

Mean platelet volume can be affected by many confounding factors in chronic periodontitis

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We read the article published by Androsz-Kowalska et al. [1] with great interest. They investigated the mean platelet volume (MPV) in patients with chronic periodontitis with coronary artery disease (CAD), chronic periodontitis without CAD, and control subjects.

They found that MPV was significantly higher in patients with chronic periodontitis with CAD than in controls. However, there was no significant difference between patients with chronic periodontitis without CAD and controls. In this study, there was a significant correlation between periodontal parameters and MPV. They concluded that chronic periodontitis in patients with CAD results in an increased MPV. This is a well designed and written study. On the other hand, please allow us to make a minor criticism about this study from a methodological point of view.

There are significant associations of MPV with type 2 diabetes mellitus, prediabetes, smoking, hypertension, hypercholesterolaemia, obesity, coronary heart disease, metabolic syndrome, statins and some antihypertensive use and atrial fibrillation [2]. There are also significant associations of MPV and inflammatory diseases including rheumatic diseases [3]. The authors did not mention body mass index, systolic and diastolic blood pressure, smoking status, glucose and cholesterol levels or antihypertensive drug use in patients and control subjects. Patients with chronic periodontitis with CAD could be supposed to have more cardiovascular risk factors; these in turn increase MPV. It would be better if the authors had mentioned these confounding factors. It has been shown that some antihypertensive drugs can decrease MPV values [4]. It would also be useful if the authors had provided data about the antihypertensive drug use which can influence MPV values.

MPV is universally available with routine blood counts and is a simple and easy method of assessing platelet function. Compared to smaller ones, larger platelets have more granules, aggregate more rapidly with collagen, have higher thromboxane A2 level, and express more glycoprotein Ib and IIb/IIIa receptors [5]. MPV is becoming an increasingly popular diagnostic marker. It is also associated with many confounding markers as mentioned before. In chronic periodontitis, there is chronic low grade inflammation. In this state, we can expect higher MPV values, even in the absence of CAD. High MPV values are associated with low grade inflammatory conditions in addition to a variety of established risk factors, for cardiovascular and cerebrovascular disorders [3]. Studies with a large sample size and with better control of the confounding factors affecting MPV are needed to clarify the relationship between chronic periodontitis, MPV and cardiovascular diseases.

Conflict of interest: none declared

References

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