

Mortality Predictability of 3-Year Time-Averaged Iron Markers in Polycystic Kidney Disease Patients on Maintenance Hemodialysis

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INTRODUCTION

Higher or lower serum concentrations of iron markers including serum transferrin saturation ratio (TSAT) and ferritin are associated with mortality in maintenance hemodialysis (MHD) patients (Kalantar-Zadeh et al, *J Am Soc Nephrol* 2005;16:3070-80).

In polycystic kidney disease (PCKD) patients, who undergo thrice weekly maintenance hemodialysis treatment, the mortality predictability of indices of iron status may be different than other MHD patient, so that a different anemia management may be warranted in these patients

METHODOLOGY

- We examined the 3-yr (7/2001-6/2004) cohort of 59,462 MHD patients including 1543 PCKD patients in DaVita clinics, whose survival were followed up to 6/2006, using Cox regression adjusted for case-mix and surrogates of Malnutrition-Inflammation Complex including hemoglobin and erythropoietin dose.
- We calculated time-averaged values of the monthly to quarterly measured iron markers, including serum ferritin and TSAT, over the entire 3 yrs.

RESULTS

Table 1. Patient Demographics

	PCKD	Non-PCKD
Age (yrs)	58.0±13.7	61.4±15.4
Women (%)	49	46
Diabetics (%)	8	47

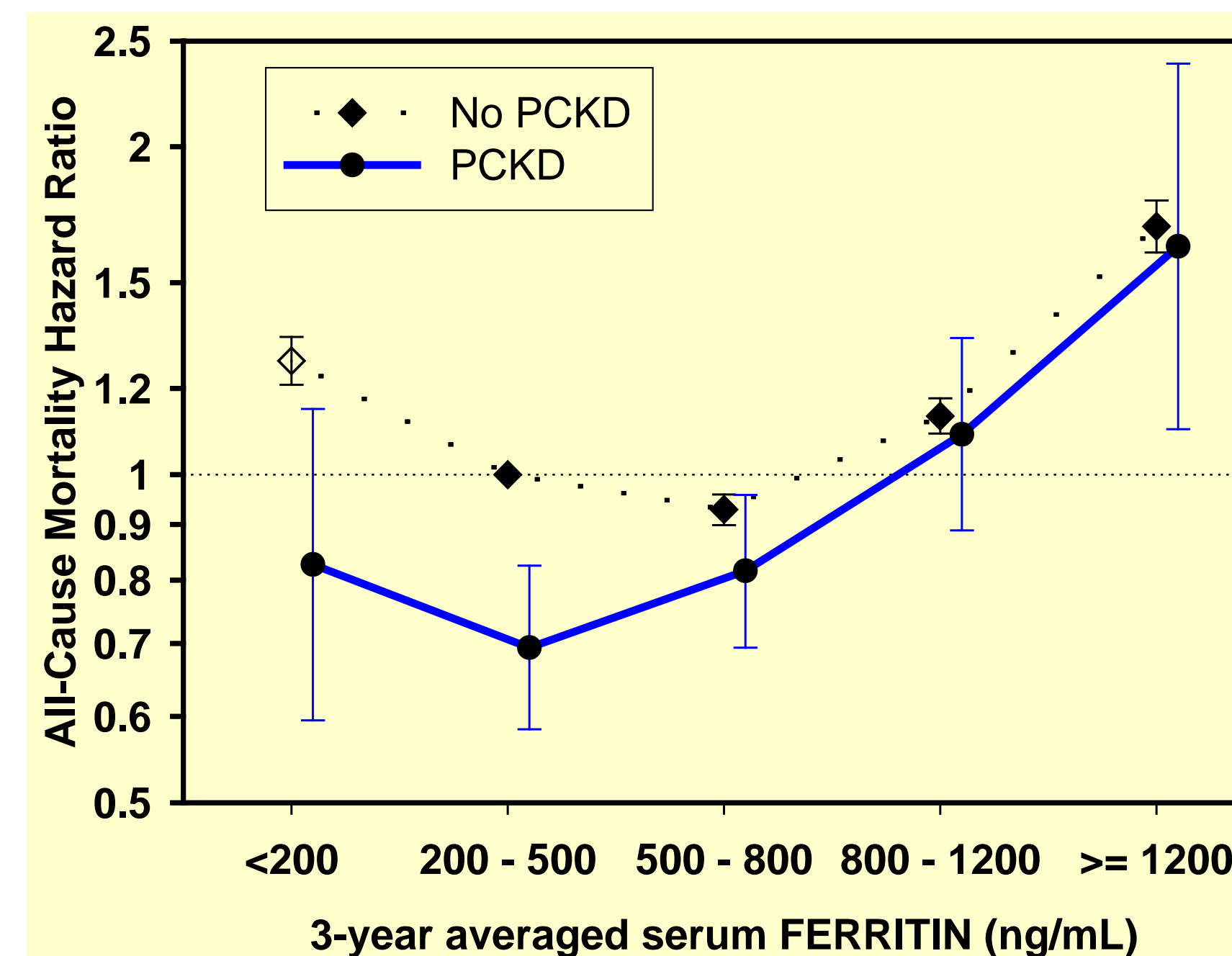


Figure 1. All-Cause Mortality Hazard Ratio Across Ferritin Increments

