

## Letter to the Editor

### Platelet indices evaluation in patients with liver cirrhosis: methodological drawbacks

I read the article documented by Xianghong et al. with great interest<sup>1</sup>. They assessed the mean platelet volume (MPV), platelet count and P selectin (CD62 P) expression in liver cirrhosis. The values of CD62P and MPV in patients with cirrhosis were significantly higher than those of the control group, while the platelet count values were significantly lower than those of the control group. This study gives important information on this clinically relevant condition and thanks to the authors for their contribution. However, I want to bring to attention some drawbacks in methodology.

The basically MPV measurement method is correct. On the other hand, it must not be forgotten that cardiovascular diseases and many cardiovascular risk factors like, obesity, hypertension, smoking, hyperlipidemia, diabetes mellitus, prediabetes, atrial fibrillation, metabolic syndrome, fatty liver disease affect MPV values<sup>2,3</sup>. In addition rheumatic and inflammatory chronic diseases also affect MPV values<sup>3</sup>. They included heart diseases, brain diseases, acute infections and diabetes mellitus. However, they didn't mention about the body mass index, smoking status, blood pressure levels, blood lipid levels, metabolic syndrome and rhythm status in patients and controls. It has been shown that smoking, obesity, hyperlipidemia, hypertension, metabolic syndrome and atrial fibrillation increase MPV values. It is clear that, these factors should be taken into account for accurate MPV assessment. It would have been better if the authors had given this information.

The MPV is a measurement of the platelet volume that is included within full blood count parameters. When compared with smaller ones, larger platelets aggregate more rapidly with collagen, have more granules, express more glycoprotein Ib and IIb/IIIa receptors and moreover have higher thromboxane A<sup>2</sup> level<sup>2,3</sup>. Previous studies showed that many cardiovascular risk factors and cardiovascular diseases can affect MPV. Due to this all confounding factors should be taken into account. If the MPV measurement is main goal in related studies, maximum effort must be provided in consideration of confounding factors in MPV analysis.

**Key words:** mean platelet volume, liver cirrhosis

**DOI:** <http://dx.doi.org/10.4314/ahs.v15i1.44>

#### Conflict of interest:

None

Ercan Varol

Department of Cardiology, Faculty of Medicine, Suleyman Demirel University, Isparta, Turkey

#### Corresponding author:

Ercan Varol

Suleyman Demirel Univesitesi

Tip Fakultesi, Isparta, Turkey.

Tel.: +90 5323468258;

fax: +902462324510.

E-mail address: [drercanvarol@yahoo.com](mailto:drercanvarol@yahoo.com)

#### References

- 1 Xianghong G, Guanping C, Fenghua Y, Jiayin W. Changes in platelet functional parameters and CD62 P expression in liver cirrhosis. *Afr Health Sci.* 2013;13(4):1079-83.
2. 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
3. Gasparyan AY, Ayvazyan L, Mikhailidis DP, Kitas GD. Mean platelet volume: a link between thrombosis and inflammation? *Curr Pharm Des* 2011;17:47-58.