



The effect of adenoid hypertrophy and adenoidectomy in patients on cardiovascular risk reduction

Adenoid hipertrofisi ve adenoidektominin hastalarda kardiyovasküler risk azaltımına etkisi

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Dear Editor,

With great eagerness, we have read the study in your journal entitled "Evaluation of mean platelet volume and its ratio over platelet count in children with obstructive sleep apnea syndrome" by Soyaliç et al.^[1] We would like to make some comments about this study.

In recent years, many studies have been published which state that there is a significant relationship between the increase in mean platelet volume (MPV) and the increase in cardiovascular disease risk.^[2,3] Besides, other studies which investigated the relationship between adenoid hypertrophy, MPV, and cardiovascular disease risk have been reported.^[4,5] Results of these studies reveal conflicting comments about the effect of MPV value on cardiovascular disease risk. Although a good number of assertive results have been announced in these studies, MPV value measurement has not been used sufficiently in the follow-up and treatment of patients clinically as there is no fully standardized method for the use of this parameter. Some of the factors that

affect the standardization of MPV measurement are the environment of blood taking, type and amount of anticoagulant in the blood collection tube, the duration between blood taking and examination, the device used in examination, and the calibration time of the device.^[3] It has been reported that there are measurement differences up to 40% among different devices used in the studies.^[6,7] In this study, the fact that MPV value has been found higher in patients with adenoid hypertrophy in proportion to the control group is agreeable to the literature. However, we think that it is assertive to state that the decrease in MPV value measured in the third month in comparison with preoperative period in patients on whom adenoidectomy operation have been performed would enable cardiovascular risk reduction, and for that reason, MPV value may be a parameter for this situation. Since, as stated before, MPV value is a variable parameter, and if we think that the lifetime of thrombocytes is between seven and 10 days, this change in MPV expressed at the end of the study may arise from many other factors, as waiting for three months for control MPV can cause variance at hemogram parameters. While hemoglobin and thrombocyte count values between the control and patient groups were stated in the study, the values of pre- and postoperative patient groups and the changes in these values were not stated. Moreover, it is not clear how long blood samples taken from test subjects stayed in the tube with ethylenediamine tetraacetic acid and when the blood count was made. At the same time, the patients chosen for the study were well excluded in terms of cardiac disease, and it is difficult to say that cardiovascular disease risk will decrease at third month in this case group, which essentially has no cardiovascular disease risk.

Therefore, even if MPV has been associated with many diseases recently, it does not seem possible for now to evaluate these results with cardiovascular diseases in the limited studies



which state that MPV value is increased in patients with nasal septum deviation. In order to make better comments about this issue, we think that further studies should be conducted on cases that have equal high cardiovascular disease risk and long-term follow-up results of these should be evaluated.

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Author Reply

Dear Editor,

I am pleased with the interest in our article entitled "Evaluation of mean platelet volume and its ratio over platelet count in children

with obstructive sleep apnea syndrome" and appreciate your valuable comments, which provided significant contribution.

In reply to your comments regarding the time interval between blood sampling and mean platelet volume (MPV) measurements, and the time delay between collection, transport and analysis; blood samples from pediatric patients were studied within two hours in our laboratory, to avoid falsely elevated results due to ethylenediamine tetraacetic acid. In addition, different analyzer devices might give us different MPV results. Therefore, we used the same analyzer device to analyze blood samples in our study.

Mean platelet volume is a parameter used as an indicator of platelet activation. Larger platelets are more reactive than normal-sized ones and have higher prothrombotic potentials. Although it is obvious that MPV is not a platelet function test, several studies have shown that elevated MPV is associated with increased platelet reactivity. Mean platelet volume is considered as a marker of atherosclerosis. In many studies, platelet activation and aggregation have been reported to increase in patients with obstructive sleep apnea syndrome. Pediatric patients in the study group were patients with grade 4 tonsillar hypertrophy with severe obstructive sleep apnea. If not treated, MPV might be an indicator of cardiac complications and atherosclerosis due to severe sleep apnea in their later life. In this study, we wished to emphasize this idea. The reason of blood sampling after three months of adenotonsillar surgery is because postsurgical edema could lead to obstruction of the airway and cause false laboratory results.

In conclusion, more detailed studies are required investigating MPV levels and MPV/platelet count ratios in pediatric obstructive sleep apnea syndrome patients.

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