The association of vitamin D deficiency with iron deficiency anemia in Turkish children aged between 4 months to 5 years old

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Abstract

Objectives: Iron deficiency anemia (IDA) is most frequent in children under five years old. Many studies have shown a high prevalence of vitamin D deficiency (VDD) in similar age group. An association between IDA and VDD was reported. The objective of our study was to determine whether there is an association of VDD with IDA in Turkish children under 5 years old. **Methods:** Children, ages between four months-five years were included in a case-control study. Two groups were constituted: children with IDA (group I) and healthy control children without IDA (group II). Serum 25(OH) vitamin D levels lower than 20 ng/mL were considered as deficiency. **Results:** Mean age of group I (n=211, 24.8±17.5 months, 45% males) and group II (n=149, 26.4±17.7 months, 44% males) were comparable (p>0.05). Median vitamin D level in group I (22.5 ng/ml) was lower than group II (32.3 ng/mL) (p=0.001). The frequency of VDD was 38.5% in group I and 14.5% in group II (p<0.001). Sixteen children had subclinical rickets signs (All <36 months old); 14 of these were in group I (p=0.034). **Conclusions:** VDD is more frequent in small children with IDA than healthy controls. Most of the children presenting subclinical rickets signs had concurrent IDA. Physicians should note that VDD or even subclinical rickets may associate to IDA in children younger than 36 months old.

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