Greater Fluid Retention is Associated with Higher Mortality in Maintenance Hemodialysis Patients

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Background

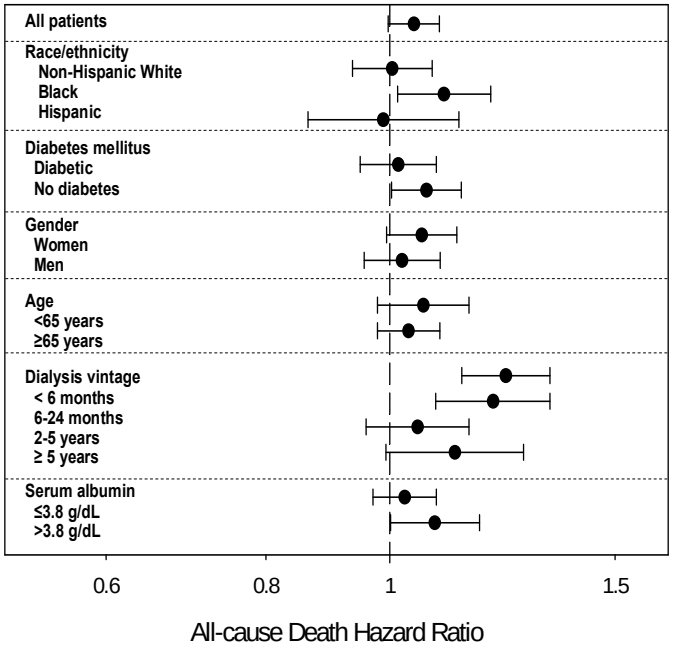
- Maintenance hemodialysis (MHD) patients retain fluid frequently which may be associated with worse survival in certain subgroups than others.
- We hypothesized that in MHD patients greater interdialytic fluid retention is associated with poor survival.

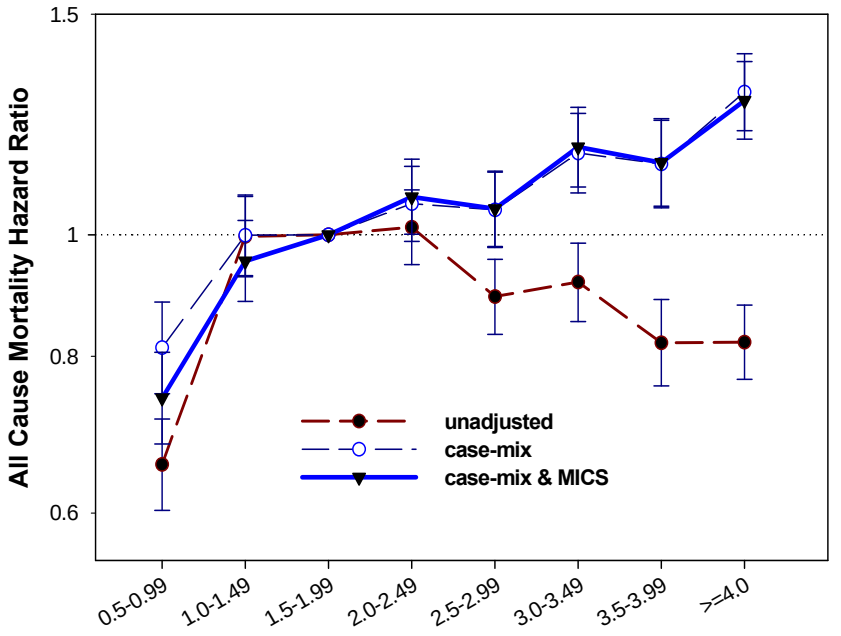
Methods

- We examined the 2-year (7/2001-6/2003) mortality in 34,003 MHD patients across the United States, who had an average weight gain of at least 0.5 kg above their end-dialysis dry weight by the time the subsequent HD treatment started.
- The 3-month average interdialytic weight gain was dichotomized into two categories of 0.5 to 2.0 kg (reference) and >=2.0 kg

Results

- After multivariate adjustment for demographics (case-mix) and laboratory surrogates of malnutrition and inflammation, higher weight gain >=2.0 kg was significantly associated with increased death risk in Blacks (death hazard ratio [HD] and 95% confidence interval [CI]: 1.10 [1.01-1.20]) non-diabetics (1.07 [1.01-1.14]) MHD patients with 3 to 6 months on dialysis 1.23 [1.14-1.33] and between 6 months and 2 years 1.20 [1.09-1.33] and those with albumin >3.8 g/dL 1.08 [1.01-1.18] (see Figure):





Conclusions

- In MHD patients greater fluid retention of 2.0 kg or higher between two consecutive HD treatment sessions appears associated with higher death risk among Blacks, non-diabetics, those with less than 2 years of HD treatment, and those with better nutritional status.
- The mechanisms by which fluid retention may influence survival in HD warrants further research.

Acknowledgements

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Funding Source: Funding Source: Supported by a research grant from *DaVita Clinical Research* (DCR), and philanthropist *Mr. Harold C. Simmons*. KKZ has been supported by *American Heart Association* (AHA) grant 0655776Y and *NIH/NIDDK* grants R01 DK078106 and R21 DK078012. DCR provided the clinical data for this research project and is committed to advancing the knowledge and practice of kidney care.
Relevant Conflict of Interest: KKZ has received grants and/or honoraria from Abbott (the manufacturer of Zemplar™), Amgen (manufacturer of sensipar™) and Genzyme (manufacturer of Sevelamer™ and Hectoral™) and Shire (manufacturer of Fosrenol™)

Poster Session: Peritoneal Dialysis I, Date: Friday, November 7, 2008, Time: 10:00 am, Poster Board (Program Number): F–PO1667