

Secondary Hyperparathyroidism and Survival in Hemodialysis Patients with and without Polycystic Kidney Disease

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INTRODUCTION

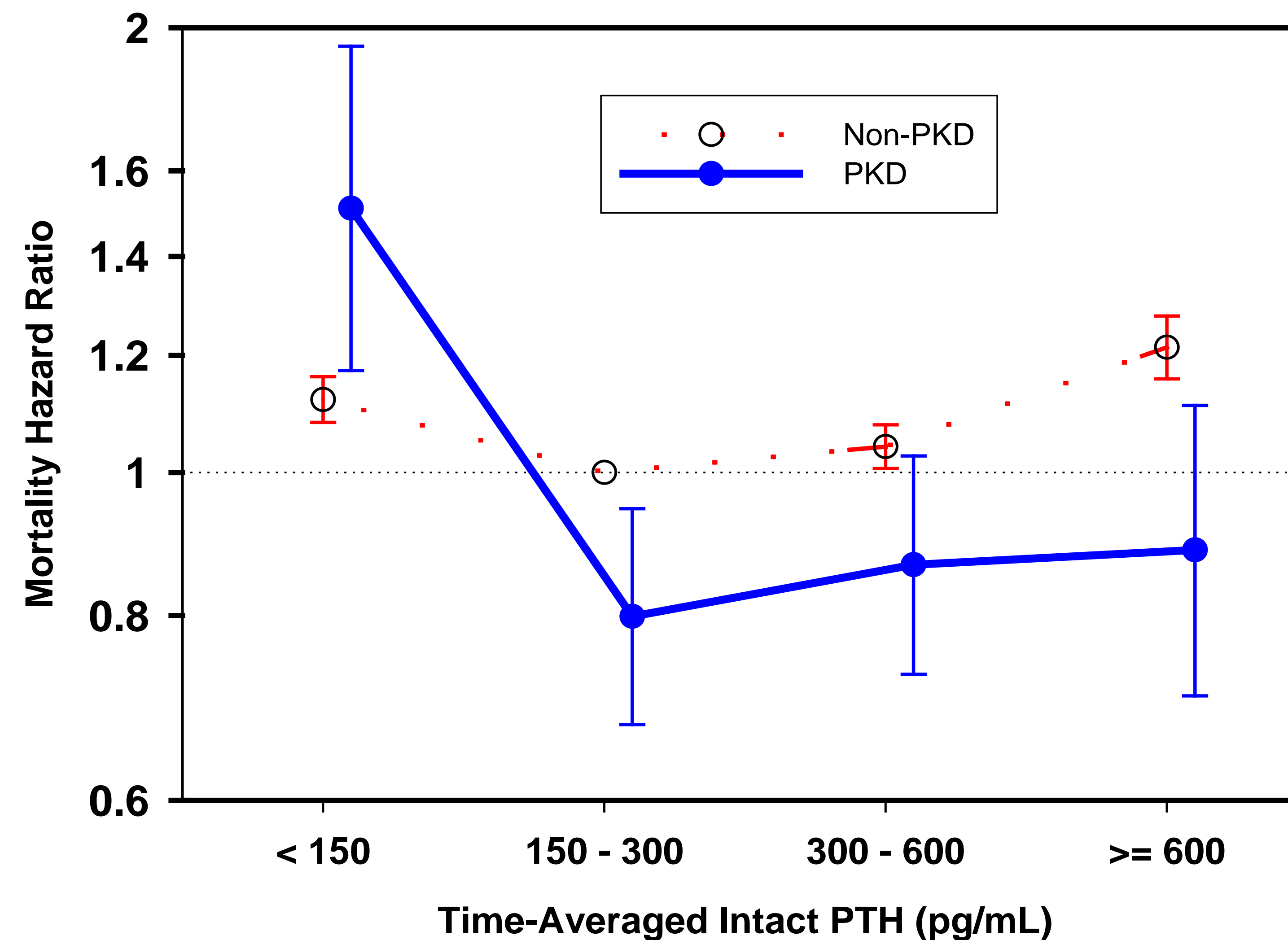
- Patients with polycystic kidney disease (PKD) who develop end-stage renal disease and who need to undergo maintenance hemodialysis (MHD) treatment usually have fewer comorbid conditions and better outcomes than their non-PKD counterparts.
- It is not known whether PKD patients who undergo MHD treatment exhibit similar death risks pattern related to secondary hyperparathyroidism (SHPT) as non-PKD HD patients.
- We hypothesized that in PKD MHD patients, similar to non-PKD MHD patients, SHPT is associated with increased death risk.

METHODOLOGY

- We examined a 3-year (7/2001-6/2004) cohort of 58,917 MHD patients including 1562 PKD patients in DaVita dialysis clinics, whose survival was followed up to 6/06,
- We used Cox models adjusted for case-mix, surrogates of Malnutrition-Inflammation Complex Syndrome (MICS) that also included minerals.
- For each patient we calculated a 3-yr-averaged PTH value based on monthly to quarterly measured intact PTH over the entire 3 yrs.

RESULTS

- PKD & non-PKD patients were 58.2±13.6 & 61.5±15.4 yrs old & included 49% & 46% women & 8% & 47% diabetics, respectively. In fully adjusted models across 4 PTH increments of <150, 150-<300 (reference), 300-<600 & ≥600 pg/mL, PTH in 150 to 300 pg/mL range was associated with the greatest survival in both PKD and non-PKD pts. However, marked differences were noticed with both high and low PTH levels between the 2 populations (see Figure):



CONCLUSIONS

- The associations of 3-year time-averaged PTH with survival in PKD patients, in whom PTH<150 pg/ml is associated with highest mortality, appears somewhat different from non-PKD patients in whom PTH>600 pg/ml is associated with the highest death risk.

KEY LEARNINGS

- ✓ Serum intact PTH appear to have different associations with mortality among MHD patients with or without PKD.
- ✓ In PKD patients PTH<150 pg/ml is associated with highest mortality, and a PTH between 150 and 300 pg/ml is associated with greatest survival.
- ✓ In non-PKD patients, PTH>600 pg/ml is associated with the highest death risk, whereas PTH between 150 and 300 pg/ml is associated with the greatest survival.
- ✓ Examining the differences in mortality predictability of SHPT between PKD and non-PKD patients deserve further investigations.

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.