

ABSTRACT**Effect of Paricalcitol Treatment on Calcium, Phosphate, Parathyroid Hormone, and Dickkopf-related Protein 1 Levels in Patient with Chronic Kidney Disease Stage 5 and Hemodialysis**

Background: Mineral and bone disorder is one of complication in hemodialysis (HD) patients. It characterized by metabolic abnormalities of calcium, phosphate, parathyroid hormone (PTH), and vitamin D, abnormality bone turnover, and vascular calcification. Beside that this complication will affect Wnt pathway. The common therapy for this complication was vitamin D compound like paricalcitol. Paricalcitol will take effect on calcium, phosphate, parathyroid hormone, and Dickkopf-related protein 1 (DKK-1), a inhibitor of Wnt pathway.

Objectives: To analyze effectiveness of paricalcitol on calcium, phosphate, PTH, and DKK1 in hemodialysis patient with mineral and bone disorder

Methods: An observational prospective cohort study comparing the effectiveness of paricalcitol on calcium, phosphate, PTH and DKK-1 in hemodialysis. A total of 9 patients were enrolled at Adi Husada Undaan Wetan Surabaya Hospital and be divided into 4 patients in paricalcitol group, 5 patients in without paricalcitol group. Paricalcitol give in this study were 10 μ g every week. Level of calcium, phosphate, PTH, and DKK-1 measured before initiation of study and after 3 months treatment

Results: The baseline characteristics of the two groups were similar. The change of PTH in paricalcitol group from (616.5 \pm 98.5)pg/mL into (671.8 \pm 476.0)pg/mL and in without paricalcitol group from (734.7 \pm 338.2)pg/mL into (867.0 \pm 420.1)pg/mL. There is significant different in without paricalcitol group's PTH change significantly ($p=0.005$). Spearman's rho test show no correlation between PTH and DKK-1 level ($p=0.179$; $r=0.331$)

Conclusion: According to this study, three months therapy of paricalcitol in HD patients can maintained PTH level and gave no effect on calcium, phosphate, and DKK1. There are no correlation of PTH and DKK-1 in HD patients.

Keyword: Chronic Kidney Disease, Hemodialysis, Mineral and Bone Disorder, Paricalcitol, Calcium, Phosphate, Parathyroid hormone, DKK-1