they had included prehypertensive and masked groups, as well as confounding factors for hypertension.

Aydın Akyüz

Department of Cardiology, Faculty of Medicine, Namık Kemal University; Tekirdağ-*Turkey*

References

- Gürün Kaya A, Gülbay B, Acıcan T. Clinical and polysomnographic features of hypertension in obstructive sleep apnea: A single-center cross-sectional study. Anatol J Cardiol 2020; 23: 334-41.
- Turgut Celen Y, Peker Y. Cardiovascular consequences of sleep apnea: II-Cardiovascular mechanisms. Anatol J Cardiol 2010; 10: 168-75.
- Akyuz A, Oran M, Alpsoy S, Mutlu LC, Akkoyun DC, Guzel S, et al. Association between serum fetuin-A levels, carotid artery stiffness, and intima-media thickness in patients with normotensive obstructive sleep apnea syndrome. Angiology 2014; 65: 607-13.
- Akkoyun DC, Akyuz A, Tulubas F, Altıntas N, Alpsoy S, Mutlu LC, et al. The serum copeptin levels in obstructive sleep apnea patients with prehypertensive. Eur Rev Med Pharmacol Sci 2015; 19: 1721-8.
- Drager LF, Diegues-Silva L, Diniz PM, Bortolotto LA, Pedrosa RP, Couto RB, et al. Obstructive sleep apnea, masked hypertension, and arterial stiffness in men. Am J Hypertens 2010; 23: 249-54.

Address for Correspondence: Dr. Aydın Akyüz,

Namık Kemal Üniversitesi Tıp Fakültesi, Kardiyoloji Anabilim Dalı, Tekirdağ-*Türkiye* Phone: +90 282 261 10 58 E-mail: ayakyuzq5@gmail.com ©Copyright 2020 by Turkish Society of Cardiology - Available online at www.anatoljcardiol.com D0I:10.14744/AnatolJCardiol.2020.04288

Author`s Reply

To the Editor,

We would like to thank the authors of this letter for their comments on our study (1). We agree that the normotensive patient group of our study population may include participants with prehypertensive or masked hypertension; these patients may tend to have excessive sympathetic response. As we mentioned in the method section of our study, patients with hypertension (HT) were defined as those with an established diagnosis of HT and ongoing antihypertensive treatment for at least 3 months based on patient self-reports confirmed using the electronic national medical record system. Patients' blood pressure was measured before and after polysomnography (1). To diagnose HT and monitor blood pressure, measurements should be obtained two or more times for at least two separate visits or monitoring with ambulatory or home blood pressure monitoring (2, 3). However, we did not have the appropriate equipment to continuously monitor blood pressure in this way. Thus, we could not define patients with prehypertension or masked HT.

HT and obstructive sleep apnea (OSA) do not only have common risk factors, such as obesity, dyslipidemia, diabetes, and smoking, but also common pathophysological features, including endothelial dysfunction, systemic inflammation, and sympathetic activation. These findings are thought to be result of intermittent hypoxia and reactive oxygen species production in OSA (4, 5). Besides that, arterial stiffness may result from aging and HT (6). Although endothelial dysfunction, arterial stiffness, and sympathetic activation are highly associated with HT, those can also be detected in patients with OSA without HT, and those may be consequences of OSA and intermittent hypoxia-related sleep disorders (4, 6, 7). We concur with the authors of the letter that defining patients with those factors in the normotensive group would be beneficial to validate the results more for risk for HT. However, considering that the normotensive group includes patients with masked HT and prehypertension with endothelial dysfunction or arterial stiffness, the differences with the hypertensive group become more significant.

Aslıhan Gürün Kaya, Banu Gülbay, Turan Acıcan Department of Chest Diseases, Faculty of Medicine, Ankara University; Ankara-Turkey

References

- Gürün Kaya A, Gülbay B, Acıcan T. Clinical and polysomnographic features of hypertension in obstructive sleep apnea: A single-center cross-sectional study. Anatol J Cardiol 2020; 23: 334-41. [CrossRef]
- Kjeldsen S, Feldman RD, Lisheng L, Mourad JJ, Chiang CE, Zhang W, et al. Updated national and international hypertension guidelines: a review of current recommendations. Drugs 2014; 74: 2033-51.
- Whelton PK, Carey RM, Aronow WS, Casey DE Jr, Collins KJ, Dennison Himmelfarb C, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/ AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Circulation 2018; 138: e426-83.
- Budhiraja R, Parthasarathy S, Quan SF. Endothelial dysfunction in obstructive sleep apnea. J Clin Sleep Med 2007; 3: 409-15. [CrossRef]
- Turgut Celen Y, Peker Y. Cardiovascular consequences of sleep apnea: II-Cardiovascular mechanisms. Anatol J Cardiol 2010; 10: 168-75.
- Sethi S, Rivera O, Oliveros R, Chilton R. Aortic stiffness: pathophysiology, clinical implications, and approach to treatment. Integr Blood Press Control 2014; 7: 29-34. [CrossRef]
- 7. Turnbull CD. Intermittent hypoxia, cardiovascular disease and obstructive sleep apnoea. J Thorac Dis 2018; 10 (Suppl 1): S33-9.

Address for Correspondence: Dr. Aslıhan Gürün Kaya, Ankara Üniversitesi Tıp Fakültesi, Göğüs Hastalıkları Anabilim Dalı, 06100, Ankara-*Türkiye* Phone: +90 312 595 65 59 E-mail: agkaya@ankara.edu.tr ©Copyright 2020 by Turkish Society of Cardiology - Available online at www.anatoljcardiol.com