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Diagnostic and Prognostic Value of Mean Platelet Volume in Patients With Crimean–Congo Hemorrhagic Fever

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I have read the article published by Ekiz et al with great interest.[1] They examined the association between mean platelet volume (MPV) and Crimean–Congo hemorrhagic fever (CCHF) in diagnostic and prognostic aspect. They have shown that patients with CCHF have significantly higher MPV values compared with the controls for the first time, and they did not observe a significant difference in MPV levels between the survivor and nonsurvivor groups. This is a very interesting study. On the other hand, we want to mention minor criticism about this study from methodological aspect.

First, in methods section they did not mention the tube that the blood sample was collected for whole blood count. This is very important. A technical problem arises from the fact that platelets exhibit a time-dependent swelling when blood samples are anticoagulated with ethylenediaminetetraacetic acid (EDTA), while this swelling does not occur in the presence of citrate.[2,3] With impedance counting, the MPV increases over time as platelets swell in EDTA, with increases of 7.9% within 30minutes. Although an overall increase of 13.4% occur over 24 hours, the majority of this increase occurs within the first 6 hours.[4] The recommended and optimal measuring time of MPV is 120minutes after venipuncture.[5] For reliable MPV measurement, the potential influence of anticoagulant on the MPV must be carefully controlled, either using an alternative anticoagulant (such as citrate) or standardizing the time delay between sampling and analysis (less than 2 hours). This situation is not clear in the study.

Second, there are significant associations of MPV with type 2 diabetes mellitus, prediabetes, smoking, hypertension, hypercholesterolemia, obesity, coronary heart disease, metabolic syndrome, statin and some antihypertensive use and atrial fibrillation.[6] They did not mention about these factors in patients and control participants in the article. The factors must also have been adjusted in 2 groups to say that the increase in MPV is dependent solely on the CCHF.

References

1. Ekiz F, Gürbüz Y, Basar O, et al. Mean Platelet Volume in the Diagnosis and Prognosis of Crimean-Congo Hemorrhagic Fever [published online March 19, 2012]. *Clin Appl Thromb Hemost*. 2012.
2. Bath PM, Butterworth RJ. Platelet size: measurement, physiology and vascular disease. *Blood Coagul Fibrinolysis*. 1996;7(2): 157-161.
3. Dastjerdi MS, Emami T, Najafian A, Amini M. Mean platelet volume measurement, EDTA or citrate? *Hematology*. 2006; 11(5):317-319.
4. Bowles KM, Cooke LJ, Richards EM, Baglin TP. Platelet size has diagnostic predictive value in patients with thrombocytopenia. *Clin Lab Haematol*. 2005;27(6):370-373.
5. Lancé MD, van Oerle R, Henskens YM, Marcus MA. Do we need time adjusted mean platelet volume measurements? *Lab Hematol*. 2010;16(3):28-31.
6. Vizioli L, Muscari S, Muscari A. The relationship of mean platelet volume with the risk and prognosis of cardiovascular diseases. *Int J Clin Pract*. 2009;63(10):1509-1515.

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