Nasal CPAP reduces gastroesophageal reflux in obstructive sleep apnea syndrome

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Anecdotal reports suggest that obstructive sleep apnea syndrome (OSAS) patients may suffer from frequent nocturnal gastroesophageal reflux (GER) and that nasal continuous positive airway pressure may be an effective form of antireflux therapy in this population. To confirm these clinical impressions, we performed two consecutive days of 24-h esophageal pH monitoring, nocturnal esophageal pressure recording, and polysomnography on six OSAS patients complaining of regular nocturnal GER. On night one, the patients were untreated. Five of six subjects had abnormal amounts of nocturnal GER. Arousal, movement and swallowing were more frequent (p less than 0.043) and nadir intrathoracic pressure lower (p less than 0.005) in the 30 s prior to precipitous drops in esophageal pH (greater than or equal to 2 pH units) than during random control periods. A direct association between obstructive apneas and GER was not identified. On night two, nasal CPAP was administered and successfully treated apnea in five of six subjects. In these patients, there was also dramatic reduction in GER frequency and duration on CPAP. The mean percentage of time pH less than 4 dropped from 6.3 +/- 2.1 to 0.1 +/- 0.1 percent (p less than 0.025). We believe that OSAS may predispose to nocturnal GER by lowering intrathoracic pressure and increasing arousal and movement frequency. Nasal CPAP can correct these predisposing factors and reduce GER.

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