Reviewer's report

Title: Association between Serum Uric Acid and Metabolic Syndrome Components in Prepubertal Obese Children (Tanner Stage I) from Nuevo León, Mexico - A Preliminary Study

Version: 0 Date: 17 Apr 2017

Reviewer: Peter Hosick

Reviewer's report:

In this study researchers examined the relationship between specifically pre-pubertal obesity, hyperuricemia and the Metabolic Syndrome. Authors argue that previous research in this area is confounded by separating subjects in separate categories by age rather than pubertal status. This is an interesting premise, however the data does not appear to disagree or refute with previous findings. Please see below for additional comments.

General Comments

1. References 3-11 have been used to call into question previous research in this area as well as to support the findings of the present investigation. While these studies do include pre and peri-pubertal subjects from both overweight and obese populations, if their results support your findings can you discuss more specifically how does this research extends or adds to what is currently know about hyperuricemia and obesity?

Specific comments

1. Page 7, line 22. What time of day were the blood draws performed?

2. Page 10, line 21: Authors state that hyperuricemia increases the risk for developing MetS. This is at least misleading and likely false. The data presented does not show cause and effect. What has been shown is the odds are higher that a pre-pubertal child with hyperuricemia will also have MetS. Even in the authors discussion on purine handling (page 12, lines 3-9) it is the increased adipose tissue that leads to increased uric acid production and not uric acid which increases adipose tissue expansion.
3. Page 9, paragraph beginning on line 21: This paragraph discusses the influence that sex hormone play in uric acid regulation particularly as children go through puberty. However, this manuscript was specifically design to focus on pre-pubertal children that have immature hypothalamic-pituitary-gonadal axes and low levels of sex hormone. With the focus of this research being on pre-pubertal children this reviewer has a difficult time understanding the relevance of a discussion on the effect that sex hormones have on hyperuricemia.

4. The results found in table 3 are quite staggering. Further discussion of these finding and implications they can have on the diagnosis of MetS or if uric acid can be used a predictor of METS in specifically pre-pubertal children would be interesting.

5. Table 4. This review has trouble following the information and relevancy of this table. Please include a more apt discussion of it content within the manuscript itself. If a clear designation for it cannot be supplied consider removing.

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

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

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