Reviewer's report

Title: Epidemiologic trends in chronic renal replacement therapy over forty years: A Swiss experience

Version: 2 Date: 8 February 2012

Reviewer: Tobias Breidthardt

Reviewer's report:

In their present work Lehmann et al investigate changes in dialysis treatment patterns and patient survival over the last 40 years. Notably, the authors found patient age at initiation of chronic renal replacement therapy to increase, while the frequency of home therapy plans decreased and mortality tended to increase -after an initial surge in survival- over the last three decades.

The article is well written and investigates an important clinical question. The study design is suited to investigate the research question of this manuscript.

Importantly, considering the lack of other data with equally long follow up the study is internationally applicable and the authors could stress the generalisability of their results more. For example, comparable to the present study Collins AJ at al, AJKD May 1990 already found the comorbid burden to significantly increase from 1976 to 1987.

Discretionary Revisions

Page 10, Results, 1st paragraph: „with regards to therapy modality, patients initiating pd have a more homogenous age distribution over time vs hd patients. „

Can the authors expand on this statement? Does this imply that the initiation age did not increase for pd patients over time? Please clarify.

On page 11, end of 1st paragraph, the authors state that the survival benefit of transplanted recipients decreased over the observational period. When discussing this finding in on page 15-16 the authors mention earlier studies showing a limited or non-existing survival benefit for transplantation in elderly patients. It would be interesting, if thei authors could comment on the survival of „younger“ and „elderly“ transplant recipients over time in their cohort?

Minor:

Page 6, Methods, second paragragh: „......, patient who got transplanted“; should read „who were transplanted“

Page 8, Results, second paragraph: The percentage of patients performing PD was higher in women vs men (p=0.131). Considering the p-value over 0.1 it appears that there was in fact no gender difference in pd patients. Consider erasing this statement.
Table 1: The lines for the values provided for dialysis modalities appear to be shifted.

Figure 2: The lines in the Kaplan Meier curve are very hard to differentiate. Consider a color figure or bolder, more differentiated lines.

Do the authors have data concerning the vascular access and dialysis session length in their population? Can they comment on changing access and session patterns over time?

Can the authors comment on potential strategies to increase survival in our present, elderly and comorbid patient population? Should we promote home dialysis regimes, possibly with longer dialysis hours?

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.