



Letter to the Editor

## Vitamin D and jaundiced newborns



Dear Editor,

We read the currently published article entitled “Comparison between maternal and neonatal serum vitamin D levels in term jaundiced and non-jaundiced cases”<sup>1</sup> with interest. Dr. Aletayeb and colleagues conducted a case-control study to evaluate the serum vitamin D levels of mothers and their term newborns and investigate the relationship between these serum vitamin D levels and occurrence of jaundice.<sup>1</sup> The authors found that the mean vitamin D levels were significantly lower in the jaundiced newborns than those in the nonjaundiced controls (84.4 vs. 110 nmol/L,  $p < 0.001$ ), but there was no statistically significant difference of serum levels of vitamin D in newborns' mothers, regardless of neonatal jaundice or not (22.5 vs. 80.2 nmol/L,  $p = 0.986$ ).<sup>1</sup> The authors evaluated the other parameters, which might be directly or indirectly associated with vitamin D, such as calcium, phosphorous, alkaline phosphonate, or parathyroid hormone, and the results showed these parameters, all failed to reach the statistically significant difference in both mothers and newborns.<sup>1</sup> This article is interesting and worthy of further discussion.

First, it is well known that late-onset, prolonged neonatal jaundice was more frequent in breast-fed infants than in artificially-fed infants, and the association of breast-feeding with prolonged and exaggerated physiological jaundice of the newborn has been considered a regularly and frequently-occurring phenomenon with an incidence more than two-thirds of all breastfed infants.<sup>2</sup> Breast-feeding is an important policy for baby health, which is widely encouraged word wide.<sup>3</sup> In the Dr. Aletayeb's article,<sup>1</sup> breast-feeding might be a strong bias factor which might affect the final conclusion in their study; however, the authors did not take it into consideration.

Second, adequate nutrition supplement in pregnant women, including adequate protein-containing calories and some essential minerals is important.<sup>4</sup> Adequate nutrition supplement not only maintains peak health and performance for pregnant women themselves, but also affects fetal organ development and growth.<sup>5</sup> Inappropriate diet/nutrition in pregnancy might lead to numerous deficiencies and impair placental function, subsequently resulting in miscarriage, intrauterine growth retardation, preterm labor and preeclampsia.<sup>6</sup> Among the nutritional components, vitamin D is most frequently discussed.<sup>6</sup> One observational cohort study, enrolling more than 2100 mothers from 12 medical centers in the USA between 1959 and 1965, found that pregnant women with a

higher serum level of 25-hydroxyvitamin D ( $\geq 37.5$  nmol/L) in the first trimester had a significantly lower risk of small form gestational age (adjusted odds ratio 0.5, 95% confidence interval [CI] 0.3–0.9) than those with a lower serum level.<sup>7</sup> However, it is interesting to find that no second trimester association was observed in the same study.<sup>7</sup> In Dr. Aletayeb's study,<sup>1</sup> jaundiced newborns had a lower serum level of vitamin D (84.4 vs. 110 nmol/L), and this similar trend of lower serum levels of vitamin D levels in the compared to those nonjaundiced newborns' mothers (22.5 vs. 80.2 nmol/L), although this did not reach a statistically significant difference.<sup>1</sup> However, these data should be carefully interpreted. The standard deviation (SD) of serum levels of vitamin D seemed to be greatly varied, especially for jaundiced newborns' mothers, which was even much far higher than the mean (80.3 vs. 22.5). By contrast, there was relatively consistent for other groups, including nonjaundiced newborns' mothers (26.3), jaundiced newborns (29.3) and nonjaundiced newborns (22.6), suggesting that it is of high possibility of the presence of outliers in Dr. Aletayeb's study.<sup>1</sup> If possible, the detailed data of each had better be provided by the authors or the authors would like to comment this part.

Finally, did any correlation of the vitamin D serum level between the all mothers and newborns in Dr. Aletayeb's study? Did mothers who have a higher serum level of vitamin D have a higher serum of vitamin D in their newborns in Dr. Aletayeb's study? If the answer is “yes”, we might consider the requirement of a “routine check” of serum levels of vitamin D in pregnant women. Furthermore, the need of vitamin D supplementation might be recommended for those pregnant women who have a lower serum level of vitamin D. However, what is the acceptable cut-off value to define “the low”? Is it 20 or 37.5 nmol/L?

We are looking forward seeing the authors' response. Thank you.

### Conflicts of interest

The authors declare that they have no conflicts of interest related to the subject matter or materials discussed in this article.

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