Reviewer's report

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

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**Reviewer:** Seung Hyeok Han

**Reviewer's report:**

The authors provided a long-term experience of renal replacement therapy (RRT) at a single center. They just looked at the actual survival rate according to the different modalities of RRT. Changes of modality with time may be useful as their national data. However, I am afraid that I could not find a novelty from this study. Most of the findings were not new and have already been reported previously. The most serious concern is a statistical analysis. The authors conducted multiple logistic regression and linear regression because proportional hazard assumptions were not met over time. My understanding is that such analyses were totally wrong. In that case, breslow test instead of log-rank test should be used when comparing survival rate between the groups, and time-dependent Cox model is more appropriate method instead of logistic or linear regression. In addition, many important factors that can affect clinical outcomes were missing such as comorbid conditions, residual renal function, nutritional status, etc. The authors said that increasing age at the initiation of dialysis might be one of factors that caused a decreased survival as dialysis vintage increased. I believe this cannot be simply explained by increasing age. The authors should obtain the same results after a number of covariates are adjusted to this model. Indeed, incidence of ESRD due to diabetic nephropathy has been consistently increasing during the past decades and RRT has been provided even in seriously ill patients such as patients with sepsis or heart failure. The authors did not appear to consider this. If more ill patients started RRT in 2000-2010 period and initial RRT was provided in relatively healthy patients before 1980, I don’t think it is fair to say that the former have worse prognosis. Therefore, this data requires a considerable revision.

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
I declare that I have no competing interests.