

Obstructive Sleep Apnea and Obesity Hypoventilation Syndrome Complicated with Pulmonary Hypertension – A Case Report

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Introduction:

Both obstructive sleep apnea (OSA) and obesity hypoventilation syndrome (OHS) may cause pulmonary hypertension. Herein, we reported a patient with OSA and OHS complicated with pulmonary hypertension.

Case Presentation:

A 56 year-old female never-smoker suffered from dyspnea for half a year. Her baseline saturation was around 86% while breathing room air, and arterial blood gas exam revealed PaCO₂ of 58.2 mmHg and pH of 7.37. The chest radiograph showed prominent pulmonary trunk. Echocardiograph revealed right atrial and ventricular dilatation. Pulmonary arterial catheterization revealed increased pulmonary artery pressure (32/19 mmHg; mean: 25 mmHg). A serial examination, including chest computed tomography, pulmonary function test, and autoimmune markers, failed to identify the cause of pulmonary hypertension. She had progressive dyspnea, and the follow-up pulmonary arterial catheterization 8 months later showed interval increased pulmonary artery pressure (46/31 mmHg; mean: 37 mmHg). She was then treated as pulmonary artery hypertension with sildenafil, and her dyspnea improved partially with SpO₂ level around 90% while breathing room air.

Eight months later, she was referred to the sleep clinic for snoring. Her weight was 79.9 kg and her height was 144 cm (body mass index: 38.5 kg/m²). Polysomnography (PSG) showed apnea-hypopnea index (AHI) of 36.8/hour, obstructive predominant, with oxygen desaturation index (ODI) of 30.9/hour. Therefore, severe OSA and OHS were considered as the cause of her pulmonary hypertension. The following PSG with positive airway pressure (PAP) titration revealed obliteration of almost all apnea/hypopnea events with continuous PAP (CPAP) pressure of 13cmH₂O; however, her SpO₂ level was <90% in 92.7% of her total sleep time, suggesting the need of bi-level PAP (BiPAP) treatment. We suggested weight reduction and BiPAP treatment at home, but she declined the suggestions.

Conclusion:

This case highlight the need of considering sleep-disordered breathing as a possible cause of pulmonary hypertension.

中文題目：一阻塞型睡眠呼吸中止症與肥胖低通氣症候群合併肺動脈高壓的病例報告
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