

## LETTERS TO THE EDITOR

## Psoriasis Is Associated With a Higher Prevalence of Obstructive Sleep Apnea and Restless Legs Syndrome: A Possible Indication of Autonomic Activation in Psoriasis

Madhulika A. Gupta, MD, MSc, FAASM, RST<sup>1</sup>; Aditya K. Gupta, MD, PhD, FAAD<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Schulich School of Medicine and Dentistry, University of Western Ontario, London, Ontario, Canada; <sup>2</sup>Department of Medicine, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada

Gabryelska and colleagues<sup>1</sup> have reported an interesting observation that patients with psoriasis are four times as likely to suffer from obstructive sleep apnea (OSA) than the general population, independent of common risk factors such as elevated body mass index. They observed an 8.7% prevalence of psoriasis<sup>1</sup> (versus a 2% prevalence of psoriasis in the general European population) among 245 consecutive patients who underwent a standard night of polysomnography and were diagnosed with OSA (defined as apnea-hypopnea index or AHI > 5 events/h). They attribute this four-fold increase in the prevalence of psoriasis to a possible high proinflammatory state, even though greater OSA severity, which would be expected to be associated with a higher proinflammatory state, was not observed in the psoriasis versus non-psoriasis groups with OSA.<sup>1</sup> Gabryelska and colleagues<sup>1</sup> discuss the work of Papadavid et al.<sup>2</sup> who observed a similar 9.5% prevalence of psoriasis among 253 patients with OSA (versus 2.9% prevalence among non-OSA controls) and also observed that having psoriasis alone was associated with increased OSA risk, independent of OSA severity and other risk factors.<sup>2</sup>

In a recent systematic review of the literature on psoriasis and sleep disorders<sup>3</sup> we observed an overall 36% to 81.8% prevalence of OSA in psoriasis,<sup>3</sup> which supports these findings,<sup>1,2</sup> as prevalence rates of OSA can be high as 24% in men and 9% in women, using only an AHI  $\geq$  5 events/h criterion.<sup>4</sup> We further observed an increased prevalence<sup>3</sup> of restless legs syndrome (RLS) of 15.1% to 18% (versus 5% to 10% prevalence<sup>4</sup> in European and North American samples). RLS is associated with periodic leg movements in sleep (PLMS) in 70% to 80% of cases.<sup>4</sup> PLMS have been associated with cortical arousals and sympathetic activation (eg, surges in nocturnal blood pressure and heart rate).<sup>5</sup> It is possible that the increased prevalence of OSA and RLS in psoriasis are indications of the possibly increased autonomic activation in psoriasis.<sup>6</sup> OSA, independent of other risk factors, should be screened for in other disorders where autonomic activation is a factor.

## CITATION

Gupta MA, Gupta AK. Psoriasis is associated with a higher prevalence of obstructive sleep apnea and restless legs syndrome: a possible indication of autonomic activation in psoriasis. *J Clin Sleep Med*. 2018;14(6):1085.

## REFERENCES

- Gabryelska A, Sochal M, Wasik B, Bialasiewicz P. Patients with obstructive sleep apnea are over four times more likely to suffer from psoriasis than the general population. *J Clin Sleep Med*. 2018;14(1):153.
- Papadavid E, Dalamaga M, Vlami K, et al. Psoriasis is associated with risk of obstructive sleep apnea independently from metabolic parameters and other comorbidities: a large hospital-based case-control study. *Sleep Breath*. 2017;21(4):949–958.
- Gupta MA, Simpson FC, Gupta AK. Psoriasis and sleep disorders: a systematic review. *Sleep Med Rev*. 2016;29:63–75.
- American Academy of Sleep Medicine. *International Classification of Sleep Disorders*. 3rd ed. Darien, IL: American Academy of Sleep Medicine; 2014.
- Figorilli M, Puligheddu M, Congiu P, Ferri R. The clinical importance of periodic leg movements in sleep. *Curr Treat Options Neurol*. 2017;19(3):10.
- Hirotsu C, Nogueira H, Albuquerque RG, Tomimori J, Tufik S, Andersen ML. The bidirectional interactions between psoriasis and obstructive sleep apnea. *Int J Dermatol*. 2015;54(12):1352–1358.

## SUBMISSION &amp; CORRESPONDENCE INFORMATION

Submitted for publication March 25, 2018

Submitted in final revised form March 25, 2018

Accepted for publication March 29, 2018

Address correspondence to: M. A. Gupta, 585 Springbank Drive, Suite 101, London, Ontario, Canada, N6J 1H3; Tel: 519-641-1001; Fax: 519-641-1033; Email: magupta@uwo.ca, magupta1@gmail.com

## DISCLOSURE STATEMENT

All authors have seen and approve the manuscript. The authors report no conflicts of interest.