**Author's response to reviews**

**Title:** Age-related increases in parathyroid hormone may be antecedent to both osteoporosis and dementia

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**Author's response to reviews:**

10 June 2009
Re: MS 1855586933222377 Age-related increases in parathyroid hormone may be antecedent to both osteoporosis and dementia: a clinical study

To Whom It May Concern:

We have revised our manuscript according to the suggestions of the referees and the BMC Editorial team.

Referee 1: Jun Iwamoto stated that the paper has been improved and should be processed for publication.

Referee 2: Noboru Horiuchi had some minor comments, all of which were addressed in this revision:

1. Page 4, line 1; it should be “electroencephalograph (EEG).” This modification has been made on page 4, to define the term EEG.

2. Method section; P300SP, P300V, and BMD – these abbreviations should be defined. All of these abbreviations have now been defined in the first paragraph of the methods section.

3. Page 13, third paragraph; Reference #30 is data derived from osteoblast-like cells. The authors should state this issue, otherwise readers may consider that brain tissue has these calcium channels. This issue has been clarified to modify the statement at the end of the third paragraph to say, “PTH has been considered a candidate risk factor for senile dementia because sustained high levels of PTH in the brain may cause degeneration of specific brain regions due
to Ca(2+) overloading, perhaps via a similar mechanism to its proposed actions on dihydropyridine-sensitive Ca(2+) channels in osteoblast-like cells [30]. This distinguishes the osteoblast-like cell channels from calcium channels in the brain.

BMC Editorial Team:

1. Please document, within the methods section of your manuscript, the name of the ethics committee which approved your study. In the first paragraph of the methods section, it now specifies that the PATH Research Foundation IRB committee approved this study.

2. Please document, within your manuscript, whether you received informed consent from your study participants and whether this was verbal or written. In the first paragraph of the methods section, it now states that patients signed an informed consent that was approved by the PATH IRB.

3. Please include an Authors’ contributions sections before the Acknowledgements and References list. This list has now been included.

4. Please revise your Competing Interests statement as follows: (1) Alter the first statement within this and specify the names of those authors who do not have competing interests. (2) Declare the funding by the private company mentioned in your Acknowledgements section. These changes have been made. The Conflict of Interest statement now reads: “Thomas JH Chen, Amanda LC Chen, Thomas J Prihoda, Vanessa Arcuri, Mallory Kerner, Anish Bajaj, and Javier Carbajal do not have any competing interests. We declare that we have no conflict of interest. Eric R. Braverman MD, is the director of PATH Medical, where he utilizes both the P300 and TOVA for diagnostic purposes. Kenneth Blum, PhD is the scientific director of the PATH Research Foundation and is a paid consultant, and also the chief scientific advisor for LifeGen, which granted financial support to this research. This study received funding through a grant from a private donor, Rein Narma.”

We hope that you find these changes acceptable and look forward to a positive reply.

Sincerely,

Eric Braverman, M.D., on behalf of all authors.