Author's response to reviews

Title: Use of a blood gas analyzer and a laboratory autoanalyzer in routine practice to measure electrolytes in intensive care unit patients

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Author's response to reviews: see over
Dear editör;

We changed our manuscript as below

Respond to the reviewers:

Reviewer: Paul D'Orazio

1) Minor Essential Revisions:

Other than an awareness that ABG and AA may produce differing Na+ and K+ results for ICU patients, especially when protein levels may be abnormal, the authors need to add to the conclusions which results should clinicians trust when making a diagnosis?

We added to the paragraph

Our data are in line with those of previous studies [11-14] showing that Na+ values obtained using two different types of measurement differ significantly, and to an extent that may affect therapeutic choice. Our patients were critically ill in the intensive care unit (ICU). Chow et al. [14] reported that direct ISE sodium and potassium figures were lower than those obtained using indirect ISE. This is associated with the low blood protein levels characteristic of critically ill patients. In such patients, direct ISE offers more accurate and consistent electrolyte results than does indirect ISE.

2) NIST needs to be added to the list of abbreviations. NIST is misspelled (as NICS) on the final page of the text.

We added:

NIST: National Institute of Standards and Technology
3) Reference 16 incorrectly appears after Reference 3 in the list of references.

We corrected

Reviewer: volkher scharnhorst

1) Please include the essence of the last section of the discussion under the conclusion section of the abstract. It should read that concordance between abg and aa should be established prior to introduction of new abg systems.

Respond:

We changed the abstract as below.

Conclusion

We conclude that the ABG and AA do not yield equivalent Na+ and K+ data. Concordance between ABG and AA should be established prior to introduction of new ABG systems.

2) Figures 2 and 4: the regression line should be calculated by deming regression instead of linear fit. Deming takes into account measurement uncertainty and the added value is that a y=x line is drawn in the figure. The y and x axis of each figure should have the same range and scale.

Respond:

We changed
3) **minor points**

Abstract, results: intra-analyzer should be inter-analyzer

4) **Materials, analyt. percision section: what is the difference between mean comparative and mean analyte level. I (and many readers) do not know. Please explain**

we added comparative K+ level (instrument group mean)

5) **Results: for Na the mean and sd is given, fow K mean and SE? It should be sd or se for both.**

   We changed to SD.

6) **Discussion: - an r2 of about 0.9 is not well-correlared.**

   We changed it to correlared.

7) **Should nics standard be nist standard?**

   We changed