Reviewer’s report

Title: Caffeine is a Risk Factor for Osteopenia of Prematurity in Preterm Infants: A Cohort Study

Version: 0 Date: 25 Apr 2016

Reviewer: David R. Weber

Reviewer's report:

Ali and colleagues present a retrospective analysis of the effects of neonatal caffeine administration on the severity of osteopenia of prematurity. This is an interesting topic worthy of study. The manuscript would benefit from significant editing for brevity and clarity. See my specific comments.

Background

This section would benefit from extensive editing - as written it is too long and seems disorganized. Consider removing text regarding the effects of steroids and diuretics. The manuscript as written, is focused on the effects of caffeine, therefore I would remove the statements about "secondary outcomes" and address these as "covariates of interest" or "potential confounders" in your methods and results section.

Page 4 - paragraph starting on line 23 is a fragment, combine with subsequent paragraph

Page 4 - line 56 - why would a compensatory increase in vitamin D negatively impact bone? Please clarify this statement.

Methods

- Please explain the grading scale for OP in more detail. A table or figure might be helpful

- Were all radiographs interpreted by the same radiologist? If not, provide data regarding inter-rater reliability and/or discuss this as a limitation
Results

- I would like to see more explicit presentation of how the OP outcome changed over the study period - something along the lines of Table 2, or possibly even a figure. I would show both average OP grade, and percent with severe OP.

- Did you test for a caffeine dose*gestational age interaction?

Discussion

- See comments regarding background. This should be shortened and more organized. I would remove detailed discussion regarding steroids, diuretics, vitamin D, as these are not the focus of the manuscript and the findings do not seem surprising.

- The findings of a dose*gestational age difference on OP outlined in Figures 1 and 3 seems of interest and I think warrants inclusion in the discussion. Any idea why this may be?

Figures

- Please provide n values. For example, how many 25 vs 30 wga infants in figures 1,3

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review
Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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