

Mean Platelet Volume Values May Have not a Predictive Role for the Presence of Nephritis in Systemic Lupus Erythematosus Patients

Cengiz BEYAN,¹ Esin BEYAN²

¹Department of Internal Medicine, TOBB University of Economics and Technology, Faculty of Medicine, Ankara, Turkey

²Department of Internal Medicine, Keçioren Training and Research Hospital, Ankara, Turkey

Dear Editor,

We read with a great interest the research article of Ayna et al.¹ about mean platelet volume (MPV) values in patients with lupus nephritis. They suggested that MPV values might be discriminating for lupus nephritis. We would like to comment on the results of this study.

Although MPV can be easily obtained with automated blood counters, the measurement of this parameter still has no standardization.² Jackson and Carter³ had reviewed the variables affecting the values of MPV including time of analysis after venepuncture. Ethylenediaminetetraacetic acid, the most commonly used anticoagulant, causes time dependent platelet shape changes. Maximal variation occurs within the first two hours after venepuncture. Generally, the MPV multiplies up to 30% within five minutes of exposure to ethylenediaminetetraacetic acid and increases additionally 10-15% over the subsequent two hours.³ On the other hand, the MPV values vary being instrument-specific. With a meta-analysis, Beyan and Beyan⁴ showed that the measurement times between 15 minutes and two hours were significantly different from the measurement times shorter than 15 minutes and longer than two hours. Also, they found that the MPV values measured with Sysmex (Sysmex Corporation, Kobe, Japan) were significantly higher than the MPV values measured with Beckman Coulter

(Beckman Coulter Inc., Fullerton, California, USA), Abbott CELL-DYN (Abbott Laboratories, Abbott Park Road, Illinois, USA), and Siemens ADVIA (Siemens Healthcare GmbH, Erlangen, Germany). The MPV measurements varied up to 17.8% by the instruments and maximum deviation together with the difference of instruments used plus MPV measurement times was up to 27.7%.⁴ Preanalytic variabilities like measurement time cannot be ignored because these factors affect the results considerably. Therefore, the MPV studies should be performed prospectively. The data of the study of Ayna et al.¹ were obtained retrospectively from the files of the patients between January 2000 and June 2015. Because the measurement times after venepuncture and used instruments for blood counting were not known in this study, the data reliability was questionable. Actually, it is widely accepted that MPV has presently no role in establishing diagnosis and defining prognosis in any acquired illness.²

As a result, MPV values may not have a predictive role for the presence of nephritis in patients with systemic lupus erythematosus.

Declaration of conflicting interests

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Correspondence: Cengiz Beyan, MD. TOBB Ekonomi ve Teknoloji Üniversitesi Tıp Fakültesi İç Hastalıkları Anabilim Dalı, 06560 Söğütözü, Ankara, Turkey.

Tel: +90 312 - 292 98 32 e-mail: cengizbeyan@hotmail.com

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Author Reply

Dear Editor

We read with interest the correspondence to our article regarding the “Neutrophil to lymphocyte ratio and mean platelet volume as inflammatory

indicators in systemic lupus erythematosus nephritis”. We thank the authors for their interest in our article.

We agree about the variables affecting mean platelet volume. In our center, total blood count evaluation is performed with impedance, optic laser scatter, and radio frequency method and all complete blood count samples are collected in standard ethylenediaminetetraacetic acid tubes and analyzed within 30 minutes with the same analyzer device.

Platelet activation is associated with the pathophysiology of diseases prone to thrombosis and inflammation.¹ As in our study conclusion, further prospective studies are needed in this area.

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Correspondence: Ata Bora Ayna, MD. Uludağ Üniversitesi Tıp Fakültesi Fiziksel Tıp ve Rehabilitasyon Anabilim Dalı, Romatoloji Bilim Dalı, 16059 Görükle, Bursa, Turkey.

Tel: +90 224 - 296 26 30 e-mail: asklepios80@windowslive.com