5 years follow up for 25OHD and iPTH in Vitamin D substituted patients with Diabetes mellitus 1 (DM1): an unicentric prospective study

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Conclusion: Due to actual limits of 25OHD, 86.3% of non-substituted DM1 patients had Vit D deficiency (<20 ng/ml) and 97.7% had levels <30 ng/ml (2011). Under 1000 I.E/d Vitamin D during the autumn/winter period: 6.1% of patients had values below 20 ng/ml, 47.7% of patients below 30 ng/ml, and 52.3% of patients <30 ng/ml (max: 53.9) (2012, 2013, 2014) and under substitution with 2000 I.E/d: 13.6% of patients had values below 20 ng/ml, 54.5% of patients below 30 ng/ml, and 45.4% of patients >30 ng/ml (max: 55.2)(2015).

Background / Aims:
Vitamin D deficiency/insufficiency seems to occur frequently in children and teenagers but it is a matter of debate if limits (<20 ng/ml; <30 ng/ml) are correct. Besides its effect in bone metabolism Vitamin D is also supposed to have a positive influence in DM1.


Methods:
n = 54 patients (age: 3-17) followed for 5 years; 2011 no Vit D, 2012, 2013, 2014, 2015 from October - March on Vit D; 1 blood sample each year (January-March: iPTH and 25OHD). Patients and parents were asked about compliance.

Results:

![Graph showing the effects of Vitamin D intake on iPTH levels.](image.png)

Pairwise comparisons of the vitamin D doses drawn from a mixed effect model with the vitamin D level as response variable, the year and vitamin D dose level as fixed effects, and patient as random effect. The p-values were adjusted for multiplicity using Tukey procedure.

![Graph showing the effects of Vitamin D levels on iPTH.](image.png)

Pairwise comparisons of the vitamin D groups drawn from a mixed effect model with log iPTH as response variable the year and vitamin D group level as fixed effects and patient as random effect. The p-values were adjusted for multiplicity using Tukey procedure.

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