Vitamin D status in children with isolated idiopathic Growth Hormone Deficiency (GHD) in North and Central Greece

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Background:

Vitamin D status in children with isolated GHD has been analyzed in few studies with controversial results (1,2). Furthermore, seasonal and geographical variations in sunlight exposure lead to prominent changes in serum 25(OH)D levels (3).

The aim of the study was to assess vitamin D status in children with idiopathic GHD in North and Central Greece.

Materials and Methods:

128 children (M/F:76/61, mean age 9,5 (SD±3,5years) with isolated GHD were compared with 65 controls (M/F:46/3, mean age 9,3 (SD±3,2years). Children were divided into four groups according to the season of evaluation: the winter (Dec-Feb: 44 children), the summer (Jun-Aug: 51 children), the spring (Mar–May: 59 children) and the autumn group (Sep-Nov: 26 children). (Table)

Height, weight, BMI and BMI z-score were evaluated at the time of 25(OH)D3 serum levels measurement.

Serum 25(OH)D3 levels <30 ng/mL and 20 ng/mL were defined as vitamin D insufficiency and deficiency, respectively.

	GHD	CONTROL
Total	128	65
Male/Female	76/61	46/3
Mean age (±SD)year	9,6±3,5	9,3±3,2
Winter (Dec-Feb)	33	16
Spring (Mar-May)	39	24
Summer(Jun-Aug)	36	16
Autumn(Sep-Nov)	17	12

Table. Characteristics of children

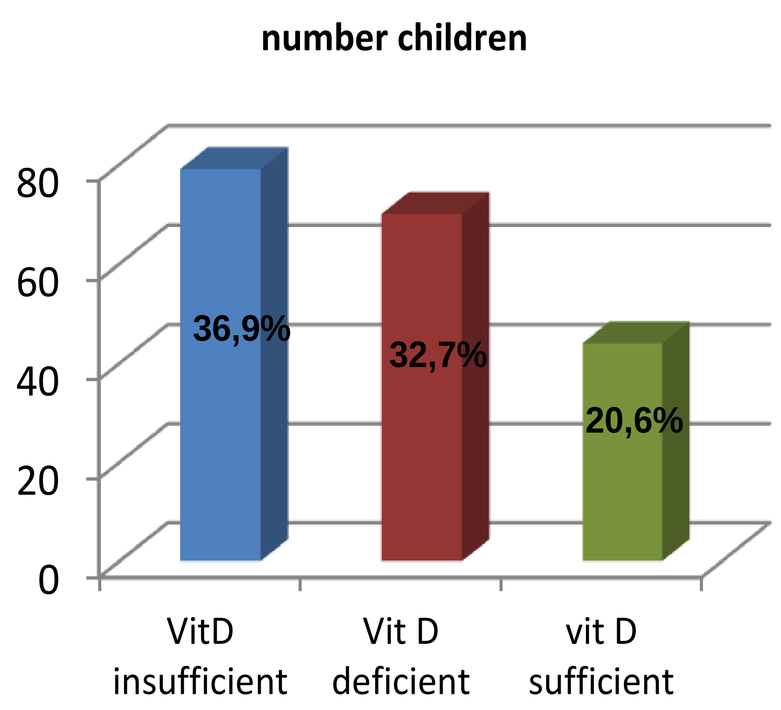


Figure 1. Vit D status in children

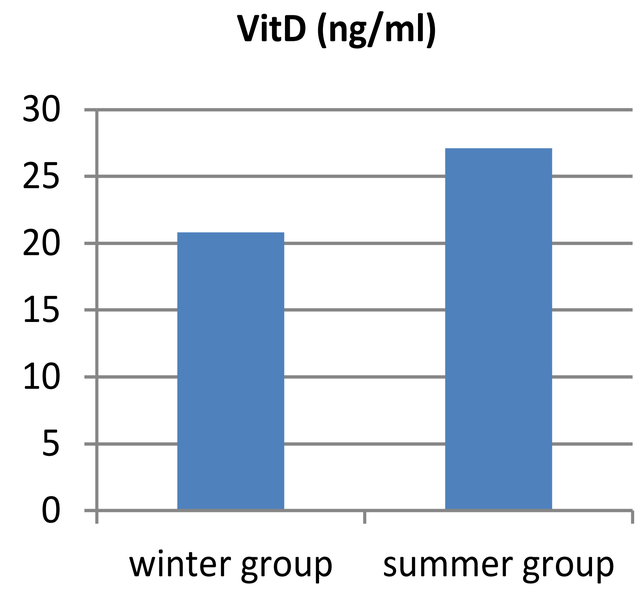
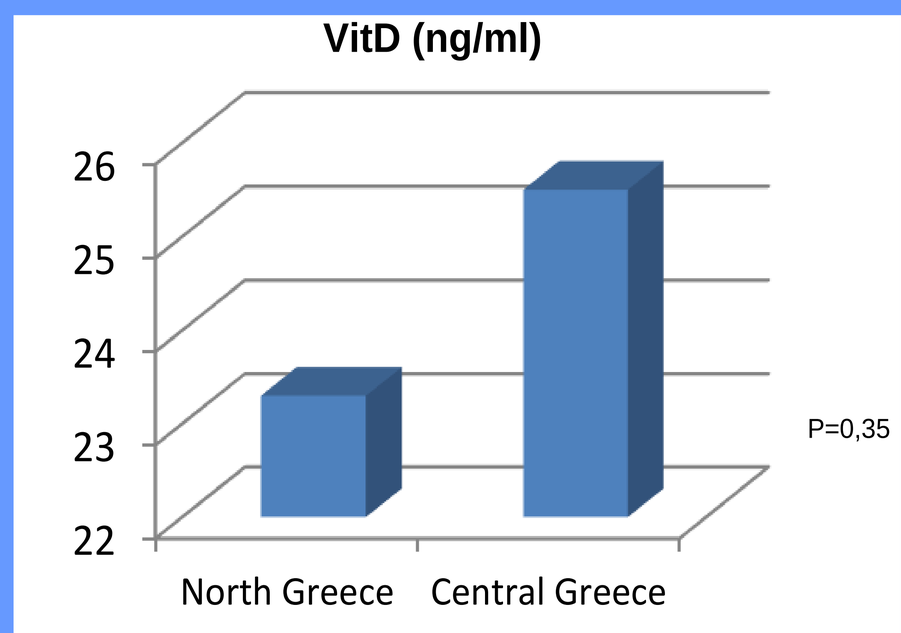


Figure 2. Vit D status in different seasons

Results:

- 79 children (36,9 %) were vitamin D insufficient, 70 (32,7%) deficient and only 44 (20,6%) were between normal range. (figure 1)
- Lower vitamin D levels were found in the winter group than in the summer group (20.8±6.42 vs 27.11±11.97ng/ml; p=0.004). (figure 2)
- No difference was found in vitamin D status between GHD children and controls.
- No difference was also found in vitamin D levels between GHD children from North and Central Greece (23,3±8,8 vs 25,5±11,64ng/ml; p=0,35) despite the season of evaluation.
- No correlation between vitamin D, BMI z-score and GH max levels was also found.



Conclusions:

➢Our data demonstrated a very high prevalence of hypovitaminosis D in Greek GHD children, regardless the region.

➢Vitamin D status in children with idiopathic GH deficiency was similar to healthy children.

➢ Vitamin D assessment should therefore be considered routinely in GHD children even at sunny Mediterranean countries.

References:

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