

Severe obstructive sleep apnea associated with higher lung cancer mortality

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Objective: Obstructive sleep apnea (OSA) has been associated with increased cancer incidence and mortality. Lung cancer is the leading cause of cancer mortality of OSA but has scarcely been specifically studied. The aim of this study was to evaluate clinical outcome and prognostic factors of lung cancer in a large cohort of patients suspected with OSA.

Methods: This was a cohort study including patients of suspected OSA between 2009 and 2014. Laboratory polysomnography recorded the apnea-hypopnea index (AHI) and the hypoxemia index (% night-time spent with oxygen saturation < 90%, Tsat90%). OSA with AHI \geq 30 was defined as severe OSA. We used Taiwan cancer registry to confirm survival status. We also used the annual reports of Taiwan cancer registry to compare the incidence of lung cancer in adult population of Taiwan and our sleep cohort.

Results: In all, 8261 patients with median follow-up of 6 years were included and 23 patients were diagnosed with lung cancer. The incidence of lung cancer was significantly higher in OSA patients when compared to whole adult population in Taiwan (242.1 vs 51.5 per 105 persons, $p < 0.001$). In Kaplan-Meier survival analysis, Stage III-IV patients with AHI < 30 had a significantly better overall survival ($p = 0.024$) and progression free survival ($p = 0.023$) than patients with severe OSA. In univariate analysis, AHI (hazard ratio (HR) = 1.03; 95% CI: 1.01~1.05, $p = 0.021$) and Tsat90% (HR = 1.04; 95% CI: 1.01~1.07, $p = 0.016$) were significant risk factors of overall mortality in stage III-IV lung cancer patients.

Conclusion: The incidence of lung cancer was significantly higher in OSA patients than whole adult population in Taiwan. Severe OSA is associated with higher mortality in stage III-IV lung cancer patients

中文題目：嚴重阻塞性睡眠呼吸中止症與肺癌高死亡率相關

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