Author`s Reply

To the Editor,

We thank Zhou et al. (1) for their interest in our previous editorial entitled "Impact of high on-treatment platelet reactivity on long-term clinical events in AMI patients: a fact or mirage?" published in Anatol J Cardiol 2016 Nov 16. Epub ahead of print.

Based on their recent meta-analysis (2), Zhou et al. (1) have pointed clinical usefulness of phenotype (platelet function test)-guided antiplatelet therapy to maximize clinical efficacy and safety following percutaneous coronary intervention (PCI). Understandably, our group generally agrees with the concept of therapeutic window between high and low platelet reactivity (HPR and LPR, respectively) during P2Y12 inhibitor administration. For the past 10 years, we also have performed numerous clinical studies to reveal strategies against the imminent risks related with platelet reactivity.

In 2012, Jeong et al. (3) firstly suggested the concept of "East Asian Paradox." Despite low response to clopidogrel in East Asians (mainly due to high prevalence of the cytochrome P450 2C19 loss-of-function allele), East Asian patients have a similar or lower rate of ischemic events after PCI compared with that in Caucasian patients, suggesting the different therapeutic window of platelet reactivity in East Asian patients. More importantly, active metabolite concentration during potent P2Y12 inhibitor (e.g., ticagrelor and prasugrel) appeared greater in East Asian vs. Caucasian population (~40%) (4), suggesting that their reduced-dose regimen could be more optimal for East Asian patients. Therefore, we need to be cautious in applying the clinical data and guideline originated from Western patients for East Asian subjects.

How can we understand this mystery? Maybe the concept of platelet reactivity itself could not explain the whole spectrum of this unique phenomenon. Our group has confidence in the concept of "vulnerable blood," including the whole blood components related to thrombogenicity. Although we believe that platelets are the main factors for arterial thrombosis, there is much evidence to support clinical importance of other blood components (e.g., cholesterol, hormone, inflammation, coagulation, and fibrinolytic system). Inflammation and thrombin cascades may play crucial roles in the development of atherosclerosis and thrombosis. Intriguingly, the levels of these biomarkers in East Asian population seem lower than those in Caucasian population (5). When a patient has less corrupt "vulnerable blood," the impact of HPR may be limited and the hazard of LPR would be prominent after PCI.

Life is beautiful because it is not an open book. In the same manner, in vivo blood is mostly safe because it is very complicated and interactive. Although the concept of platelet reactivity was a big step forward, we now need to have more prudent and comprehensive approach to cover the real aspect of "vulnerable blood."

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