EFFECTS OF USE PATTERNS OF INTRAVENOUS VITAMIN D ON ALL-CAUSE MORTALITY IN PREVALENT HEMODIALYSIS PATIENTS, Shuling Li, Wendy L St. Peter, Jiannong Liu, David T. Gilbertson, Tom J Arneson, Allan J Collins. Chronic Disease Research Group, Minneapolis, MN, USA;

Observational studies have reported an association between intravenous vitamin D (IV vit D) use and reduced all-cause mortality in hemodialysis (HD) patients. The purpose of this study was to assess the association between use patterns (number of months use and monthly dose) of IV vit D and all-cause mortality.

We studied 193,830 Medicare HD patients prevalent in 1999-2000. We used the first 3 months to define patient characteristics, and followed these patients from month 4 to 12/31/2004. A time-varying Cox proportional hazards model was used to assess the effect of use patterns of IV vit D over 3-month intervals on the risk of all-cause death, by dialysis vintage groups, adjusting for baseline characteristics and time-varying hospital days.

In each vintage group, only patients who received IV vit D each month of the 3-month interval (regular users) had significantly reduced risk of all-cause mortality. Regular users also displayed a dose-response pattern of reduced all-cause mortality with increasing monthly dose in most vintage groups, while non-regular users did not present an evident pattern. Our findings were consistent with previously published studies showing protective effect of IV vit D on all-cause mortality. However, cautious interpretation of these results are warranted; during the timeframe of this study, USRDS data show that 1- and 2-year survival remained stable for incident HD patients despite a large increase in % of patients receiving IV vit D. Residual confounding may exist and randomized, blinded clinical trials are needed.