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PARICALCITOL DOSE AND SURVIVAL IN HEMODIALYSIS PATIENTS: A MARGINAL STRUCTURAL MODEL ANALYSIS

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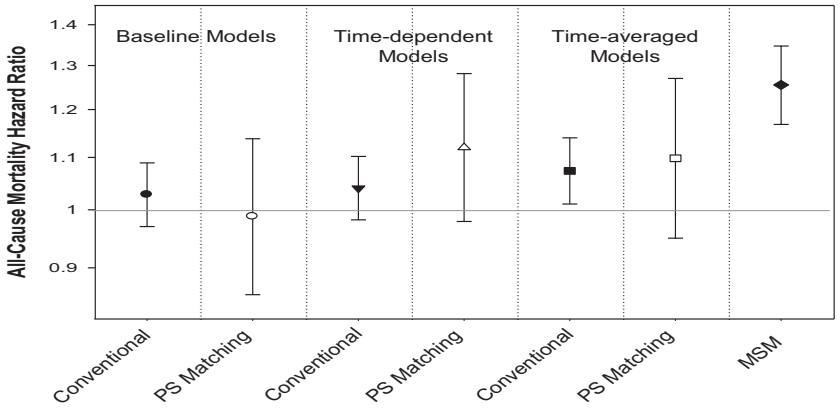
Selective vitamin D receptor activators (VDRA) including paricalcitol appear associated with greater survival in maintenance hemodialysis (MHD) patients. However, patients with higher serum PTH, a surrogate for higher death risk, are usually given higher VDRA doses, which can lead to confounding by indication and attenuate the expected survival advantage of high VDRA doses. We examined mortality-predictability of low (>1 but <10 μg/week) versus high (≥10 μg/week) dose of administered paricalcitol over time in a contemporary cohort of 15,442 MHD patients (age 64±15 years, 55% men, 44% diabetes, 35% African Americans) from all DaVita dialysis clinics across the USA (7/2001-6/2006 with survival follow-up until 6/2007).



We conducted conventional Cox regression, propensity score (PS) matching, and marginal structural model (MSM) analyses. Compared to high dose of paricalcitol, low dose was associated with a 26% higher risk of mortality (HR: 1.26, 95% CI: 1.19-1.35) in the MSM analysis. Hence, higher dose of paricalcitol may be associated with survival in MHD patients. Randomized controlled trials need to verify these data.