Vitamin D resistance and magnesium

Sir,
I read with much interest the paper by Nanji (1985) about the occurrence of hypercalcaemia due to iatrogenic hypervitaminosis D observed after correction of magnesium deficiency. Nanji stresses the several well-known mechanisms responsible for lowering serum calcium in magnesium deficiency, but in this patient with Crohn's disease receiving high doses of vitamin D and calcium the main factor seems to be the particular relationship between vitamin D and magnesium deficiency.

For almost 20 years, it has been known that magnesium deficiency reduces the response to vitamin D (Lifshitz et al., 1967). This is why, when magnesium and vitamin D are given together therapeutically, one should:

1. Never prescribe concomitant calcium (and phosphorus);
2. Never exceed an initially physiological daily dose of vitamin D for example 5 μg of 25-OH-vitamin D;
3. Systematically check plasma calcium (which should not exceed 2.5 mmol/l) and 24 hour calciuria (which should not exceed 4 mg/kg) for at least one month (Durlach, 1969, 1976, 1985).

A strict compliance with these 3 rules may avoid not only hypercalcaemia, but also tissue calcinosis, sometimes occurring without hypercalcaemia and therefore more difficult to prevent (Durlach, 1969, 1976, 1985).

J. Durlach
Société pour le Développement des Recherches sur le Magnésium, 2 Rue de Villersexel, F. 75007, Paris, France.

References

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J. Durlach

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