Sleep Medicine 59 (2019) 123

Contents lists available at ScienceDirect

Sleep Medicine

journal homepage: www.elsevier.com/locate/sleep

Letter to the Editor

Elevated plasma total tau and interleukin-6 concentrations in patients with obstructive sleep apnea with special reference to neuronal damage

I read the paper by Motamedi et al., with interest [1]. The authors examined the association between obstructive sleep apnea (OSA) and neuronal damage, by measuring plasma total tau concentration and several inflammatory biomarkers in under middle generation. Plasma total tau and IL-6 concentrations were significantly elevated in male patients with moderate-severe OSA, compared to those with mild OSA and healthy controls. In addition, plasma total tau concentration was significantly correlated with the apnea-hypopnea index, and the authors speculated that OSA would contribute to the development of neuronal damage. I have some concerns about their study.

First, Snyder et al., presented an animal model of mild sleep apnea to know the association between mild chronic intermittent hypoxia and early-stage neuronal damage [2]. They speculated that oxidative stress and inflammatory profiles would exist in preclinical neurodegenerative disorders. The effect of neuronal damage in sleep apnea should also be considered in an animal model.

Second, Sixel-Doring et al., reported sleep disorders in 20 patients with progressive supra-nuclear palsy (PSP) and 20 patients with Parkinson's disease (PD) by using sleep polysomnography [3]. In this study, 11 PSP and 11 PD patients were newly identified as patients with sleep-disordered breathing (SDB), although causality between SDB and neurodegenerative disorders remains unclear. There is a report to elucidate the mechanism of the association between OSA and neuronal change with cognitive impairment [4], and interrelationships among hypoxia, inflammation and neuronal damage should be comprehensively analyzed. Aging would also be an important factor on the association.

Finally, the authors did not handle clinical cases of neurodegenerative disorder, and plasma phosphorylated tau concentration could not be measured [5]. Thus, specificity of plasma total tau concentration in neurodegenerative disorder should be considered with caution.

We made several attempts to get a response from Dr. Motamedi but failed to receive one.

Conflict of interest

None declared.

The ICMJE Uniform Disclosure Form for Potential Conflicts of Interest associated with this article can be viewed by clicking on the following link: https://doi.org/10.1016/j.sleep.2018.11.002.

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Tomoyuki Kawada
Department of Hygiene and Public Health, Nippon Medical School, 1-1-5 Sendagi, Bunkyo-Ku, Tokyo 113-8602, Japan
E-mail address: kawada@nms.ac.jp.

18 June 2018
Available online 23 November 2018

https://doi.org/10.1016/j.sleep.2018.11.002