

Optimal mode of breathing is through the nose, but a lot of people have difficulty in nasal breathing, may due to nasal congestion as a result of allergic rhinitis or sinusitis; or structural obstruction (deviated nasal septum, polyps or tumors), which cause narrowing of nasal airway. Studies have found that persistent restricted nasal airway will lead to mouth breathing, which increase the possibility of upper airway obstruction and induce obstructive sleep apnea (OSA).

We present a 42-year-old male, complained of dry mouth caused by mouth breathing for a long time, symptoms accompanied with nasal obstruction and severe snoring. Physical examination showed bilateral hypertrophic turbinates with deviated nasal septum, which caused narrowing of nasal airway. Nasal airway obstruction also affected the compliance of continuous positive airway pressure (CPAP) use. Polysomnography revealed severe obstructive sleep apnea with apnea-hypopnoea index (AHI) of 79.1/h, lowest O2 saturation of 85%. Correction of nasal resistance was performed with septoturbinoplasty for the patient.

Polysomnography with administration of CPAP was performed 3 months after the surgery, AHI decreased to 1.3/h from 79.1/h; lowest O2 saturation was also improved to 95%. Symptoms of mouth breathing gradually improved as nasal airway become patent, and the tolerance of CPAP use also increased.

In one study, demonstrated that during sleep, the jaws of patients with OSA were open more than those of normal subjects, which destabilize and compromise the upper airway. Thus, mouth breathing appears to be one of the signs of OSA, which should be considered when assessing the clinical presentation for sleep disordered patients. And the surgical correction of nasal obstruction should be considered as a treatment option for sleep apnea with mouth breathing symptoms.

中文題目：

“張口呼吸”為阻塞性睡眠呼吸中止症的早期症狀,可經由鼻腔手術改善-病例報告

**“Mouth Breathing”as an early sign of obstructive sleep apnea and resolved with nasal surgery. A case report**

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