

EFFECT OF TREATMENT OF VITAMIN D DEFICIENCY/INSUFFICIENCY (VDDI) ON MINERAL METABOLISM IN NON-DIALYZED PATIENTS WITH CKD (ND-CKD)

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Vitamin D Deficiency/Insufficiency (VDDI) may be associated with hypocalcemia, increased PTH levels, reduced bone mineral density, and increased rates of hip fractures. We previously reported high prevalence of VDDI in ND-CKD. In this study, we report the effects of calcidiol supplementation on mineral metabolism in these patients. We followed K/DOQI treatment guidelines of VDDI in CKD patients. We obtained intact PTH, calcium, phosphorus, and vitamin D levels in 70 ND-CKD before and after treatment with ergocalciferol and reviewed their medical records and laboratory data. GFR was estimated by MDRD equation. CKD patients receiving vitamin D preparations other than ergocalciferol or phosphate binders were excluded. Of 225 ND-CKD patients with VDDI, 70 were treated with ergocalciferol. Mean age 57 years, 42% males. Pre- and post-treatment laboratory values are presented in table. Percentage achieved target vitamin D: 20%; 16%; 10%; and 30% for CKD stages 1&2, 3, 4 and 5 respectively. Percentage achieved PTH goal: 22%,17% and 11% for CKD stage 3,4 and 5 respectively.

N 70	Pre-Rx	Post-Rx	P-value
eGFR ± SD	29.8±16.6	26.6 ±14.9	0.0025
25OH VitD(ng/mL) ± SD	17.9±10.49	21.3 ±9.85	0.0438
PTH (pmol/mL)± SD	142±113	145 ±128	0.81
Calcium (mg/dL) ± SD	9.1±1.1	9.1 ±0.7	0.82

Current K/DOQI treatment guidelines for VDDI are inadequate for correcting VDDI or secondary hyperparathyroidism in non-dialyzed CKD patients. Alternative treatment regimens of vitamin D supplementation in these patients are required.