders. Among the various manifestations of fibromyalgia, nonrestorative sleep is an important aspect that necessitates the investigation of primary sleep disorders in the evaluation of affected patients.

The association between fibromyalgia and sleep disordered breathing was first described in 1986 in a report stating that three out of eleven patients with sleep apnea met the criteria for fibromyalgia. In seven of those patients, polysomnography revealed a pattern of fragmented sleep similar to the alpha-delta pattern.[1] Subsequent studies can be divided into those that evaluated sleep disordered breathing in patients with fibromyalgia and those that evaluated the manifestations of fibromyalgia in patients with sleep apnea.

Sleep disordered breathing in patients with fibromyalgia has been more widely studied. Among the various articles, one significant 1993 study was conducted with twenty fibromyalgia patient and ten healthy volunteers. The authors found no difference between the two groups in terms of the frequency of apnea-hypopnea indices higher than five events per hour of sleep (20% of the cases in each group). However, they also found that the patients with sleep apnea presented greater sleep fragmentation.[2] According to the results of another 1993 study, fibromyalgia symptoms suggest sleep disordered breathing in men but not in women. The authors used polysomnography to evaluate thirteen men and thirteen women, all of whom had been diagnosed with fibromyalgia. Eleven of the men presented an elevated apnea-hypopnea index, whereas only two of the women, both of whom were obese, did so.[3] In a randomized study conducted in 1995, a study sample consisting of twenty-four women with fibromyalgia, sixty with other rheumatic diseases, and ninety-one healthy controls was evaluated. The authors found that the controls presented normal apnea-hypopnea indices more often than did the patients in the other groups.[4]

In 1994, a study involving thirty consecutive patients recruited from a clinic for the diagnosis and treatment of fatigue was conducted. The authors detected primary sleep disorders, such as sleep apnea, periodic limb movements, and narcolepsy, in 30% of the patients.[5] Based on the results of a study conducted in 1996, muscle alterations and sleep disorders in patients with fibromyalgia came to be related to oxyhemoglobin desaturation events during sleep. That was a randomized, controlled study of twenty-eight women with fibromyalgia and fifteen controls matched for age and body mass index. Although few presented sleep apnea, the patients in the fibromyalgia group presented, on average, a greater number of episodes in which oxyhemoglobin desaturation dropped below 90%.[6] In a study conducted in 2002 and involving thirty consecutive patients with fibromyalgia, it was suggested that there was a relationship between oxyhemoglobin desaturation events during sleep and daytime sleepiness.[7] However, the authors of a controlled study conducted in 2004, found that patients with fibromyalgia presented no apnea-hypopnea events or oxyhemoglobin desaturation events but did present a respiratory pattern consistent with upper airway resistance syndrome. The authors compared twenty-eight women with fibromyalgia to eleven women with upper airway resistance syndrome, matched for age and body mass index. They found

no differences between the two groups in terms of respiratory sleep parameters, the women in the fibromyalgia group also presenting snoring, brief electroencephalographic arousals, fragmented sleep, and increased airway resistance to inspiratory flow.[8]

Conversely, the few subsequent studies evaluating the manifestations of fibromyalgia in patients with sleep apnea have presented results that run counter to the initial findings.[1] Such studies did not show an increase in the frequency of fibromyalgia symptoms in patients with sleep apnea, as was demonstrated by data obtained in a study of twenty-nine patients with sleep apnea, twenty-one individuals presenting poor quality sleep, and thirty-one healthy controls, conducted in 1995.[9] In 1996, another group of authors conducted a sequential study of one hundred and eight patients recruited from a center for the treatment of sleep disordered breathing and found that only 2.7% met the diagnostic criteria for fibromyalgia. The authors suggested that there is an association between painful manifestations and reduced physical activity.[10] Therefore, further studies are necessary to evaluate fibromyalgia in patients with more subtle forms of sleep disordered breathing, such as upper airway resistance syndrome.

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