

Increased Incidence of Hyperlipidemia in Sleep Apnea Patients

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Objective: Both sleep apnea (SA) and hyperlipidemia may increase risks of cardiovascular morbidity and mortality. SA-related intermittent hypoxia and systemic inflammation may alter the cholesterol and triglyceride metabolism via increasing lipolysis, decreasing lipoprotein clearance, and enhancing lipid output from the liver. In a recent European study, the severity of obstructive SA was found independently associated with serum cholesterol and triglyceride concentrations. However, this association has not been reported in Asian population. To confirm this association in Asian population, we therefore performed a nationwide population-base cohort study by using Taiwan National Health Insurance (NHI) Research Database.

Methods: From the Longitudinal Health Insurance Database 2005, we identified adult patients with a diagnosis of SA after polysomnography and excluded those having the diagnosis of hyperlipidemia prior to SA diagnosis. Each SA patient was matched to 3 randomly-selected, age- and sex-matched control subjects who had no SA diagnosis. The incidence and cumulative incidence of hyperlipidemia was compared between SA patients and control subjects. Multivariable Cox proportional hazards regression analyses were performed to determine the effect of SA on incident hyperlipidemia.

Results: A total of 2,417 SA patients and 7,215 control subjects were enrolled. The incidence of hyperlipidemia was significantly higher in the SA patients than in the control subjects (22.5% vs. 11.1%, $p<0.0001$). The cumulative incidence of hyperlipidemia was significantly higher in the SA patients ($p<0.0001$). After adjusting for age, sex, income level, residency, and comorbidities, SA remained a significant risk factor for hyperlipidemia (hazard ratio [95% confidence interval]: 2.152 [1.923 – 2.408], $p<0.0001$).

Conclusion: This population-based large-scale study confirmed an increased incidence of hyperlipidemia in SA patients in Taiwanese population. Physicians need to pay more attention to possible metabolic dysregulation while caring for SA patients.

中文題目：睡眠呼吸中止症病患有較高的高脂血症發生率

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