The association of platelet GPIb α ¹⁴⁵Thr/Met (HPA-2a/2b) with myocardial infarction and coronary artery disease

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To the Editor,

In the recent issue of the Journal of Thrombosis and Thrombolysis Pellikka et al. [1] reported the association of three platelet polymorphisms with fatal pre-hospital myocardial infarction (MI) among middle-aged men. We aimed to investigate if the GPIb α ¹⁴⁵Thr/Met (HPA-2a/2b) is associated with (MI) and coronary artery disease (CAD), aiming to find a genetic marker that could be used in the early (pre-clinical) disease diagnostics and possibly even disease prevention. A total of 402 cases of CAD and MI were included in the study (201 cases of CAD and 201 cases with both CAD and MI), supplemented with 202 controls (defined as the patients who underwent coronary angiography and had not been diagnosed with any of the two diagnoses). Genotyping was performed using PCR Light-Cycler [2]. The analysis was performed using Fisher's exact test, due to the small number of homozygous (Met/Met) cases. The results suggest that the prevalence of homozygous Met/Met was much higher in cases than controls, thus suggesting that it might be utilized as the disease prevention marker (Table 1). The difference was significant ($P = 0.021$).

However, the application of the logistic regression model with age and gender as the additional covariates indicated the increasing trend of the risk among the GPIb α genotypes (Thr/Thr was used as the referent group, Thr/Met had an odds ratio of 1.18 [95% confidence intervals

Table 1 Genotypes distribution of GPIb α ¹⁴⁵Thr/Met in cases and controls

Group	Wild type (Thr/Thr)	Heterozygote (Thr/Met)	Homozygote (Met/Met)	Total
CAD	308 (76.6%)	89 (22.1%)	5 (1.2%)	402 (66.6%)
Controls	158 (78.2%)	43 (21.3%)	1 (0.5%)	202 (33.4%)
Total	466 (77.2%)	132 (21.9%)	6 (1.0%)	604 (100.0%)

0.76–1.82], while Met/Met had an odds ratio of 3.01 [0.32–28.37]; the difference was not significant; $P = 0.494$). Although the results, in our sample of Croatian population, presented here, do not suggest a strong relationship of the GPIb α with CAD and/or MI, they nevertheless suggest that there might be an association of the CAD and/or MI with this genotype in bivariate analysis and also show the trend of increasing risk with the presence of Met in the GPIb α locus. The results presented, however, need to rely on further investigation, most likely studies with larger sample sizes or meta-analytic studies of both published and unpublished material, in order to fully establish the role of this genetic marker for cardiovascular disease diagnostics and possibly even the disease prevention [3–12].

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