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Abstract 17181: Association of Intradialytic Hypertension and Mortality According to Responsiveness to Ultrafiltration

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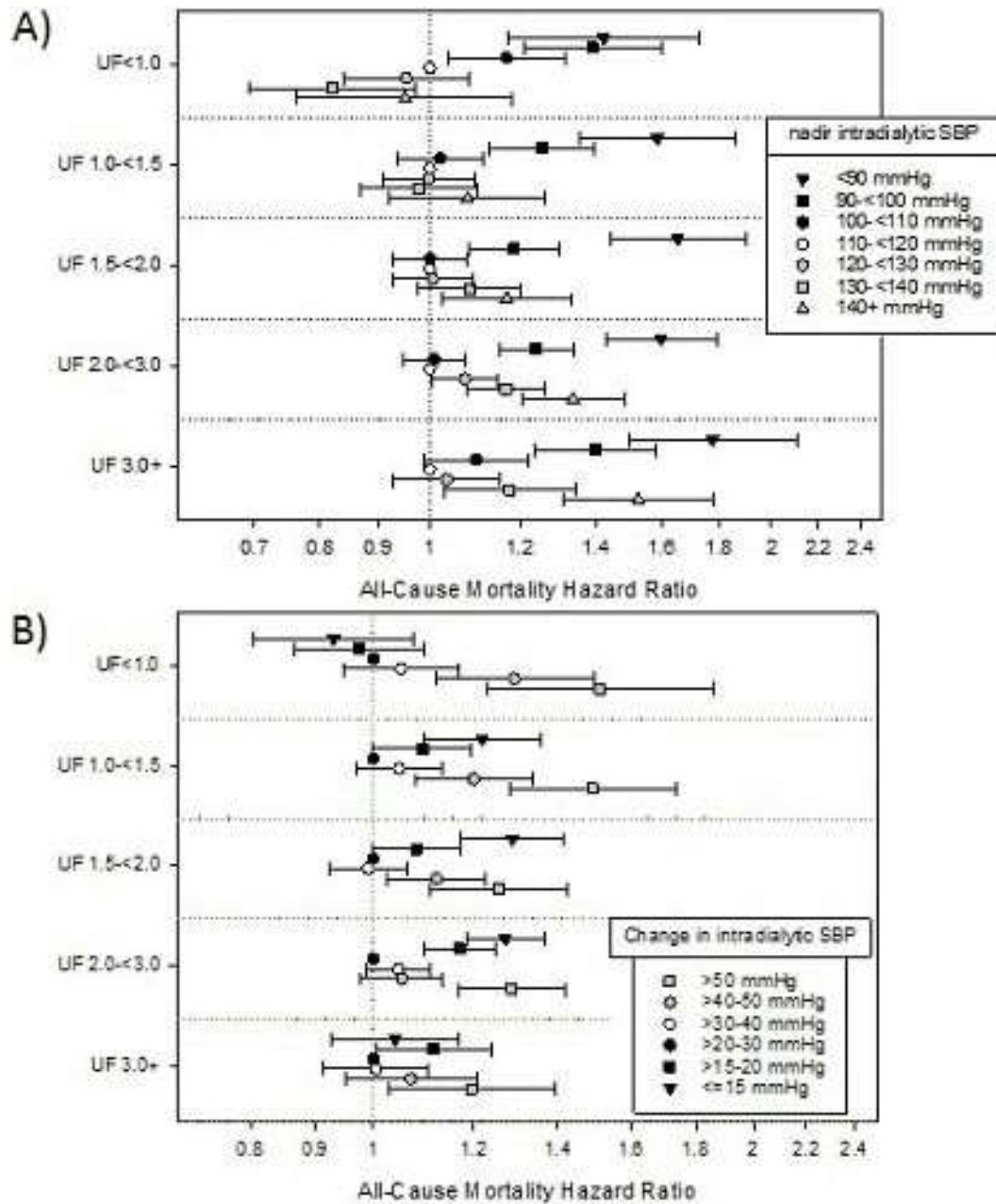
Abstract

Introduction: There are mixed data about the association of intradialytic hypertension and mortality in hemodialysis patients. Ultrafiltration (UF) during hemodialysis (HD) can effectively lower blood pressure in some but not all dialysis patients. We hypothesized that intradialytic hypertension that is non-responsive to ultrafiltration has the highest death risk.

Methods: We examined the association of nadir and change in intradialytic systolic BP (niSBP and [DELTA]iSBP, respectively) with 5-year all-cause (2007-2011) mortality stratified by UF per treatment (defined as Pre-HD minus Post-HD weight) in a cohort of 112,013 incident adult HD patients using Cox regression models adjusted for case-mix, comorbidities, and lab covariates. [DELTA]iSBP was defined as pre-HD SBP minus niSBP.

Results: We found that as UF increased, patients with niSBP \geq 140 mmHg had a graded increase in mortality risk ($p < 0.001$ when UF 3+). Additionally, [DELTA]iSBP \leq 15 mm Hg had an increasingly stronger association with mortality as UF increased up to $< 3.0L$. Patients with niSBP < 100 and [DELTA]iSBP ≥ 50 mmHg were consistently found to have higher mortality risk (both $p < 0.001$). All associations were robust to adjustment for demographics, laboratory values and comorbidities.

Conclusions: Our results suggest that intradialytic hypertension has a differential mortality risk. We found that intradialytic hypertension that is not reduced by ultrafiltration is associated with an increasingly higher mortality risk. Further studies are needed to identify the optimal niSBP and UF goals and their mechanisms of interaction.



Hypertension; Mortality