



Letter to the Editor

Mean platelet volume may not be a risk factor for focal involvement in patients with brucellosis

Dear Editor,

We read with great interest the research article of Demirdal & Sen about the risk factors for focal involvement in patients with brucellosis (Demirdal and Sen, n.d.). The authors suggested that some complete blood count parameters were significantly different in patients with focal involvement than those without focal involvement and that these parameters could be used to determine focal involvement. We think that there are other factors that can change the results of this research especially regarding mean platelet volume (MPV).

The results of the study were retrospectively obtained and belonged to a very wide time period of nearly 10 years. In retrospective studies, it is not possible to reduce the pre-analytical and analytical errors that adversely affect the measurement result. Moreover, in statistical comparisons, patients were divided into 2 groups, with and without focal involvement, and no comparison with a healthy control group. The fact that it has not been compared with the healthy control group makes the real meaning of the pathological results incomprehensible.

Although it was stated in the materials and methods section that the results of the complete blood count were used to determine the hematological involvement, no explanation was made regarding the method or devices used in the measurement of the complete blood count. Various complete blood count parameters, especially MPV, are directly affected by measurement methods and technology (Jackson and Carter, 1993; Noris et al., 2016). Contact with ethylenediaminetetraacetic acid in the complete blood count tube quickly leads to an increase in the diameter of the platelets, which has been shown in various studies that measurement results can vary by 2–50% according to measurement time after venipuncture (Jackson and Carter, 1993; Beyan and Beyan, 2017). Different devices used for complete blood count have also been shown to have significant deviations in MPV measurement (Lippi et al., 2015; Beyan and Beyan, 2017). In this retrospective study, the lack of information related to MPV measurement, such as the time from venipuncture to the measurement of the complete blood count,

and the unknown device / devices used in the complete blood count, adversely affects the reliability of the results obtained.

The age difference between the 2 groups is another variable that may affect the MPV results. The relationship between age and MPV is contradictory, and there are studies indicating that the results have not changed, as well as studies suggesting that the results show a direct correlation with age (Noris et al., 2016).

Consequently, MPV may not be a risk factor for focal involvement in patients with brucellosis.

Cengiz Beyan

University of Health Sciences, Keçioren Training and Research Hospital,
Department of Internal Medicine, Ankara, Turkey

E-mail addresses: beyancengiz@gmail.com, cengizbeyan@hotmail.com.

Esin Beyan

Ufuk University Faculty of Medicine, Department of Hematology,
Ankara, Turkey

References

- Beyan C, Beyan E. Were the measurements standardized sufficiently in published studies about mean platelet volume? *Blood Coagul Fibrinolysis* 2017;28:234–6. <https://doi.org/10.1097/MBC.0000000000000586>.
- Demirdal T, Sen P. Risk factors for focal involvement in brucellosis. *Diagn Microbiol Infect Dis*, <https://doi.org/10.1016/j.diagmicrobio.2020.115003>.
- Jackson SR, Carter JM. Platelet volume: laboratory measurement and clinical application. *Blood Rev* 1993;7:104–13. [https://doi.org/10.1016/S0268-960X\(05\)80020-7](https://doi.org/10.1016/S0268-960X(05)80020-7).
- Lippi G, Pavesi F, Pipitone S. Evaluation of mean platelet volume with four hematological analyzers: harmonization is still an unresolved issue. *Blood Coagul Fibrinolysis* 2015; 26:235–7. <https://doi.org/10.1097/MBC.0000000000000220>.
- Noris P, Melazzini F, Balduini CL. New roles for mean platelet volume measurement in the clinical practice? *Platelets* 2016;27:607–12. <https://doi.org/10.1080/09537104.2016.1224828>.