Reviewer's report

**Title:** The Beneficial Role of Vitamin D in Obesity: Possible Genetic and Cell Signaling Mechanisms

**Version:** 2  **Date:** 7 May 2013

**Reviewer:** Inmaculada Gonzalez Molero

**Reviewer's report:**

This is an interesting review article about vitamin D and obesity. I think there are not major compulsory revisions but some minor:

- **Abstract:**
  1- Authors conclude: "vitamin D plays a role in combating obesity". We need randomized clinical trials to demonstrate this role in preventing or treating obesity. I think authors should name this studies or remove this sentence.
  2- Authors write: "The best form of vitamin D for use in the obese individuals is calcitriol". Appoint the clinical studies that have directly compare the effect of calcitriol with other forms of vitamin D on obesity. If there are no studies in obese subjects they could not assert this.

- **Genetic factors that relate to vitamin D and obesity:**
  3- Authors confirm: "These findings suggest that vitamin D may improve lipid profiles in obese patients". There are also clinical studies demonstrating that vitamin D may deteriorate lipid profile so authors could refer these studies and underlying genetic mechanisms.

- **Conclusions:**
  4- Authors asserts:"The PTH excess observed in elderly subjects with both primary and secondary hyperparathyroidism may promote weight gain". They could explain throughout the article direct genetic or molecular effects of PTHi in obesity.

**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'