Prognostic value of high on-treatment platelet reactivity

To the Editor,

We have read the article by Tekkesin et al. (1) entitled "The first six-month clinical outcomes and risk factors associated with high on-treatment platelet reactivity of clopidogrel in patients undergoing coronary interventions" published in Anatol J Cardiol 2016; 16: 967-73 with great interest. A meta-analysis of 17 studies consisting of 20839 patients indicated that clopidogrel-treated patients with high on-treatment platelet reactivity (HTPR) had a 2.7-fold higher risk for stent thrombosis (ST) and a 1.5-fold higher risk for mortality following percutaneous coronary intervention (PCI) (2). Lack of association of ST and mortality with HTPR in the present study could be linked to the following reasons. Firstly, study population was heterogeneous in stent type and generation. Implantations of bare-metal stents (BMS) and drug-eluting stents (DES) were mentioned without further detail. However, even the second generation DES (everolimus and zotarolimus eluting stents) have lower ST rates than first generation DES (3). Sub-group analysis of HTPR and control groups were not depicted in the study. We think that it could affect the ST and mortality rates. Moreover, platelet function testing after PCI is also of importance in influencing formation of HTPR and control groups. Even though, light transmission aggregometry is historically gold standard, VerifyNow P2Y12 assay and Multiplate analyzer are generally used in studies on HTPR and ischemic events for their advantage of ease of performing. Determination of cut-off level is crucial for the study results. We think that cut-off level should be based on the expert position paper of European Society of Cardiology (4). Additionally, the study by Ko et al. (5) indicated that HTPR measured by VerifyNow assay was able to discriminate patients who were at a higher risk for myocardial infarction and major adverse cardiac events after PCI better than Multiplate analyzer. This could be also a contributing factor for no differences observed in cardiovascular mortality and ST.

Ali Doğan, Serkan Kahraman[1], Emrah Özdemir, Nuri Kurtoğlu
Department of Cardiology, Faculty of Medicine, İstanbul Yeni Yüzyıl University, Gaziosmanpaşa Hospital; İstanbul-*Turkey*
[1]Department of Cardiology, Silivri State Hospital; İstanbul-*Turkey*

References

1. Tekkeşin Aİ, Kaya A, Çakıllı Y, Türkkan C, Hayıroğlu Mİ, Borklu EB, et al. The first six-month clinical outcomes and risk factors associated with high on-treatment platelet reactivity of clopidogrel in patients undergoing coronary interventions. Anatol J Cardiol 2016; 16: 967-73.
2. Aradi D, Kirtane A, Bonello L, Gurbel PA, Tantry US, Huber K, et al. Bleeding and stent thrombosis on P2Y12-inhibitors: collaborative analysis on the role of platelet reactivity for risk stratification after percutaneous coronary intervention. Eur Heart J 2015; 36: 1762-71.
3. Palmerini T, Biondi-Zoccai G, Della Riva D, Stettler C, Sangiorgi D, D'Ascenzo F, et al. Stent thrombosis with drug-eluting and bare-metal stents: evidence from a comprehensive network meta-analysis. Lancet 2012; 379: 1393-402.
4. Aradi D, Storey RF, Komócsi A, Trenk D, Gulba D, Kiss RG, et al. Expert position paper on the role of platelet function testing in patients undergoing percutaneous coronary intervention. Eur Heart J 2014; 35: 209-15.
5. Ko YG, Suh JW, Kim BH, Lee CJ, Kim JS, Choi D, et al. Comparison of 2 point-of-care platelet function tests, VerifyNow Assay and Multiple Electrode Platelet Aggregometry, for predicting early clinical outcomes in patients undergoing percutaneous coronary intervention. Am Heart J 2011; 161: 383-90.

Address for Correspondence: Dr. Ali Doğan
Gaziosmanpaşa Hastanesi, İstanbul Yeni Yüzyıl Üniversitesi
Tıp Fakültesi Kardiyoloji Bölümü
Gaziosmanpaşa, İstanbul-*Türkiye*
E-mail: drdali@hotmail.com

DOI:10.14744/AnatolJCardiol.2017.7665