Association of hypertension and Vitamin D levels

Dear Editor,

We read with great interest the review article by Kar and Datta[1] in the recent issue of your journal. I would like to commend the authors for their endeavor to highlight the association of an age-old pandemic, that is, hypertension and an emerging, silent epidemic, that is, vitamin D deficiency, but at the same time have the following comments to offer, the explanation of which will benefit the readership of the journal.

1. What was the rationale for excluding patients with diabetes mellitus (DM)? It is very well known that diabetes and hypertension are strongly related to each other and coexist in most of the cases. In addition, vitamin D deficiency is associated with increased risk of type 2 DM.[2] Hence, exclusion of DM cases will greatly affect the generalizability of the study. Also, it is surprising to see that of 180 hypertensive patients, none was diabetic. What are the possible reasons for having such an uncommon finding?

2. The diagnostic cutoffs of the levels of serum vitamin D used in the study are based on relatively old recommendations. A recently published review of guidelines[3] has suggested that all international guidelines agreed upon the cutoff of >20 ng/mL as sufficient, 12–20 ng/mL as insufficient, and <12 ng/mL as deficient. The same cutoffs have been endorsed by the Indian Academy of Pediatrics.[4] Adherence to a standard cutoff is very necessary for such studies as changing cutoff will greatly affect the prevalence rate of insufficiency as well as will give spurious association with hypertension.

3. The cutoff of body mass index (BMI) used in the study does not hold true for Indians. Various studies have shown that Asians have a higher percentage of body fat than Caucasian people of the same age, sex, and BMI. Even the occurrence of type 2 diabetes in Asians is more in lower BMI than the World Health Organization cutoff limit of 25 kg/m². Therefore, for Asians (including Indians) the revised cutoffs (underweight <18.5 kg/m², normal 18.5–22.9 kg/m², overweight 23–24.9 kg/m², and obese ≥25 kg/m²) should be used.[5]

4. It is very well known that the levels of vitamin D strongly correlate with sunlight exposure. Hence, in the multivariate model both variables should be used together. In addition, the \( P \) value between 0.05 and 0.09 is considered as near significant. However, in a true sense, it is statistically nonsignificant value, and hence projecting it as near significant is not appropriate.

5. The prediction models after multivariate regression analysis would have been more valid if only significant values would have been included in them.

6. The authors concluded that the association of diabetes with hypertension is significantly related to a lower blood level of vitamin D compared with nondiabetic, normotensive healthy population. In the present study, neither diabetics were included nor was any such finding described in the results. What was the basis of this conclusion?

7. In a lighter vein, there is no discussion part in the entire article.

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Conflicts of interest
There are no conflicts of interest.

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