

## NO CONSISTENT VITAMIN D EFFECT ON CARDIOVASCULAR MORTALITY ACROSS DIALYSIS VINTAGE GROUPS

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It has been suggested that vitamin D may have protective cardiovascular (CV) effects in chronic kidney disease patients. Study purpose was to evaluate IV vitamin D (IV vit D) effect on cardiovascular (CV) and other cause-specific mortality across HD vintage groups. This was a retrospective cohort study including 193,830 Medicare HD patients prevalent in 1999-2000. Patients were followed through 2004. Monthly IV vit D doses in each 3 month interval were calculated using calcitriol-equivalents. Information on cause of death was obtained from ESRD Death Notification Form. A time-varying Cox proportional hazards model was used to assess effect of monthly IV vit D dose (tertiles) and use patterns on mortality by dialysis vintage groups (<1 year, 1-<3 years, 3-<5 years, and  $\geq 5$  years). Models were adjusted for baseline characteristics as well as time-varying hospital days in the 3-month moving intervals. Results presented focus on groups receiving IV vit D in 3 of 3 months vs no use, and CV mortality effects.

For CV death, the effect of regular monthly IV vit D doses <10 mcg changed from protective (HR, 0.95; 95% CI, 0.91-0.99) for patients with dialysis vintage <1 year to harmful (HR, 1.09; 95% CI, 1.01-1.19) for patients with dialysis vintage  $\geq 5$  years. Monthly IV vit D doses of 10-< 14 mcg showed a protective effect on CV death across vintage groups. This effect attenuated, however, as dialysis vintage increased, and results were not statistically significant for patients with dialysis vintage  $\geq 3$  years. Monthly IV vit D doses  $\geq 14$  mcg showed no evident pattern across vintage groups. Overall, there were marked inconsistencies seen in IV vit D effect on CV mortality across vintage groups. There is a compelling need for adequately powered, randomized, blinded clinical trials assessing the effects of active vitamin D agents on cardiovascular as well as other outcomes in hemodialysis patients.