Reviewer’s report

Title: Impact of initial dialysis modality on mortality: a propensity-matched study

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Reviewer: vincenzo bellizzi

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In the manuscript "Impact of initial dialysis modality on mortality: a propensity-matched study" Authors present a propensity-matched observational study comparing the effect of PD or HD as first renal replacement treatment on mortality; they conclude PD is not inferior to HD in the short and medium term follow-up while PD yields better survival in younger patients. The major results in the general population are partially confirmatory of previous observations; PD, however, seems to improve survival in younger patients, but this result cannot be conclusive.

Comments

1. A time-dependent logistic regression model was built to create the propensity score and baseline covariates were reported. Which variables entered into the model were time-dependent? More details on this points are needed.

2. Many factors at start of dialysis are related with outcomes and Authors matched the groups for many variables; nonetheless, several factors lack. At least use of RASi, PCR, phosphate, PTH, central vein should be added to the analysis.

3. Results of this paper are different with respect to another recent very similar propensity analysis (KI 2014); Authors should deeply discuss the differences.

4. I have some concerns on the generalizability of the results in younger patients. 1) the number of subjects is relatively low; 2) the mortality rate is relatively low as well (report the crude yearly mortality rate); the transplantation rate is unknown; 4) the matching is incomplete.

5. Authors state that this paper suggest that PD in more favourable in patients below 65 years. To support this statement they provide two reasons:

   1) better clearances, better hemodynamic, lower infections and RRF in PD; this point is speculative since these data were not reported in the paper; also, even if these reasons could explain the better results in youngers they should work also for elderly;
2) improved PD quality in the last decade; also this hypothesis is too speculative and not supported by data; to prove this hypothesis Authors should compare PD pts starting dialysis between 1980-2005 and 2005-2012.

6. The last part of the discussion on possible reasons to prefer PD is too speculative and not supported by the data and goes beyond the aim of the paper.

Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?  
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