Reviewer's report

Title: Detection of decreased glomerular filtration rate in intensive care units: serum cystatin C versus serum creatinine

Version: 1 Date: 24 June 2013

Reviewer: Erland Jørn J Erlandsen

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Major Compulsory Revisions:

1. The authors used four iohexol clearance periods for each subject. The duration of each period was one hour. Clearance periods for which the result was outside ± 20% of the mean clearance were omitted, and clearance periods with urine flow lower than 20 cc were also omitted. How many clearance periods were omitted?

2. Is iohexol clearance a reliable method for patients in intensive care units?

3. Serum cystatin C and creatinine were only measured in the first clearance period for each patient, why not from each clearance period?

4. Comparison of the inverse of serum cystatin C and creatinine with GFR seems to be an "old fashion" method. The authors should show the relation between cystatin C and GFR and creatinine and GFR.

5. Several formulas for estimated GFR can be used to evaluate cystatin C and creatinine: MDRD, CKD-EPI etc. The authors did not mention estimated GFR. Why?

Minor Essential Revisions:

Missing definitions and abbreviations:

1. Page 2: SOFA score
2. Page 4: PT
3. Page 4: cc
4. Page 5: AUC
5. Page 6: AKI
Figure 1:
1. Missing units (both axis)
2. No regression line at the figures
3. Legends: No equation for the inverse of creatinine ad the inverse og cystatin C and iohexol Clearance (GFR)

Figure 2:
1. Unit for GFR mL/min or mL/min/1.73 m2
2. Add p value in the legend

Table 1:
1. BMI definition
2. SOFA score definition
3. In the abstract mean SOFA score = 8, Table 1 mean SOFA score = 5 ?
4. Unit for GFR mL/min or mL/min/1.73 m2 ?
5. In the abstract mean SCr = 0.71±0.33 mg/dL, in Table 1 mean SCr = 0.70±0.33 mg/dL
6. In the abstract mean SCysC = 1.26±0.62 mg/L, in Table 1 mean SCysC = 1.26±0.61 mg/L

**Level of interest:** An article whose findings are important to those with closely related research interests

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

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

**Declaration of competing interests:**

I declare that I have no competing interests