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Abstract:

Background: Recent studies reported that oral use of Calcitriol was related with Hypercalcemic side effect in 25% population of the study, while Slatopolsky reported much less incidence of Hypercalcemic side effect in the intravenous route of Calcitriol administration. Other clinical study by Salusky reported that there was no statistical difference between intravenous and oral Calcitriol in Hypercalcemic side effect. Objective: The aim of the study is to determine the difference of the hypercalcemic side effect incidence between intravenous Calcitriol and oral Calcitriol administration in End Stage Renal Disease (ESRD). Methods: Open randomized clinical trial was conducted in the Hemodialysis Unit Dr.Soetomo Teaching Hospital Surabaya. Informed consent was obtained from each patient to meet the ethical clearance circumstances from The School of Medicine Airlangga University. Patients who met the inclusion criteria were randomly divided into 2 groups. One group received intravenous Calcitriol, 1 mcg twice a week, the other group received oral Calcitriol 0.25 mcg b.i.d. Serum Calcium level were evaluated in both groups during 10 weeks of therapy. Results: Sixteen patients were recruited for the study, 8 patients in intravenous Calcitriol group (IV group) and 8 patients in oral Calcitriol group (Oral group). Serum Calcium level was elevated significantly in both groups (p<0.001 in IV group and p<0.05 in Oral group). Hypercalcemia and Hyperphosphatemia events were documented in both groups, and the frequency of hypercalcemia event and hyperphosphatemia event in IV group and Oral group were not significantly different. (Hypercalcemia event 11 in IV group and 12 in Oral group, Hyperphosphatemia event 27 in IV group and 34 in Oral group. P=0.93). Conclusion: The Hypercalcemic side effect incidence of intravenous Calcitriol was not statistically different from those of oral Calcitriol.

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