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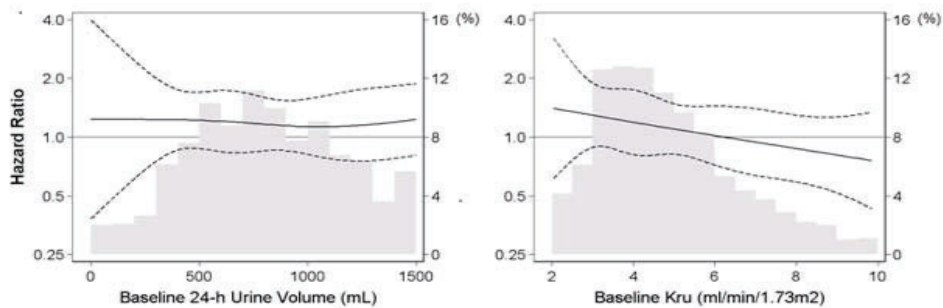
HOW TO PREDICT WHO WILL BENEFIT FROM INCREMENTAL HEMODIALYSIS: RENAL UREA CLEARANCE VERSUS URINE VOLUME:

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Incremental hemodialysis (HD) is an individualized approach for patients transitioning to ESRD that can only be used in patients with sufficient residual renal function. We hypothesized that renal urea clearance (Kru), when compared to urine volume (UV), would have better ability to predict the mortality risk in incremental HD patients.

In a national cohort of incident dialysis patients from a large dialysis organization during 2007-2011, 443 incremental HD patients were matched to 11,407 conventional HD patients by coarsened exact matching based on baseline Kru, baseline UV, age, gender, race, diabetes, and central venous catheter use. We evaluated the mortality risk of incremental vs. conventional HD over the levels of Kru and UV by including interaction terms between their cubic spline functions and dialysis type in a Cox model.

The risk associated with incremental HD was modified by both Kru and UV. Among patients with $Kru \leq 5 \text{ ml/min/1.73m}^2$, incremental compared to conventional HD is associated with higher mortality risk at all levels of baseline urine volume. Even among those with $UV > 750 \text{ ml/day}$, comparative mortality risk favors incremental HD at $Kru > 5 \text{ ml/min/1.73m}^2$.



A: $Kru \leq 5 \text{ ml/min/1.73m}^2$

B: 24 hour UV > 750 mL

Figure 1. Mortality risk of incremental HD (vs conventional HD) among patients with $Kru \leq 5 \text{ ml/min/1.73m}^2$ (A) and among patients with $UV > 750 \text{ ml/day}$ (B).

In conclusion, although both Kru and UV are important indices that guide implementation of incremental HD, Kru may more strongly reflect mortality risk among patients who are candidates for incremental HD.