Chih-Lu Han (MD, PhD)  
Department of Medicine, Taipei Veteran's General Hospital,  
Taipei, Taiwan

*Corresponding author at: Department of Medicine,  
Hualien-Armed Forces General Hospital, Hualien,  
Taiwan; No. 163, Jiali Road, Xincheng Township,  
Hualien County 97144, Taiwan.  
Tel.: +886 3 826 0601; fax: +886 3 826 1370  
E-mail address: farmer507@yahoo.com.tw (G.-M. Lin).

Received 27 July 2015  
Available online 15 March 2016  
http://dx.doi.org/10.1016/j.jjcc.2015.11.009

Authors’ reply

C-reactive protein and cardiovascular disease

We appreciate the interest of Dr Lin and his colleagues in our article. The study evaluating the association between C-reactive protein (CRP) and cardiovascular disease (CAD) remains controversial and we hoped that our paper would be provocative and initiate some discussion in that regard.

As they pointed out, the causality of our findings is difficult to determine from an observational study. Several hypotheses might explain the close association between CRP and adverse clinical outcomes including modified low-density lipoprotein cholesterol (LDL-C) such as oxidized LDL-C and carbamylated LDL-C. They mentioned that the levels of CRP may be correlated with modified LDL concentrations with low levels of high-density lipoprotein (HDL). Systemic inflammation can also impair the anti-inflammatory properties of HDL, modify the activation, and promote LDL oxidation [1]. Thus, the CRP level might reflect underlying inflammation that contributes to impaired HDL function via mechanisms other than CRP or those that also increase CRP. We recently reported that HDL-C levels combined with CRP values were associated with long-term mortality in CAD patients treated with coronary intervention [2].

In the present study, we evaluated the relationship between serum high-sensitivity CRP levels and clinical outcomes of patients with stable CAD and chronic kidney disease (CKD) who were treated with first generation drug-eluting stents (DES). Although the second- and the third-generation DES have been used and first-generation DES have left the arena of coronary intervention, the first-generation DES were implanted in many patients who needed careful follow-up in the long term. We hoped that our paper would provide some clues to improve their outcomes.

Conflict of interest

None.

References

[1] Ansell BJ. Targeting the anti-inflammatory effects of high-density lipoprotein.  
Am J Cardiol 2007;100:3–9.
C-reactive protein and high-density lipoprotein cholesterol levels on long-term outcomes in patients with coronary artery disease after a first percutaneous  

Manabu Ogita  
Department of Cardiovascular Medicine, Juntendo University  
Shizuoka Hospital, Tokyo, Japan

Katsumi Miyauchi (MD)*  
Department of Cardiovascular Medicine, Juntendo University  
Graduate School of Medicine, Tokyo, Japan

*Corresponding author at: Department of Cardiovascular Medicine,  
Juntendo University, 2-1-1 Hongo Bunkyo-ku, Tokyo 113-0033,  
Japan. Tel.: +81 3 3813 3111; fax: +81 3 5802 3946  
E-mail address: ktmmy@med.juntendo.ac.jp (K. Miyauchi).

Received 4 November 2015  
Available online 2 June 2016  
http://dx.doi.org/10.1016/j.jjcc.2015.11.001