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ASSOCIATION BETWEEN OBSTRUCTIVE SLEEP APNEA ON BONE MASS IN ADULTS: A SYSTEMATIC REVIEW

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Purpose: To assess existing evidence based on human studies on the potential association between obstructive sleep apnea (OSA) and reduction in bone mass.

Methods: An electronic search of three databases: PubMed, MEDLINE and EMBASE, was performed until May 2015. The inclusion criteria consisted of studies in humans (case controls, cohorts, cross sectionals, secondary outcomes of clinical trials), which assessed the association between OSA and bone metabolic diseases. OSA diagnosis done by an overnight polysomnography (PSG), at home using a portable monitor or through validated records collected from health care databases. Regarding low bone mass diagnosis, reduced bone mineral density (osteopenia), osteoporosis, serum/ urinary levels for markers of bone formation and resorption, or risk of fractures caused without history of trauma were considered indicators of it. Study selections, risk of bias assessment and data extraction were performed in duplicate.

Results: A total of 8 studies (5 cross-sectional and 3 cohort studies) were systematically reviewed. One study was found to have high risk of bias potential, whereas the remaining studies were considered to be of medium to low risk of bias potential. Six out of 8 studies reported an increase in risk of developing bone diseases such osteoporosis in OSA patients. One study did not report a significant association, whereas one study reported an increase of bone density in OSA patients compared to non-OSA patients.

Conclusions: Patients diagnosed with OSA seem to have a higher risk of developing bone diseases (low bone mass, osteoporosis or risk of bone fracture).

(* Presenter)