

LETTERS TO THE EDITOR

The Effects of Sildenafil on the Respiratory System of Patients With Obstructive Sleep Apnea and Erectile Dysfunction

Monica L. Andersen, PhD; Sergio Tufik, MD, PhD

Department of Psychobiology, Universidade Federal de Sao Paulo (UNIFESP), Sao Paulo, Brazil

Evidence about the increase in the prevalence of obstructive sleep apnea (OSA) has been reported. OSA increases the risk for other disease and also worsens outcomes. However, the effect of OSA on erectile dysfunction (ED) is not fully elucidated.

It was reported that 55% of men attending a specialized andrology outpatient clinic with a new diagnosis of ED had higher scores in a questionnaire for OSA screening and worse International Index of Erectile Function (IIEF) scores, suggesting that men seeking medical services for ED may have an increased risk of OSA.¹ These underdiagnosed sleep disorders highlight the need for referral to a sleep specialist.

Regarding treatment, Pastore et al.² observed that sildenafil was proven to be more effective in treating ED+OSA than continuous positive airway pressure (CPAP), as it resulted in a higher rate of successful attempts of intercourse and higher IIEF scores. Under sildenafil, the satisfaction rate was 68%, but only 29% with CPAP. This investigation makes a valuable contribution to sexual and sleep medicine.

Some mechanisms have been proposed to explain this relationship.³ Dr. Gozal's group has demonstrated that chronic intermittent hypoxemia was associated with significant effects on sexual activity and erectile function in a murine model.⁴

The effects of the association of selective phosphodiesterase 5 inhibitor (PDE5i) and OSA have been investigated in the past. Roizenblatt et al.⁵ found that sildenafil at bedtime given to men with severe OSA worsened respiratory and desaturation events. Perimenis et al.⁶ reported that CPAP promoted improved sexual performance in patients with OSA, but sildenafil alone was more effective than CPAP. Therapeutic approaches using sildenafil for men with ED and OSA seem promising, but additional studies are required in order to further investigate the effects of sildenafil on the respiratory system. Other PDE5i and varying doses should be tested in men with ED and OSA. Future studies should also address the severity of OSA on men with ED and the prescription for a CPAP device including the evaluation of the pressure setting.

Considering the prevalence of OSA in men of up to 40.6%⁷ and the presence of ED in men with OSA, the studies on this topic are warranted and timely. Treating men with OSA is imperative, not only as an approach for reducing comorbidities,

but also, sexual problems that represent an important domain of the quality of life of these patients.

CITATION

Andersen ML, Tufik S. The effects of sildenafil on the respiratory system of patients with obstructive sleep apnea and erectile dysfunction. *J Clin Sleep Med*. 2018;14(5):897–898.

REFERENCES

1. Kalejaiye O, Raheem AA, Moubasher A, et al. Sleep disorders in patients with erectile dysfunction. *BJU Int*. 2017;120(6):855-860.
2. Pastore AL, Palleschi G, Ripoli A, et al. Severe obstructive sleep apnoea syndrome and erectile dysfunction: a prospective randomised study to compare sildenafil vs. nasal continuous positive airway pressure. *Int J Clin Pract*. 2014;68(8):995-1000.
3. Andersen ML, Tufik S. The effects of testosterone on sleep and sleep-disordered breathing in men: Its bidirectional interaction with erectile function. *Sleep Med Rev*. 2008;12(5):365-379.
4. Soukhova-O'Hare GK, Shah ZA, Lei Z, Nozdrachev AD, Rao CV, Gozal D. Erectile dysfunction in a murine model of sleep apnea. *Am J Respir Crit Care Med*. 2008;178(6):644-650.
5. Roizenblatt S, Guilleminault C, Poyares D, Cintra F, Kauati A, Tufik S. A double-blind, placebo-controlled, crossover study of sildenafil in obstructive sleep apnea. *Arch Intern Med*. 2006;166(16):1763-1767.
6. Perimenis P, Konstantinopoulos A, Karkoulas K, Markou S, Perimeni P, Spyropoulos K. Sildenafil combined with continuous positive airway pressure for treatment of erectile dysfunction in men with obstructive sleep apnea. *Int Urol Nephrol*. 2007;39(2):547-552.
7. Tufik S, Santos-Silva R, Taddei JA, Bittencourt LRA. Obstructive sleep apnea syndrome in the Sao Paulo Epidemiologic Sleep Study. *Sleep Med*. 2010;11(5):441-446.

SUBMISSION & CORRESPONDENCE INFORMATION

Submitted for publication February 15, 2018

Submitted in final revised form February 15, 2018

Accepted for publication February 21, 2018

Address correspondence to: Monica L. Andersen, PhD, Departamento de Psicobiologia, Universidade Federal de São Paulo (UNIFESP), Rua Napoleão de Barros, 925, São Paulo, 04024-002, Brazil; Tel: 55 11 21490155/55 11 5572-5092; Email: ml.andersen12@gmail.com

DISCLOSURE STATEMENT

All authors have read and approved the final version of this manuscript. Work for this study was performed at Universidade Federal de São Paulo (UNIFESP).

The authors' studies have received support by Associação Fundo de Incentivo à Pesquisa (AFIP) and National Council for Scientific and Technological Development (CNPq) fellowships. The authors report no conflicts of interest.