Author’s response to reviews

Title: Hyperthyroidism and Bone Status: Impact of Severity, Duration, and Etiology of Hyperthyroidism on Bone Turnover Markers and Bone Mineral Density

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Author’s response to reviews: see over
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Title: Hyperthyroidism and Bone Status: Impact of Severity, Duration, and Etiology of Hyperthyroidism on Bone Turnover Markers and Bone Mineral Density
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Version: 2 Date: 8 June 2011
Author's response to reviews: see over
Reviewer's report
Title: Hyperthyroidism and Bone Status: Impact of Severity, Duration, and Etiology of Hyperthyroidism on Bone Turnover Markers and Bone Mineral Density
Version: 1 Date: 2 May 2011
Reviewer: Olivier Chassande
Reviewer's report:
In the manuscript entitled “Hyperthyroidism and bone status: impact of severity, duration, and etiology of hyperthyroidism on bone turnover markers and bone mineral density”, El Gawad et al. analysis the correlations between bone mineral density of the radius, several serum markers of bone metabolism, thyroid hormone concentrations, and the duration of hyperthyroidism after diagnosis. Moreover, they compare two groups in which hyperthyroidism is caused either by Graves’ disease, or by toxic multinodular goiter. They show correlations between TH levels and biochemical markers of bone turnover, but no correlation between TH and Z scores, or between Z-scores and biochemical markers. They show that the etiology of hyperthyroidism does not affect bone or serum parameters. Finally, they show a good correlation between the duration of hyperthyroidism and Z-score.

This study is well done but does not provide major advances in the understanding of the mechanisms underlying thyrotoxis-induced bone loss. The discussion should be revised, as detailed in the comments below. Showing the correlation data between TSH concentration (which has been measured by the authors) and different parameters of bone metabolism could be of great interest and enhance the impact of the paper.

No major compulsory revisions are required.

Minor essential revisions:
There are a large number of spelling mistakes throughout the text.
Most of them are corrected.
The sentence "however, assessment of bone mass in patients with hyperthyroidism is recommended in cortical bones than trabecular bones" does not make sense.
This sentence already removed.
The sentence “In the present study, bone densitometry was done….goiter” also needs to be corrected.
The sentence corrected.
The authors show a good correlation between thyroid hormone concentrations and serum biochemical markers of bone remodeling, but the absence of correlation between TH concentrations and z-score, and between Z-score and serum markers. These findings are unexpected and should be discussed.
This may be explained by few number of patients and also diferent duration of the disease.
In the discussion, the authors mention that cortical and cancellous bone may be differentially affected by TH status, and quote their own study on the left radius. However they do not discuss whether in this bone cortical or cancellous bone is predominant. Therefore there is no connection between the data and the reference and this paragraph lacks consistency; The authors should discuss their data as compared to other previously published works.
The radius is a cortical bone so it affected and is similar to the results of other authors and mentioned in the discussion as reviewer ordered.
Discretionary revisions
The authors discuss the potential role of TSH concentration on bone mineral density, but they do not show any data. It is surprising since they have measured TSH in patients and therefore should be able to show correlation data between TSH concentration and bone remodeling parameters. This information would increase the interest of the paper and support the discussion.
The correlations between TSH and biochemical markers, also BMD were added to the results and discussion.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.

Reviewer's report
Title: Hyperthyroidism and Bone Status: Impact of Severity, Duration, and Etiology of Hyperthyroidism on Bone Turnover Markers and Bone Mineral Density
Version: 1  Date: 6 April 2011
Reviewer: Hiroshi Kaji
Reviewer's report:
Major Compulsory Revisions
General comments
In this study, the authors measured bone metabolic indices and BMD at radius using DXA in 52 men with hyperthyroidism. The results seem to be compatible with the previous findings. There are several concerns, which should be addressed.
Specific comments
1. Re Title, “Hyperthyroidism and bone status” should be deleted. “in men” should be added in the end of the title. Because all subjects in this study are
men, and the data in both genders and women are published in many papers. 
The title of the article has been changed as the reviewer indicates.
2. There are significant differences in body weight. Since body weight greatly affects BMD as well as bone metabolic indices, the correlation data should be analyzed using multiple regression analysis, adjusting with body weight or body mass index.
   Done as reviewer asked
3. In all tables, P values should be shown as absolute values, and significant differences can be indicated as asterisk (*, ** etc).
   Absolute values For P were added.
4. Re: Table 2, Urinary calcium should be shown as the values corrected with urinary creatinine. However, this can be deleted, because it is not good indicators for bone resorption marker. Urinary DXP can be deleted. Only creatinine-corrected value will be necessary. The abbreviation of DXP is not popular in many papers.
   Urinary calcium values corrected with urinary creatinine, also, urinary DXP deleted
5. Figure 1 and Table 4 can be combined in one table. Better presentation is recommended in tables. Table 2 and 3 can be combined in one table.
   Figure 1 removed and other new figures added to make the results more clear, also the results in the figure correlation written in the result section. Table 2 and 3 combined in one table number 2
6. For BMD data, only Z scores are shown. T score and BMD should be shown. Also the relationship between T score and thyroid function should be analyzed.
   Real BMD shown in the results.
   Level of interest: An article whose findings are important to those with closely related research interests
   Quality of written English: Acceptable
   Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:
I declare that I have no competing interests.

Thank you for your consideration

Yours sincerely:
Soma Sherif