

ABSTRACT

Vitamin D deficiency is typical of kidney disease, as are disorders of calcium-phosphate metabolism. Supplementation of native vitamin D and the resulting correction of calcemia values could contribute to improving the health status of these patients, even though native vitamin D has been considered ineffective in patients with more severe kidney disease.

Objectives: The aim of this study is to evaluate the effect of native vitamin D supplementation on patients with chronic kidney disease.

Methods: In the practical part, retrospective data of patients with chronic kidney disease treated in nephrology and internal medicine outpatient clinics were used. These data were obtained from the Klatovy Hospital database. Serum 25(OH)D concentrations at the beginning of vitamin D supplementation and changes in these values after one year were compared. In addition, data on muscle strength, fractures, propensity to falls and calcemia were evaluated. Patients' level of education regarding proper vitamin D supplementation was assessed by questionnaire.

Conclusion: The results show that supplementation with native vitamin D leads to an increase in serum 25(OH)D concentration even in patients with more severe renal impairment, while optimizing serum total calcium concentration, and probably has numerous beneficial pleiotropic effects. The association of fracture and fall rates with low 25(OH)D levels at the end of the follow-up period has not been demonstrated. Nevertheless, vitamin D supplementation may be recommended in patients with chronic kidney disease, as this is a group of patients at risk of vitamin D deficiency, and care should be taken to maintain optimal calcium levels in these patients.

Keywords: vitamin D, calcium, chronic kidney disease