



Sleep apnea syndrome and osteoporosis: methodological drawbacks

Uyku apne sendromu ve osteoporoz: Metodolojik çekinceler

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To the editor,

We have taken a great interest in the recently published article entitled “Obstructive Sleep Apnea Syndrome May Be a Risk Factor for the Development of Osteoporosis in Men at an Early Age?” by Aslan et al.^[1] Authors studied osteoporosis in men with obstructive sleep apnea syndrome (OSAS). However, we have some methodological drawbacks for the aforementioned article.

First, although the authors classified men according to the T scores, they did not use Z-scores or bone mineral density (BMD) measurements (g/cm²). However, according to the World Health Organization, T-scores should be reserved for the diagnostic use in postmenopausal women and men aged 50 years or more. For the other populations, Z-scores or fracture risk should be considered.^[2] Second, both groups in the study included men with OSAS symptoms. The study population did not include a control group consisting healthy subjects without OSAS symptoms. Both groups might have different BMD levels compared to healthy subjects. Third, the authors did not consider coffee or alcohol consumption, exercise, dietary habits, which were previously established as the risk factors for male osteoporosis.^[3] In addition, although it was not statistically significant, there was a difference in smoking (20 vs. 7 pack/year) and age (48.5 vs. 44.5

years) between the groups. Therefore, we believe that a multivariate analysis with logistic regression should be performed, if the age and smoking are established as risk factors. Finally, the authors did not report whether the OSAS patients were rapid eye movement (REM)-related. It has been previously demonstrated that hemodynamic changes and hypoxemia are more apparent during the REM sleep, compared to non-REM sleep.^[4]

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