

Correspondence

Reply to: “Comment on “Mean platelet volume and long-term cardiovascular outcomes in patients with stable coronary artery disease” ”



ARTICLE INFO

Keywords:

Mean platelet volume
Coronary artery disease
Percutaneous coronary intervention

To the Editor,

We appreciate the interest and comments of Dr. Coban for our recent paper [1]. Our study aimed to investigate the impact of pre-procedural mean platelet volume (MPV) levels in stable coronary artery

disease (CAD) patients after elective percutaneous coronary intervention (PCI).

In our study, blood samples were collected in the early morning after an overnight fasting. All samples were drawn into a test tube containing an anticoagulant (EDTA). Blood counts were determined

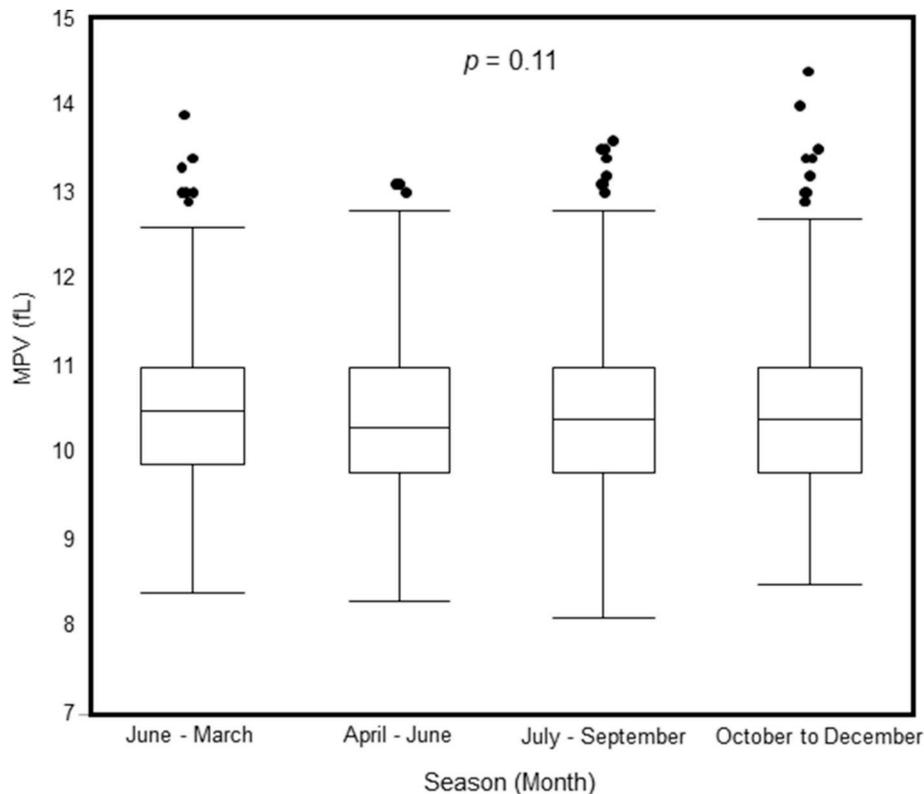


Fig. 1. Relation between seasons and MPV levels.

Patients were divided into 4 groups according to seasons. MPV levels were not significantly different among groups ($p = 0.11$).

DOI of original article: <https://doi.org/10.1016/j.atherosclerosis.2018.08.048>, <https://doi.org/10.1016/j.atherosclerosis.2018.10.020>

<https://doi.org/10.1016/j.atherosclerosis.2018.11.023>

Received 25 October 2018; Accepted 9 November 2018

Available online 14 November 2018

0021-9150/ © 2018 Elsevier B.V. All rights reserved.

using automated hematology analyzers. As the author commented, it had been reported that MPV increases over time when exposed to EDTA [2]. To minimize the effect of EDTA on platelet size in the present study, all samples were processed early after blood collection. Although we did not strictly set the time between blood collection and measurement, the blood work for patients undergoing PCI is prioritized and usually processed within 1 hour after venipuncture. A previous report demonstrated that the actual amount of increase in MPV over time was < 0.5 fL if samples have been analyzed within 2 hours of venipuncture [3]. The determination of MPV might not be standardized, however, we adopted almost the same methods of MPV measurement as previous studies, which enrolled patients with CAD [4,5].

As the author mentioned, some studies have reported that MPV levels are influenced by various factors. Crawford et al. showed significant seasonal changes in MPV levels [6]. We also examined seasonal changes in MPV levels in our population, however, there were no significant differences among groups (Fig. 1). In addition, there was no significant interactions between seasons and MPV levels, or between automated hematology analyzers and MPV levels in our risk analyses using Cox proportional hazard models.

There might be several limitations in our study, as we mentioned, and the author pointed out. However, the present study clearly showed that a low MPV was associated with poor clinical outcomes in stable CAD patients. Therefore, MPV could be a useful marker for risk stratification of stable CAD patients in daily practice.

Conflicts of interest

The authors declared they do not have anything to disclose regarding conflict of interest with respect to this manuscript.

References

- [1] H. Wada, T. Dohi, K. Miyauchi, J. Shitara, H. Endo, et al., Mean platelet volume and long-term cardiovascular outcomes in patients with stable coronary artery disease, *Atherosclerosis* 277 (2018) 108–112.
- [2] P.M. Bath, R.J. Butterworth, Platelet size: measurement, physiology and vascular disease, *Blood Coagul. Fibrinolysis : Int. J. Haemostasis Thromb.* 7 (1996) 157–161.
- [3] G. Endler, A. Klimesch, H. Sunder-Plassmann, M. Schillinger, M. Exner, et al., Mean platelet volume is an independent risk factor for myocardial infarction but not for coronary artery disease, *Br. J. Haematol.* 117 (2002) 399–404.
- [4] J.S. Berger, L.H. Eraso, D. Xie, D. Sha, E.R. Mohler 3rd, Mean platelet volume and prevalence of peripheral artery disease, the National Health and Nutrition Examination Survey, 1999–2004, *Atherosclerosis* 213 (2010) 586–591.
- [5] G.P. Machado, G.N. Araujo, C.K. Carpes, M. Lech, S. Mariani, et al., Comparison of neutrophil-to-lymphocyte ratio and mean platelet volume in the prediction of adverse events after primary percutaneous coronary intervention in patients with ST-elevation myocardial infarction, *Atherosclerosis* 274 (2018) 212–217.
- [6] V.L. Crawford, S.E. McNerlan, R.W. Stout, Seasonal changes in platelets, fibrinogen and factor VII in elderly people, *Age Ageing* 32 (2003) 661–665.

Hideki Wada

*Department of Cardiology, Juntendo University, Shizuoka Hospital,
Izunokuni, Shizuoka, Japan*

Tomotaka Dohi*, Katsumi Miyauchi, Hiroyuki Daida
*Department of Cardiovascular Medicine, Juntendo University Graduate
School of Medicine, Tokyo, Japan*
E-mail address: tdohi@juntendo.ac.jp (T. Dohi).

* Corresponding author. Department of Cardiovascular Medicine, Juntendo University Graduate School of Medicine, 2-1-1 Hongo, Bunkyo-ku, Tokyo, 113-0033, Japan.