

**Title** Propensity-matched mortality comparison of incident hemodialysis and peritoneal dialysis patients

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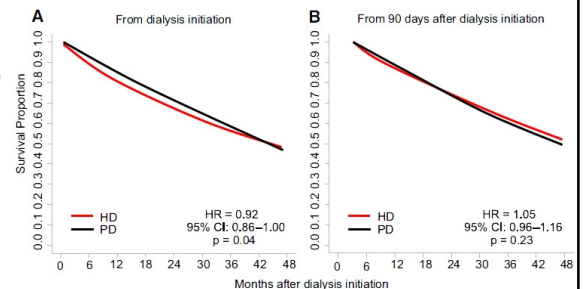
**Introduction** The authors compared survival of incident dialysis patients treated initially with HD or PD by intention-to-treat analysis in a matched cohort.

**Material and Methods** Data were analysed from the CMS (Centers for Medicare & Medicaid Services) end stage renal disease database. The cohort consisted of adult patients who initiated dialysis in 2003. The primary analysis was intention-to-treat (ITT) survival by dialytic modality from initiation of dialysis (day 0). Secondary analyses included 1. survival analysis from day 90, by modality at day 90; 2. as-treated analysis, with initial modality redefined at first modality switch at 60 days; and 3. subgroup analyses. 6337 patient pairs were matched from a cohort of 98,875 dialysis patients.

**Results and Conclusions**

- In the ITT analysis of survival from day 0, cumulative survival was higher for PD than for HD patients, with a hazard ratio (HR) for PD vs. HD of 0.92,  $p = 0.04$ .
- Cumulative survival probabilities for PD and HD were 93.2% vs 88.6% ( $p < 0.01$ ) at 6 ms; 85.8% vs. 80.7% ( $p < 0.01$ ) at 12 ms; 71.1% vs. 68.0% ( $p < 0.01$ ) at 24 ms; and 48.4% vs. 47.3% ( $p = 0.50$ ) at 48 months (see fig.).
- In the as-treated analysis, the HR for PD vs. HD was 0.80 (95% CI 0.75 to 0.85,  $p < 0.01$ ), and the HR was  $<1$  ( $p < 0.01$ ) in the first year.
- In the analysis of survival from day 90, overall survival was similar for PD and HD patients (HR 1.05, 95% CI 0.96 to 1.16,  $p = 0.23$ ).
- Regarding prespecified subgroups, interaction analysis of survival from day 0 and day 90 showed that the association of dialysis modality with survival was modified by baseline age  $\geq 65$  years, CVD, and diabetes.

In the ITT analysis PD patients showed lower death risk compared to HD patients when follow-up began at initiation of dialysis (A). Risks were similar when follow-up began at day 90 (B):



(graph adapted to original publication)

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**Comments** Limitations of the study were its retrospective and non-randomized design. It is uncertain whether the findings are generalizable to dialysis populations other than US. In addition, the patients used conventional PD solutions with high amount of glucose degradation products and acidic pH.