

Article Type: Letter to the Editor

Role of mean platelets volume levels in asthmatic children remained debatable

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Running title: MPV and asthma

Dear editor,

We have read the recently published article by Dogru and colleagues with great interest [1]. In this study, authors aimed to evaluate mean platelets volume (MPV) changes in children with stable or exacerbated asthma and its relationship with clinical parameters. They found that MPV level were higher in asthmatic children than control. Mean MPV in exacerbation period was significantly lower than stable asthma. There was no difference between exacerbated asthma and control group. The results were attractive, but we have some minor criticism about the methodology.

As marker of platelet size and platelet activation, MPV has been demonstrated recently in numerous reports acting as an crucial inflammatory parameter in different diseases, including cardiovascular diseases, infectious diseases and immune diseases [2, 3]. However, there were a large amount of confounding factors might affect MPV levels [3, 4]. The exclusion criteria have included some confounding factors, but there still a few disorders not been mentioned in the study. For instance, body mass index (BMI), metabolic syndrome, This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/pai.12399
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thyroid functional abnormalities, autoimmune diseases (such as ulcerative colitis, rheumatoid arthritis, ankylosing spondylitis etc) and drugs. Moreover, passive smoking has been proved not only a risk factor of asthma, but also a critical determinant of MPV [5]. So, these details might help us to evaluate better the clinical value of MPV in asthma.

Secondly, asthma is a complex disease characterized by highly heterogeneous subphenotypes and local tissue inflammation of the airways, which resulting from complex interplay between genetic and environmental stimulus. It has been demonstrated that the cumulative effects of more than 60 known polymorphisms might lead to MPV differences of up to 9.9% [6]. In this study, the differences in MPV between patients with stable asthma, exacerbated asthma and healthy controls were only 3 to 4 percents. For this reason, it cannot eliminated the influence of genetic backgrounds and polymorphisms on the observed difference of MPV between the three groups.

In addition, it was controvertible about the explanation of the significantly decreased MPV levels in asthma exacerbation. MPV level of children with stable asthma were higher than control in this study. On the contrary, exacerbation of asthma did not heighten, but debased MPV levels in asthmatic children when compared with controls. These were attributed to the possibility of companying pneumonia in the study. However, the impact of bacterial infection on MPV levels in children remained indistinct. When compared with control subjects, children with some infectious diseases showed an obvious decline of MPV levels, but others exhibited a significant increase [2, 7]. Furthermore, pneumonia could lessen MPV levels in previous report about 14.6%, which was far more than the difference between subjects with stable asthma and exacerbated asthma (only 3.9%) in the study [7]. Additionally, authors did not show any evidences of companying pneumonia of asthmatic child in the results section.

Lastly, the details of MPV detection was not mentioned in the methods section. The usage of different anti-coagulated tubes (with EDTA or citrate) for blood sample collection, as well as the time delay between sampling and analysis, might both affect MPV levels

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significantly. Because platelets exhibited a more serious time-dependent swelling in EDTA anti-coagulation than in citrate [4]. So, it is an essential and crucial information in measurement methods.

In general, we think that the clinical role of MPV in child with asthma remained debatable although the study showed a markedly variations of MPV levels in asthmatic child and a association with clinical parameters. It would be beneficial to evaluate the critical role of MPV in asthma if the authors provided more details of the study about these above information.

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