Reviewer's report

**Title:** Impact of non-dialysis chronic kidney disease on survival in patients with septic shock

**Version:** 1  **Date:** 15 December 2012

**Reviewer:** Kent Doi

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Slama and colleagues evaluated the impact of non-dialysis chronic kidney disease on septic shock with a cohort of adult ICU. They picked up the patients with septic shock in the ICU whose baseline creatinine are known or whose serum creatinine after admission decreased below the level of eGFR=60 (i.e., non-CKD). The patients with no previously measured baseline creatinine who did not show any lower eGFR below 60 after admission were excluded (n=14). Non-dialysis CKD appears to be an independent risk factor for death, while serum creatinine on admission is not significantly associated with mortality.

**Major**

1) This study includes non-CKD patients who recovered from AKI, but might exclude non-CKD patients who didn't recover from AKI. I think this could influence results. Because the number of death in this cohort is not so large, mortality of the excluded patients will change the results. Of note, p-values in chi-square test in table 1 are 0.03, which are marginal. At least, the authors should described the mortality of these patients and discuss the potential bias.

2) This study did not find any significant association between serum creatinine on admission and mortality. Because it includes ICU-acquired septic shocks, serum creatinine on admission does not always indicated creatinine levels during sepsis. So I am concerned this analysis might not reflect the true association between creatinine and mortality in sepsis. Although ICU-acquired septic shock was not observed frequently (7% of all the examined patients), differences of serum creatinine between ICU admission and at the beginning of septic shock should be evaluated.

3) This study indicates not the degree of AKI but pre-existing CKD had a significant impact on the mortality of septic shock. What is the possible explanation on this observation? Severity of acute renal insult was evaluated using serum creatinine changes. Reportedly, sepsis will suppress elevation of serum creatinine by reducing the production (J Am Soc Nephrol. 2009 Jun;20(6):1217-21). The authors should address this issue in the discussion.

**Minor**

4) In the method section of the abstract, 49 patients were described as excluded partly because of missing of baseline eGFR data. Is this correctly reflect the study design? 32 patients without previously measure serum creatinine were
included in this study. Although I can understand this after reading all the manuscript, I think this part in the abstract should be fixed.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.