

# Letter to the Editor

## Evaluation of platelet activation by platelet volume indices

Dear Editor,

We read with great interest the article by Islamoglu et al<sup>1</sup> entitled "The association between mean platelet volume and coronary collateral circulation" which is published in the current issue of European Review for Medical and Pharmacological Sciences.

They aimed to show the association between mean platelet volume (MPV) and coronary collateral circulation. We have some concerns about the article.

Activation of blood platelets is connected with changes in their shape and can be assessed by platelet volume indices (PVI). The PVI, MPV and platelet distribution width (PDW), are simple, effortless and universally available with routine blood counts by automated hemograms.

Established cardiovascular risk factors, such as smoking, hypertension, dyslipidemia and diabetes mellitus, can influence MPV, depending on confounding factors. High-grade inflammatory diseases, such as rheumatoid arthritis or familial Mediterranean fever, present with low levels of MPV. Lifestyle modification, antihypertensive, lipid lowering and diet therapies can also affect MPV values<sup>2</sup>.

Differences in the use of anticoagulant (sodium citrate or EDTA) can lead to variable measurements. MPV measurement can be unreliable as MPV increases significantly in a time-dependent manner in EDTA-anticoagulated samples<sup>3</sup>.

It is known that aspirin has no effect on platelet size but clopidogrel significantly inhibits the ADP-induced increase in MPV *in vitro*<sup>4</sup>.

Although the data suggest the MPV may potentially be useful as a predictive marker, there are a number of concerns related to the technological problems and variations in the measurement methods of the MPV which make standardization and the determination of reference values difficult.

We conclude that platelet indices should not be used alone as direct indicators of platelet activation. The combined use of MPV and PDW could predict activation of platelets more efficiently. And also, if details of patients, such as history of inflammatory diseases, medications (aspirin, clopidogrel), an inflammatory status (more than CRP), lifestyle modification, diet therapies and smoking habits were given, this study could have been more valuable.

### Conflict of Interest

None Declared.

### References

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