Upsala Journal of Medical Sciences

ISSN: 0300-9734 (Print) 2000-1967 (Online) Journal homepage: https://www.tandfonline.com/loi/iups20

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To cite this article: Ercan Varol (2013) Comment on: 'Mean platelet volume could be a promising biomarker to monitor dietary compliance in celiac disease', Upsala Journal of Medical Sciences, 118:3, 206-207, DOI: 10.3109/03009734.2013.803503

To link to this article: https://doi.org/10.3109/03009734.2013.803503

Published online: 19 Jun 2013.

Upsala Journal of Medical Sciences. 2013; 118: 206–207

informa
healthcare

LETTER

Comment on: 'Mean platelet volume could be a promising biomarker to monitor dietary compliance in celiac disease'

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I have read the article published by Purnak et al. with great interest (1). They examined the mean platelet volume (MPV), an indicator of platelet reactivity, in patients with celiac disease. They showed that MPV values in patients with celiac disease were significantly higher than in controls. They concluded that MPV could be a useful clinical marker for monitoring of dietary compliance in celiac disease patients. This is a very interesting study. However, I would like to put forward some minor criticism with regard to some methodological and pathophysiological aspects.

Basically, the method used for MPV assessments is correct. Blood samples were studied within 2 hours to prevent EDTA-induced swelling. It has to be kept in mind, however, that there are significant associations between MPV and type 2 diabetes mellitus, prediabetes, acute coronary syndromes, smoking, hypertension, hypercholesterolemia, obesity, and the metabolic syndrome (2,3). Although co-morbidities like heart failure, peripheral vascular disease, acute or chronic infection, cancer, and hematologic and hepatic disorders were excluded, the authors do not bring up body mass index, blood pressure values, and serum glucose and cholesterol concentrations in their patients with celiac disease and the control subjects. These factors can greatly influence the MPV values.

Platelet size is regulated at the level of the megakaryocyte. It has been reported that cytokines such as interleukin-3 and interleukin-6 (IL-6) influence megakaryocyte ploidy and can lead to the production of more reactive and larger platelets (4). On the other hand, serum IL-6 concentrations have been shown to be elevated in patients with celiac disease (5). So, IL-6, a major inflammatory cytokine, which is increased in patients with celiac disease, may cause an increase in MPV values by stimulating the megakaryocyte ploidy.

Platelet activation plays a major role in the pathophysiology of diseases prone to thrombosis and inflammation, and in line with this it has been argued that MPV might be a link between thrombosis and inflammation (6). It might be speculated that low-grade chronic inflammation exists in patients with celiac disease, and this in turn causes increased platelet reactivity as measured by MPV in these patients. This is an important issue because this can increase the cardiovascular long-term risks in patients with celiac disease.

Declaration of interest: The author reports no conflicts of interest. The author alone is responsible for the content and writing of the paper.

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(Received 18 April 2013; accepted 5 May 2013)

ISSN 0300-9734 print/ISSN 2000-1967 online
DOI: 10.3109/03009734.2013.803503

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