Response to Letter Regarding Article, “Effects of Endothelial Dysfunction on Residual Platelet Aggregability After Dual Antiplatelet Therapy With Aspirin and Clopidogrel in Patients With Stable Coronary Artery Disease”

We thank Drs Emanuele Barbato and Fabio Mangiacapra for their careful and insightful comments on our article, demonstrating the correlation between peripheral endothelial function assessed by reactive hyperemia index (RHI) and residual platelet reactivity (RPR). As they pointed out, in our population, there was a higher rate of patients with multivessel disease (MVD) in the high RPR group. This might be because it was a selected population without CYP2C19*2 or *3 loss-of-function alleles. We could not demonstrate the correlation between RPR and the severity and extent of coronary artery disease (CAD) because the sample size was limited. However, we could observe a trend that patients with MVD had higher platelet reaction unit compared with patients with single-vessel disease (245.3±21.2 versus 228.8±82.6; P=0.34). Furthermore, the platelet reaction unit tended to increase with the number of stenotic coronary arteries (1 vessel: 228.8±11.8; 2 vessels: 241.8±15.5; 3 vessels: 254.4±21.2; P=0.57) as Mangiacapra et al previously reported. The multivariable linear regression model added MVD, or the synergy between percutaneous coronary intervention with TAXUS and cardiac surgery (SYNTAX score) in Table 4 of our article demonstrated that RHI was independently associated with higher platelet reaction unit, and CAD severity was not associated with higher platelet reaction unit (RHI: P=0.003; MVD: P=0.99; RHI: P=0.005; SYNTAX score: P=0.25). The multivariable logistic regression model added MVD, or SYNTAX score in Table 4 of our article demonstrated that RHI was independently associated with high RPR, and CAD severity was not associated with high RPR (RHI: odds ratio, 0.61; 95% confidence interval, 0.45–0.84; P=0.002; MVD: odds ratio, 0.91; 95% confidence interval, 0.34–2.45; P=0.85; RHI: odds ratio, 0.61; 95% confidence interval, 0.45–0.84; P=0.002; SYNTAX score: odds ratio, 1.0; 95% confidence interval, 0.94–1.07; P=0.99). These results demonstrated that RHI was independently associated with high RPR even if the effect of CAD severity was considered.

Aggressive antiplatelet therapy was reported to increase the risk of hemorrhagic events. Because patients with more extensive CAD could have high RPR and their endothelial function could be severely impaired, both optimal antiplatelet therapy and appropriate treatments, including lifestyle interventions and medications for improving endothelial function, are required to prevent CAD events.

Disclosures

None.

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