Author's response to reviews

Title: Clinical features, predictive factors and outcome of hyperglycaemic emergencies in a developing country.

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Version: 3 Date: 21 January 2009

Author's response to reviews:

We the undersigned have modified the manuscript in line with the suggestions of the reviewers.

Dr Ogbera AO (Signed)
Dr Awobusyi (Signed)
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RESPONSE TO REVIEWER’S- (MOSES S ELISAT) COMMENTS

1. Clinical criteria was used to classify patients into types 1 and 2. I had earlier stated the limitations for which objective classification of subjects into types 1 and 2 could not be done.

Type I DM refers to DM patients who have been on insulin since diagnosis and require insulin for survival.

Type 2 DM refers to patients with DM who were previously managed on sole lifestyle modification, or on oral hypoglycaemic agents. It also encompasses insulin requiring patients who initially were not insulin dependent. (This is now reflected on pages 3-4).

2. There is a statistically significant difference between the ages of those that had type I DM and those that had type 2 DM. What I stated earlier was in error- I had rechecked and reanalyzed the data.) Using a two tailed Student’s t test, The p value is 0.001. This correction is stated in under “Biodata and clinical characteristics of subjects presenting with hyperglycaemic emergencies” in page 5.

3. The low prevalence of hypertension of DM in our patients with type 2 DM may be explained by the fact the that some of the subjects were not previously known
to have DM or hypertension and the presence of resultant hypotension from hyperglycaemic emergencies may mask the presence of hypertension. The mean age of our study population--may also partly explain the documented low prevalence of hypertension in this clinical scenario as ageing is associated with hypertension. This sentence has been inserted in page 8.

4. Facilities for pH measurement are not available in the whole of Nigeria hence I unable to determine pH values. I quite agree with you that increased anion gap is a feature of DKA. However, the minimum criterion for diagnosis is hyperglycaemia, acidosis (ketonaemia or ketonuria ) and acidosis (low bicarbonate values). I don’t have chloride results for all the subjects hence I did not calculate the anion gap.

5. Serum creatinine levels were not measured. As at the time of study, facilities for measurement of were not available and it is against the hospital policies for blood samples to be assessed in laboratories not within thin hospital premises. I agree that azotaemia may eb related to volume contraction. I have thus included under limitations that serum creatinine for logistic reasons were not measured.

6. The sentence on duration of DM in page 6 has been modified to read “The lower the duration of DM, the higher the recorded HEs admissions and deaths”

7. Logistic regression is useful for situations in which one wants to be able to predict the presence or absence of a characteristic or outcome based on values of a set of predictor variables. The outcome variable in this Report was death and potential predictors of death in the setting (variables) were entered in a stepwise fashion. The confidence interval for exp (B), odds ratio (exp (B)) and p values were noted

8. Electrolyte imbalances are the consequences of hyperglycemia, hyperosmolality, and acidosis.

Hypokalemia was the prevalent form of electrolyte imbalance observed in this Report. Hypokalaemia occurs as a result of urinary losses in the face of a high osmotic gradient. Hyponatraemia, which was noted in about a third of subjects with types 1 and 2 DM often result from urinary losses and may be dilutional as water shifts extracellularly because of high serum osmolarity. Not surprising, serum hyperkalemia was seen only in a few patients and it’s presence is explained by a shift of potassium from the intracellular to extracellular space because of acidosis from insulin deficiency and decreased renal tubular secretion. The presence of azotaemia denotes volume contraction due to fluid losses. Hyponatraemia, a rare feature of the HEs especially DKA may signify a response to reduction in circulating volume.

This sentence has been inserted in page 8.