



# A Randomized Controlled Trial of Efficacy of Single Dose Versus Split Dose of Ergocalciferol on Serum 25(OH)D in CAPD Patients

Jessada Kanchanasini<sup>1</sup>

Naowanit Nata<sup>1</sup>

<sup>1</sup>Department of Internal Medicine, Phramongkutklao Hospital and College of Medicine, Bangkok 10400, Thailand

**Background:** Vitamin D deficiency is a common problem in continuous ambulatory peritoneal dialysis (CAPD) patients. There is an evidence of the usefulness of vitamin D supplementation in dialysis patients with most often vitamin D deficiency. No previous study has ever compared the efficacy of single dose and split dose of ergocalciferol (vitamin D<sub>2</sub>) at 60,000 IU per week on serum 25(OH)D in CAPD patients.

**Objective:** To evaluate the efficacy of single dose and split dose of ergocalciferol at 60,000 IU per week on serum 25(OH)D in CAPD patients.

**Methods:** A randomized, double-blinded, parallel study was conducted in CAPD patients at Outpatient Department of Phramongkutklao Hospital with vitamin D deficiency or insufficiency. They were randomly assigned into two groups. Group 1 was given ergocalciferol 60,000 IU on every Monday, while Group 2 was given ergocalciferol 20,000 IU on every Monday, Wednesday, Friday for 8 weeks. Main outcome measurements were serum 25(OH)D concentrations, serum calcium, serum phosphate, and parathyroid level at 8 weeks after enrollment.

**Results:** We enrolled a total of 50 patients and 38 patients completed the study. At the end of the study, mean±SD of serum 25(OH)D increased from 22.8±5.9 ng/ml at baseline to 29.3±9.4 ng/ml in Group 1 and 23±5 ng/ml to 31.6±13 ng/ml in Group 2. There was no significant change in increase ratio of serum 25(OH)D over 8 weeks between the two groups ( $p = 0.44$ ). No change occurred in serum calcium, phosphorus, intact parathyroid hormone in either study arm.

**Conclusion:** Single dose of ergocalciferol could increase serum 25(OH)D level in patients on CAPD with vitamin D insufficiency or deficiency, but no difference from split dose of ergocalciferol.

**Keywords:** Ergocalciferol, Vitamin D deficiency, CAPD, Single dose and split dose