

## WHETHER OBSTRUCTIVE SLEEP APNEA INCREASE THE RISK OF STRESS URINARY INCONTINENCE IN WOMEN?

### Hypothesis / aims of study

61% of female patients with obstructive sleep apnea reported a chronic cough.<sup>1</sup> Chronic cough may lead to development of stress urinary incontinence. It is interesting and also important to know whether obstructive sleep apnea increase the risk of stress urinary incontinence in women.

### Study design, materials and methods

We used data sourced from Longitudinal Health Insurance Database, which consists of one million randomly selected subjects from the National Health Insurance Research Database of Taiwan. Health Insurance System of Taiwan covers approximately 23 million people (98% of population). We identified 296 incident female patients aged 18 years or older who were newly diagnosed with obstructive sleep apnea (ICD-9-CM codes 780.51, 780.53, 780.57 or 327.23) after receiving polysomnography between January 1997 and December 2006. A cohort of 1480 (5 for each subject with obstructive sleep apnea) age and gender matched subjects without the diagnosis of obstructive sleep apnea were enrolled as the control group. The study endpoint is developing stress urinary incontinence (ICD-9-CM codes 625.6, 788.30, 788.33, 788.39) or the last visit before December 2009. Cox shared frailty regression model was used to examine the risk of subsequent stress urinary incontinence between cases and control.

### Results

The mean follow-up period was 5.56±2.35 years. Of the sampled patients, the cumulative incidence of stress urinary incontinence for subjects with obstructive sleep apnea were significantly higher than those without obstructive sleep apnea (6.42% vs 3.04%,  $p = 0.004$ ). The log-rank test revealed that subjects with obstructive sleep apnea had significantly lower stress urinary incontinence-free survival rates than patients without obstructive sleep apnea ( $p = 0.005$ ). After adjusted for hypertension, diabetes mellitus, hyperlipidemia, heart disease, and ischemic strokes, patients with obstructive sleep apnea were found to be at 2.15 times the risk of stress urinary incontinence than patients without obstructive sleep apnea (95% confidence interval 1.25–3.69,  $P = 0.006$ ).

### Interpretation of results

Obstructive sleep apnea appears to be associated with an increasing occurrence of stress urinary incontinence in women.

### Concluding message

Stress urinary incontinence is not uncommon in female patients with obstructive sleep apnea and might be largely overlooked. It may significantly alter the quality of life. A systematic questioning by the physician would allow these patients for appropriate therapeutic interventions.

### References

1. Eur Respir J 2010; 35: 368–372

### Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Taipei Veterans General Hospital **Helsinki:** Yes **Informed Consent:** Yes