Racial Disparities in Survival on Peritoneal Dialysis

Several factors make these findings noteworthy. First, the Brazilian population is large and diverse and provides adequate representation of white, black, and mixed racial ancestry PD patients for study (Asian and indigenous populations could not be included in the present study due to scant representation). Second, the use of PD in Brazil is widespread and relatively nonselective (ie, no systematic differences were observed between incident PD and hemodialysis patients). Third, unlike in the United States, transplantation rates are not higher for whites than for persons of other races, thus minimizing the potential influence of selection bias from differential censoring. Additionally, the authors used a competing-risks framework to further minimize bias that may have occurred on this basis or on the basis of transfer from PD to hemodialysis therapy.

Because of the study’s observational design, it is worthwhile to consider differences in patient characteristics across racial groups that could have led to residual confounding and thus have biased findings despite multivariable adjustment. In this light, it is notable that white patients had higher achieved educational levels, higher incomes, and more predialysis nephrology care and were less likely to live in the north and northeast regions of Brazil, where access to health care is more limited. Any residual confounding on these bases should bias estimates to favor survival for whites and render the observed estimates conservative. Conversely, white patients were slightly older, were more likely to have diabetes and congestive heart failure, had lower serum creatinine concentrations, and were less likely to transfer to hemodialysis therapy. In other populations, patients with a greater comorbid illness burden are more likely to convert from PD to hemodialysis treatment; if this tendency holds true for Brazilian PD patients, the white PD population would be rendered comparatively sicker over time. Any residual bias on these bases would serve to exaggerate the survival disadvantage for whites.

In any study of racial and ethnic disparities, it is worth considering whether access to health care may be a potential explanatory factor. This is unlikely to be the case in the present study. In Brazil, patients have essentially universal access to dialysis services. Similarly, the influence of geographic barriers should favor white survival by virtue of the white population’s concentration in the more industrialized south and southeastern parts of Brazil. In other countries, such as the United States, white dialysis patients have greater access to health care than do nonwhites. In all
instances, barriers to health care would favor survival in whites and thus do not explain the findings reported by these authors.

Overall, this study provides the best evidence to date that white patients have poorer intrinsic survival on PD treatment than do black patients or patients of mixed race. It also contributes to the growing body of evidence that whites have poorer survival on dialysis therapy in general and suggests that there may be a biological basis for this difference.

Whether the effect of race on survival is intrinsic cannot be proved absent the ability to randomize. Nonetheless, consistent findings across studies, dialysis modalities, and continents argue that this may be the case. Considered in composite, the existing data for racial disparities in survival on dialysis therapy argue for a more biological look at racial differences and demand further exploration into the genetic and metabolic underpinnings of kidney failure. For example, polymorphisms in the gene encoding angiotensin-converting enzyme vary by race and also are associated with differential survival.10 Additionally, race is linked to inflammatory status, nutritional status, and the severity of anemia and metabolic bone disease.11-14 Further research to investigate racial genetic differences along these and other lines is warranted in the quest to uncover new targets for therapeutic intervention.

Another potential pathway by which race might affect survival on dialysis therapy is through differences in behaviors and diet.15 It stands to reason that exploring behavioral and dietary differences between races and how these in turn associate with survival might yield important insights. However, with diet in particular, it is likely that the differences between countries may be sufficiently large so as to obscure effects of inter-racial differences or provide for interventions that are generally applicable. Nonetheless, future research focused on behavioral and dietary mortality determinants may illuminate avenues toward improved outcomes for all dialysis patients.

In summary, the article by Fernandes et al17 provides further and convincing evidence of racial disparities in survival among dialysis patients. Underlying explanations for this association warrant investigation with the hope that such new lines of inquiry may lead to improved survival for all dialysis patients.

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