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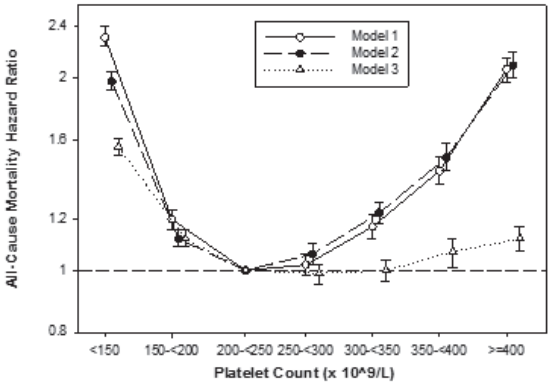
IMPLICATIONS OF LOW AND HIGH PLATELET COUNTS AND MORTALITY RISK IN A NATIONAL INCIDENT HEMODIALYSIS COHORT. Steven Kim[1], Daniel Gillen[1], Miklos Molnar[2], Elani Streja[1], Rajnish Mehrotra[3], Sooraj Kuttykrishnan[3] Csaba Kovesdy[2], Kam Kalantar-Zadeh[1], Connie Rhee[1]. *[1]UC Irvine, Irvine, CA; [2]Univ. Tennessee Health Sci. Center, Memphis, TN; [3]Univ. Washington, Seattle, WA.*



In the general population, thrombocytopenia and thrombocytosis may predispose to morbidity (ie, bleeding and thromboembolism, respectively) and mortality. Prior data indicate low and high platelet counts measured at a single-point-in-time are linked with higher mortality in HD patients, although the latter association was attenuated to the null upon adjustment for baseline malnutrition/inflammation complex markers (MICS). We re-examined the platelet count-mortality association using repeated laboratory measures, and hypothesized that low and high platelet counts are associated with greater death risk independent of MICS. Among 148,935 adult incident HD patients from a large national dialysis organization (2007-2011), we examined time-dependent platelet counts and all-cause mortality using Cox models with 3 adjustment levels: Model 1 (unadjusted), Model 2 (case-mix), and Model 3 (case-mix+laboratory variables, including MICS, e.g., albumin, creatinine, nPCR). Lower and higher platelet counts were associated with higher mortality in Model 2 (ref.: 200-250x10^9/L): HRs (95%CI) 1.97 (1.91-2.04), 1.12 (1.09-1.16), 1.06 (1.02-1.10), 1.23 (1.18-1.28), 1.50 (1.43-1.58), 2.09 (2.00-2.19) for platelet counts of 0-150, >150-200, >250-300, >300-350, >350-400, >400x10^9/L, respectively. In Model 3, the higher platelet count-mortality association was markedly attenuated, while the lower platelet count-mortality association remained robust. In conclusion, lower platelet counts are independently associated with mortality in HD patients, whereas the higher platelet count-mortality association may be explained by malnutrition/inflammation.