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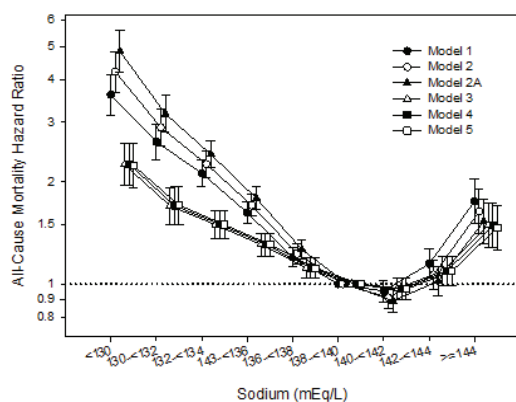
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PRE-DIALYSIS SERUM SODIUM AND MORTALITY IN A NATIONAL INCIDENT HEMODIALYSIS COHORT. Connie M. Rhee¹, Vanessa Ravel¹, Juan Carlos Ayus², Elani Streja¹, Rajnish Mehrotra³, Alpesh N. Amin¹, Steven M. Brunelli⁴, Csaba P. Kovesdy⁵, Kamyar Kalantar-Zadeh¹. ¹UC Irvine, Irvine, CA; ²Renal Consultants of Houston, Houston, TX, ³Univ Washington, Seattle, WA, ⁴DaVita Clinical Research, Minn., MN, ⁵Univ. of Tennessee Health Sciences Center, Memphis, TN.

A consistent association between low serum sodium measured at a single-point-in-time (i.e., baseline sodium, as a proxy of long-term exposure) and higher mortality has been observed in hemodialysis (HD) patients. In a recent study examining time-dependent sodium (i.e., sodium levels updated at quarterly intervals, as a proxy of short-term exposure) in non-dialysis dependent CKD patients, both hypo- and hypernatremia were associated with higher mortality. We hypothesized that both low and high time-dependent sodium levels are independently associated with higher death risk in HD patients. Among 27,180 adult



incident HD patients from a large national dialysis organization during 2007-2011, we examined the association of time-dependent sodium with all-cause mortality using Cox models with 5 levels of adjustment: Models 1 (unadjusted), 2 (case-mix), 2A (case-mix+interdialytic weight gain [IDWG]), 3 (case-

mix+laboratory tests), 4 (model 3+IDWG), and 5 (model 4+BUN+glucose). Across all models, sodium levels <138 and ≥144mEq/L were associated with higher mortality (ref.: 138-140mEq/L): HRs (95%CI): 2.24 (1.93-2.59), 1.71 (1.50-1.94), 1.50 (1.36-1.65), 1.31 (1.21-1.41), 1.11 (1.04-1.19), 0.97 (0.90-1.04), 1.09 (0.99-1.21), and 1.47 (1.26-1.71) for sodium levels <130, 130-<132, 132-<134, 134-<136, 136-<138, 140-<142, 142-<144, ≥144mEq/L, respectively, adjusted for covariates in Model 5. In conclusion, there is a U-shaped sodium-mortality association in HD patients, suggesting both hypo- and hypernatremia carry short-term risk in this population.