

## LETTERS TO THE EDITOR

# Alpha-1 adrenergic antagonists use increases the risk of sleep apnea: implications for understanding the role of prazosin in posttraumatic stress syndrome

Comment on Su P-L, et al. Alpha-1 adrenergic-antagonist use increases the risk of sleep apnea: a nationwide population-based cohort study. *J Clin Sleep Med*. 2019;15(11):1561–1579.

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I was intrigued by the recent report from Su et al<sup>1</sup> that use of  $\alpha 1$ -adrenergic antagonists increases the risk of developing sleep apnea. Their study was an observational study of a large population, not a clinical trial. Still, their finding raises an interesting explanation for why prazosin is reported to be helpful in some but not all patients with posttraumatic stress disorder (PTSD). Prazosin is an  $\alpha 1$ -adrenergic antagonist and has been proposed as a treatment of PTSD symptoms, especially PTSD nightmares.<sup>2</sup>

Prazosin studies have variously shown a beneficial effect in PTSD in active duty soldiers,  $^3$  no benefit/worsening of PTSD in military veterans,  $^4$  or worsening of PTSD in one small sample of mostly nonmilitary patients with PTSD.  $^5$  Other investigators have raised the possibility of high rates of sleep apnea in PTSD patients, but none of the aforementioned prazosin studies assessed for sleep apnea.  $^6$  Although the report of Su et al is not the last word on the topic of  $\alpha$ -antagonists and sleep apnea, for now their findings raise the possibility that prazosin induces or worsens sleep apnea in some patients with PTSD or nightmares, contributing to the heterogeneity of clinical trial results of prazosin for PTSD and nightmares. Future clinical trials of prazosin or other  $\alpha 1$ -adrenergic blockers for PTSD and nightmares may need to test for obstructive sleep apnea at baseline and during treatment.

# **CITATION**

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#### **REFERENCES**

- Su P-L, Lin W-K, Lin C-Y, et al. Alpha-1 adrenergic-antagonist use increases the risk of sleep apnea: a nationwide population-based cohort study. J Clin Sleep Med. 2019;15(11):1571–1579.
- George K, Kebejian L, Ruth LJ, et al. Meta-analysis of the efficacy and safety of prazosin versus placebo for the treatment of nightmares and sleep disturbances in adults with posttraumatic stress disorder. *J Trauma Dissociation*. 2016:17(4):494–510.
- Raskind MA, Peterson K, Williams T, et al. A trial of prazosin for combat trauma PTSD with nightmares in active-duty soldiers returned from Iraq and Afghanistan. Am J Psychiatry. 2013;170(9):1003–1010.
- Raskind MA, Peskind ER, Chow B, et al. Trial of prazosin for post-traumatic stress disorder in military veterans. N Engl J Med. 2018;378(6):507–517.
- McCall W, Pillai A, Case D, et al. A pilot, randomized clinical trial of bedtime doses of prazosin versus placebo in suicidal posttraumatic stress disorder patients with nightmares. J Clin Psychopharmacol. 2018;38(6):618–621.
- Krakow B, Ulibarri V, Moore B, et al. Posttraumatic stress disorder and sleepdisordered breathing: a review of comorbidity research. Sleep Med Rev. 2015;24:37–45.

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