International Journal of Cardiology 297 (2019) 141

Contents lists available at ScienceDirect

International Journal of Cardiology

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

Letter to the Editor

Does baseline LDL-cholesterol predict cardiovascular outcomes in high cardiovascular risk hypertensive patients? Insights from an Asian population

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ARTICLE INFO

Article history:
Received 1 August 2019
Accepted 5 August 2019
Available online 6 August 2019

In a recent issue of IJC, Nguyen et al. [1] assessed the relation between low-density lipoprotein cholesterol (LDL-C) and cardiovascular outcomes in high cardiovascular risk hypertensive patients. They revealed that the relation did not exist in the whole population but showed among patients with a previous cardiovascular disease (CVD) history. However, Nguyen's work derived from the SPRINT population, which was highly selected and different from the general population [2]. Thus, the above association in the real world remains unknown. Furthermore, whether the relation exists in other races with different demographic characters is also unclear. Accordingly, we reconstructed Nguyen's models in a general Asian Population of 5242 adults and present the results with this letter. Detailed description of our cohort has been published in our prior work [3].

Over a median follow-up of 4.660 years, the LDL-C demonstrated insignificant correlation with cardiovascular outcomes among high cardiovascular risk hypertensive patients (HR: 1.000, 95% CI: 0.998–1.003) after adjustment of age, sex, BMI, active smoking status, eGFR, CVD history, Framingham risk score, anti-hypertensive therapy, baseline high-density lipoprotein cholesterol, lipid-lowering therapy and antiplatelet therapy. However, we also found some results that were contrary to Nguyen's findings. Our analyses showed that the association was also insignificant in patients with a previous CVD history (HR: 1.002, 95% CI: 0.998–1.006) after full adjustment.

Hence, we believe the hypothesis of a predictive value of LDL-C on cardiovascular outcomes in high cardiovascular risk hypertensive patients with or without a previous CVD history still deserves more assessments and discussion.

Conflict of interest

The authors report no relationships that could be construed as a conflict of interest.

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https://doi.org/10.1016/j.ijcard.2019.08.017