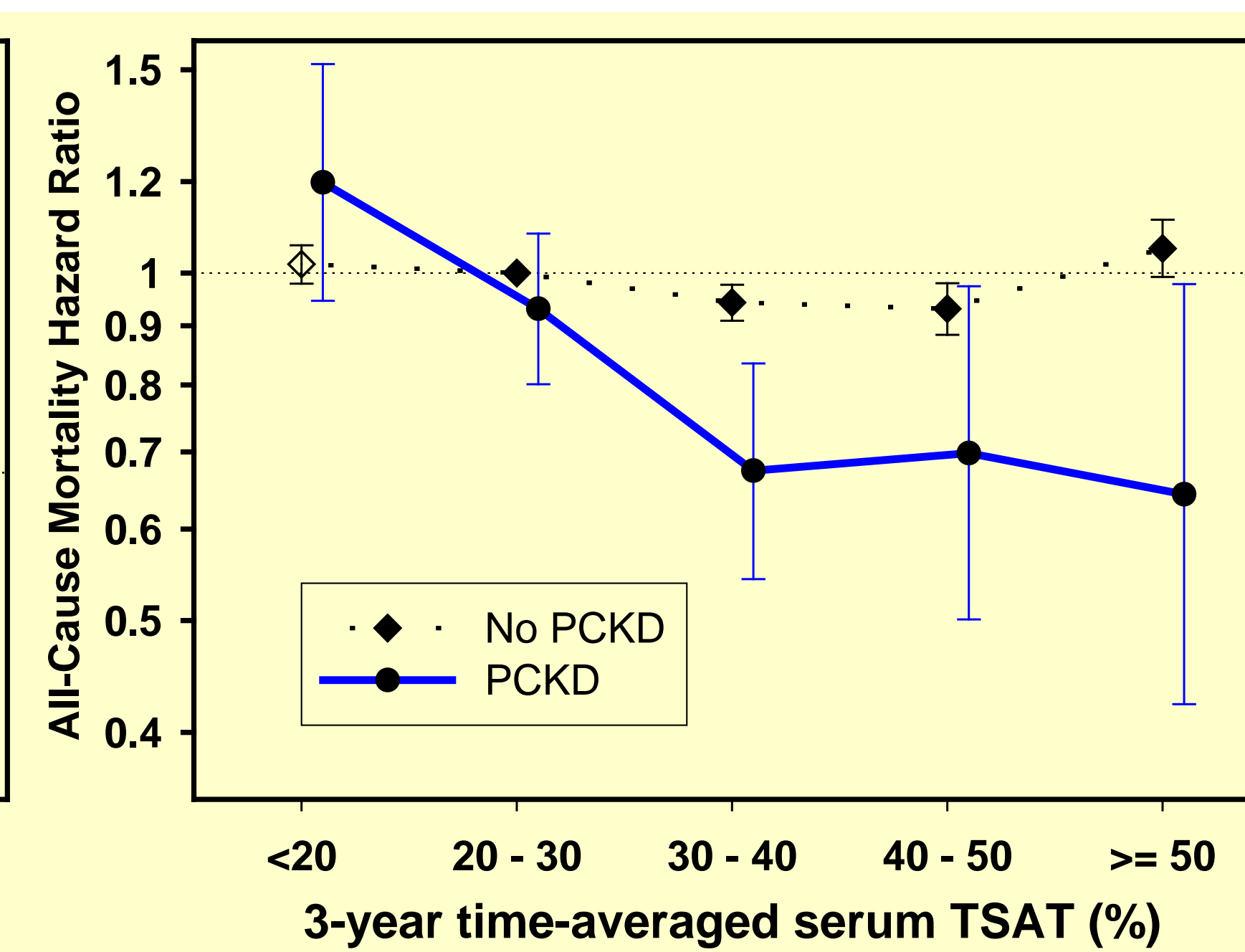


Figure 2. All-Cause Mortality Hazard Ratio Across Serum Transferrin Ratio Increments

CONCLUSIONS

- In fully adjusted models across the 5 a priori selected serum ferritin increments (using ferritin 200-<500 ng/ml in non-PCKD as the reference), serum ferritin in 200 to 800 range in PCKD and 500 to 800 ng/ml range in non-PCKD patients were associated with the greatest 5-year survival (Figure 1).
- In similar survival models across the 5 a priori selected serum transferrin saturation ratio (TSAT) increments (using TSAT 20%-<30% in non-PCKD as the reference), TSAT above 30% in PCKD and in 30% to 50% range in non-PCKD patients were associated with the greatest 5-year survival (Figure 2).
- In all groups of TSAT >30% or ferritin <800 ng/ml, PCKD patients had better survival than non-PCKD patients.

KEY LEARNINGS

- ✓ The associations of 3-year time-averaged iron markers with survival in PCKD patients are somewhat similar to non-PCKD patients, although in certain ranges of iron markers, PCKD patients appear to have significant survival advantages.

We thank the patients who participated in this study and DaVita Clinical Research® (DCR) for support in preparing this poster. DCR is committed to advancing the knowledge and practice of kidney care.

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