
Serum magnesium levels and its correlation with level of control in patients with asthma: A hospital-based, cross-sectional, prospective study

Sir,

We read with great interest the recent article by Daliparty *et al.* Authors have done an admirable job by looking at the serum magnesium level and its correlation with asthma control which will definitely add in understanding the role of nutrition in asthma. However, there are certain issues in the article which we want to share that may have some clinical implication.

First, the authors have observed that the mean serum Mg levels for “well controlled” group were significantly higher compared to the “uncontrolled” group (2.08 ± 0.37 vs. 1.83 ± 0.34 ; $P = 0.002$) and similarly, the partly controlled group had significantly higher values compared to the “uncontrolled” group (2.07 ± 0.28 vs. 1.83 ± 0.34 , $P = 0.001$).^[1] They have also mentioned that normal serum value of Mg ranges from 1.5 to 2.3 mg/dL.^[2] Hence even if these three group of patients have statistically significant difference in serum magnesium levels, these finding may not be clinically important as their serum magnesium level still falls within normal range.

Second, if we closely observe Table 1 of their article, forced expiratory volume in 1 s (FEV1) which is an important objective tool for the assessment of asthma control is almost similar in all three groups of asthmatic patients.^[1] Although assessment of asthma control suggested by the GINA guideline is a simple screening tool which is an excellent instrument helpful in making clinical decision, they are more subjective in nature.^[3] For the assessment of the level of asthma control in clinical research, we should also consider numerical asthma control tools, namely,

asthma control test score, asthma control questionnaire, etc., which are more objective in nature.

Third, the authors have concluded that serum magnesium level have a positive correlation with asthma symptom control. However, in this study out of 160 participants only 30% ($n = 48$) are well controlled and rest (70%) are either partly controlled or uncontrolled. Hence, it would have been better if authors also looked into other factors, namely, compliance to treatment, inhalation technique other comorbidities (apart from allergy) and smoking history which may have contributed to a large number of partly or uncontrolled asthma control in this study. On the other hand, hypomagnesemia in asthma could be multifactorial, it can also result from the adverse effect of commonly used drug in asthma therapy (β -agonist, steroids, and xanthines) and hence, it would be better if these factors are also taken into account.^[4] Furthermore, for negating the impact of these confounders in asthma control one should try to do logistic regression analysis.

Fifth, there are growing evidence that hypomagnesemia by increasing intracellular influx may lead to Vitamin D deficiency, which in turn lead to poor asthma control.^[5] It may be good if authors would also have measured Vitamin D level along with magnesium level.

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Conflicts of interest

There are no conflicts of interest.

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