

Acute exacerbation of chronic obstructive pulmonary disease (AECOPD) caused by obstructive apnea syndrome (OSA): a case report

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Abstract : A 73-year-old male was a smoker and diagnosed with COPD in his 60s. He had poor controlled COPD referred from local clinic due to frequent acute exacerbation. He visited ER and local clinic for control AECOPD every 2 weeks in recent half year. He was complaint of snored loudly when sleep by his wife, and felt daytime sleepiness and fatigue for 1 year. He also complained of difficulties in falling asleep and frequent awakenings after taking medications for AECOPD for recent months. Body mass index was 30.9 kg/m². Physical examination revealed bilateral diffuse expiratory wheezing. COPD group D was evaluated according to the pulmonary function test FEV₁ 53%; FEV₁/FVC: 63%; CAT:12; mMRC:3 and frequent AECOPD. Epworth sleepiness scale score was 6 and STOP-Bang was 6 of 8 (cut-off value of high risky OSA ≥ 3). COPD-OSA overlap syndrome was suspected. Polysomnography (PSG) was performed and revealed high apnea-hypopnea index (82.8/h) with poor sleep efficiency 32.1%. CPAP titration study of 8 cmH₂O and sleep efficiency 55.4%, REM 31.2 %, AHI: 19.5 /hr. The dose of oral bronchodilator and steroid agents were tapered gradually without AECOPD attack. After 3 months, the patient's Epworth sleepiness scale score was 3; CAT was 8; mMRC was 2. Home CPAP data showed a mean apnea-hypopnea index of 8.5/h, percent of CPAP wearing days over 6 h of 72%, and average CPAP usage time of 326 min/day. Patient was happy for the better COPD control and sleep quality with less medications under CPAP support.

In patients with COPD in Taiwan, has about 29.5% coexistence of OSA. The overlap syndrome is associated with an increased risk of COPD exacerbation and high mortality. Patients with COPD should be screened for OSA. The effective treatment with CPAP decreased the usage of medications and exacerbation of COPD which may worse the OSA .

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