

## VITAMIN D AND PATIENTS WITH PRIMARY HYPERPARATHYROIDISM (PHPT): HOSPITAL BASED STUDY IN LATVIA

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**Objective:** Vitamin D deficiency is more frequent condition in PHPT patients (pts) than in the general population. There is worsening of PHPT when vitamin D deficiency coexists. Vitamin D deficiency may worsen manifestations of PHPT by contributing more pronounced parathyroid gland proliferation. The aim of this study was to analyze vitamin 25(OH)D3 level in PHPT pts in tertiary care multiprofile hospital in Latvia.

**Material and Methods:** Hospital based case control retrospective study analyzed medical records of pts admitted to the hospital in 4.5 year period (01.01.2009–30.06.2013). The statistical data were processed using SPSS 16.0. All the data were presented in the mean value with standard deviations. Normal range for calcium was defined 2.1–2.6 mmol/L, for PTH - 12.0–72.0 pg/mL, for phosphorus - 0.8–1.6 mmol/L, for alkaline phosphatase - <117.0 U/L. Vitamin sufficient concentration defined as >30.0 ng/ml, insufficiency as - 29.9– 20.0 ng/ml and deficiency as <19.9 ng/ml.

**Results:** There were 176 medical records of 140 pts, 37 % of whom had their 25(OH)D3 assessed. Study included 94.2 % females and 5.8 % males. Females were older than males, 62.4±12.1 and 56.7±3.8 year, respectively (p=0.09). Pts calcium level in the study population was 2.9±0.4 mmol/L, PTH level - 288.7± 365.7 pg/mL, phosphorus level - 0.9±0.3 mmol/L, alkaline phosphatase - 88.6±39.3 U/L. Pts vitamin 25(OH)D3 level was 15.5±8.9 ng/mL, female - 15.4± 9.1 ng/mL, male - 17.7±7.4 ng/mL (p=0.64). For females aged up to menopause (n=5) vitamin 25(OH)D3 level was 3.7±0.7 ng/mL, postmenopausal (n=44) - 16.7±8.6 ng/mL (p=0.002). A higher level of vitamin D was in postmenopausal females, presumably it could be explained by vitamin D supplementation.

**Conclusion:** Vitamin 25(OH)D3 deficiency was found in all pts with PHPT in all groups.