Letter to the Editor: 25(OH) Vitamin D3 and Early Neonatal Hypocalcemia in Preterm Infants

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Salle *et al.* (1) reported the use of vitamin D and its metabolites in premature infants. We were impressed both by the very low plasma calcium levels and by the high incidence of early hypocalcemia reported from the authors.

We studied the effect of oral administration of 25(OH) vitamin D3 (10 µg daily, for the first wk of life) on plasma calcium levels of preterm babies with clinical characteristics similar to Salle's ones.

Our data given in the following table,

of late hypocalcemia, strictly depending on intestinal calcium absorption, in the small for gestational age full-term infants (treated with 10 µg/daily of 25-(OH) vitamin D3, 0:45 and controls, 4:38 = 10.5%; $P < 0.05$) (5).

We think that if 25(OH) vitamin D3 is not a primary pathogenic factor in the early hypocalcemia of premature infants, it is still unjustified to dismiss the pharmacologic action of this metabolite of vitamin D. When administered with different prophylactic patterns (6), it could be useful and aid in the prevention of early

					Daily plasma Ca levels (mg/dl) mean ± S.D.						Incidence of early hypo- calcemia
		Gestational age (wk)	Body weight (g.)								
		N°	mean ± S.D.	mean ± S.D	1°	2°	3°	4°	5°	6°	7°
Controls	25	34.2 ± 1.4	2029 ± 370	8.9 ± 0.8	8.1 ± 0.7	8.1 ± 0.8	8.3 ± 0.7	8.6 ± 0.7	8.5 ± 0.8	9.1 ± 0.8	3:25 (12%)
Treated	34	34.7 ± 1.4	2146 ± 373	8.8 ± 0.9	8.1 ± 0.9	8.1 ± 0.9	8.3 ± 1.0	8.4 ± 1.0	8.9 ± 1.0	9.1 ± 1.0	3:33 (9%)

show that 25(OH) vitamin D3 was not able to modify significantly the daily mean plasma calcium levels in premature infants. But we observed a decrease in the incidence of early hypocalcemia, though this difference was not significant.

Comparing our data with that of Salle, we would emphasize that the higher mean plasma calcium levels and the lower incidence of early hypocalcemia probably depend on feeding pattern: human or humanized milk was commenced at 1 h of age in all our infants.

In fact, in a previous experience we pointed out that the incidence of hypocalcemia decreased from 48.02% in preterm infants in whom a milk diet was commenced at 6–12 h of age, to 22.58% in premature infants fed with humanized milk at 1 h ($P < 0.01$) (2).

We really think that early oral calcium administration is a primary factor in neonatal calcium metabolism and, therefore, in early neonatal hypocalcemia. 25(OH) Vitamin D3 certainly increases the intestinal calcium transport and absorption (3, 4). We also found that this metabolite of vitamin D reduces the incidence

hypocalcemia in such premature infants.

Hoping our data could be useful to a better understanding of the problem, we look for your answer.

REFERENCES AND NOTES

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