

Risk of Hip fracture in Sleep Apnea Female Patients Elder than 50 Years Old

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Introduction: Recent studies revealed that sleep apnea (SA) may interfere bone metabolism. SA might be associated with increased risk of osteoporosis, predisposing patients to fracture. However, there is limited data about the association between SA and the risk of hip fracture in older female in Asian. By using Taiwan National Health Insurance (NHI) Research Database, we performed a nationwide population-based cohort study to determine the risk of hip fracture in female patients with sleep apnea.

Methods: From the database of one million people randomly sampled from all individuals enrolled in the NHI system in 2005, we selected female patients elder than 50 years old with SA diagnosis, and excluded those diagnosed with hip fracture prior to SA. Each SA patient was matched to 7 randomly-selected control subjects by age and sex. The endpoint of this study was hip fracture requiring hospitalization. Each subject was followed from the index date, the first date of SA diagnosis (for an SA patient) or the same date as the corresponding SA patient (for a control subject), to a maximum of ten years. The cumulative incidence of hip fracture was assessed with Kaplan-Meier method and log-rank test. Cox regression analysis was performed to assess the effect of SA on incident hip fracture.

Results: A total of 948 female SA patients elder than 50 years old and 6636 control subjects was identified. SA patients had a similar cumulative incidence of hip fracture as the control subjects ($p=0.9121$). Multivariable Cox regression analysis, adjusting for age, sex, income level, and comorbidities, showed that SA was not an independent risk factor for hip fracture (HR [95% CI]: 0.76 [0.47-1.22]).

Conclusion: This study showed no significant association between SA and hip fracture in female patients elder than 50 years old. Our finding was similar to the results from the Nurses' Health Study. Further research is needed to investigate whether SA is associated with other fractures.

中文題目：五十歲以上女性睡眠呼吸中止症病人的髖關節風險評估

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