An easily ignored factor for CAN-fine particulate exposure [Letter]

Hua Sun1,*
Man Liang2,*
Na Zheng3

1Department of Endocrinology, The Affiliated Hospital of Heilongjiang University of Science and Technology, Harbin, Heilongjiang, People’s Republic of China; 2Department of Forensic Science, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, Hubei, People’s Republic of China; 3Department of Pathology, Health Science Center, Shen Zhen University, Shenzhen, Guangdong 518066, People’s Republic of China

*These authors contributed equally to this work

Dear editor

We read with great interest the recently published article by Vasheghani et al.1 In the article, the authors showed that the prevalence of CAN was increased with prolonged duration of DM, but not the glycemic control level. In the study, the CAN was assessed based on heart rate variation during physical examination (at rest tachycardia and orthostatic hypotension) and standard Ewing’s tests (deep-breathing and laying-to-standing tests) with bedside continuous ECG recording.

Without doubt, HRV is the popular indicator for CAN, however, there are still some influence factors, and the most easily unnoticed one may be the air pollution or fine particles exposure. Consistent links between fine particles exposure and decreased HRV in healthy volunteers have been documented in studies.2,3 In their study, an increase in 30 mg/m3 of the average PM2.5 personal exposure in the previous 2 h decreased the pNN50 in 0.08%, which suggest short term exposure to high level of fine particles could effect the HRV or CAN.

Moreover, in the susceptible population, the individual coronary risk profiles and underlying diabetes or impaired glucose tolerance might confer reduced autonomic function of heart due to particulate air pollution exposure.4–6 In Vasheghani et al’s study, the HRV and other tests were set standardly, however, the PM exposure of the subjects shortly before the HRV test was ignored, which might affect the conclusion if setting the level of PM as the correction factor.

Disclosure

The authors report no conflicts of interest in this communication.

References


Correspondence: Na Zheng
Department of Pathology, Health Science Center, Shen Zhen University, Shenzhen, Guangdong 518066, People’s Republic of China
Tel +86 1 831 644 8015
Email nana96069@163.com


Dove Medical Press encourages responsible, free and frank academic debate. The content of the Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy ‘letters to the editor’ section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.