

Parameters of platelet indices in young patients with ST elevation myocardial infarction. Commentary to the article: “Platelet distribution width and plateletcrit: novel biomarkers of ST elevation myocardial infarction in young patients”

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We have read with great interest the article by Cetin et al. [1] on “Platelet distribution width and plateletcrit: novel biomarkers of ST elevation myocardial infarction in young patients”, which is an important cross-sectional study. However, we have some suggestions about this study.

The authors [1] did not explain whether patients who received antiaggregant and anticoagulant treatment were involved in or excluded from this study. Antiaggregant and anticoagulant drugs may influence the platelet indices [2].

The authors also did not mention how the blood sample was anticoagulated for the whole blood count or the time elapsed after collection for measurement of the time of platelet indices. Lance et al. [3] reported that platelets stored in citrate are significantly smaller compared to those stored in ethylenediaminetetraacetic acid (EDTA). Platelets swell until 120 min in EDTA and until 60 min in citrate [3]. Timing is important when measuring platelet indices. The optimal measuring time of mean platelet volume (MPV) is 120 min after veinpuncture because MPV increases over time. It was also reported that this increase was proportional with the delay in time [4].

The authors found that the levels of MPV, platelet distribution width (PDW), and plateletcrit (PCT) are significantly higher in the first group than in other groups. In the discussion PCT and PDW are emphasised, but there is no debate about MPV. Plateletcrit is a measure of total platelet mass

(total platelet mass = platelet count \times MPV/10⁷). They did not find significant differences for platelet counts among the groups. Therefore, we think that MPV is the most effective parameter on PCT.

Lastly, they performed multivariate logistic regression analysis, and the respective odds ratios with 95% confidence intervals were calculated. Did the authors compare the young ST elevation myocardial infarction (STEMI) group with a non-young STEMI group or a control group? It would be useful if the authors reported clearly about this analysis.

Conflict of interest: none declared

References

1. Cetin MS, Ozcan Cetin EH, Akdi A, et al. Platelet distribution width and plateletcrit: novel biomarkers of ST elevation myocardial infarction in young patients. *Kardiol Pol.* 2017; 75(10): 1005–1012, doi: [10.5603/KP.a2017.0135](https://doi.org/10.5603/KP.a2017.0135), indexed in Pubmed: [28715073](https://pubmed.ncbi.nlm.nih.gov/28715073/).
2. Haungsaithong R, Udommongkol C, Nidhinandana S, et al. The changes in mean platelet volume after using of antiplatelet drugs in acute ischemic stroke: a randomized controlled trial. *J Med Assoc Thai.* 2015; 98(9): 852–857, indexed in Pubmed: [26591394](https://pubmed.ncbi.nlm.nih.gov/26591394/).
3. Lancé MD, van Oerle R, Henskens YMC, et al. Do we need time adjusted mean platelet volume measurements? *Lab Hematol.* 2010; 16(3): 28–31, doi: [10.1532/LH96.10011](https://doi.org/10.1532/LH96.10011), indexed in Pubmed: [20858586](https://pubmed.ncbi.nlm.nih.gov/20858586/).
4. Varol E, Ozaydin M. Mean platelet volume measurement in patients with hypercholesterolemia: a methodological issue. *Angiology.* 2013; 64(8): 626, doi: [10.1177/0003319713490824](https://doi.org/10.1177/0003319713490824), indexed in Pubmed: [23709475](https://pubmed.ncbi.nlm.nih.gov/23709475/).

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