Reviewer’s report

Title: Hyperadiponectinemia enhances osteogenesis through osteoblast formation in mice

Version: 2 Date: 26 July 2010

Reviewer: Hicham Drissi

Reviewer’s report:

In this manuscript, the authors used 12-week-old male transgenic (Ad-Tg) mice overexpressing human full-length adiponectin in the liver to assess the endocrine effects of adiponectin on bone metabolism. They found that the serum level of osteocalcin was significantly increased in Ad-Tg mice compared to wild type controls while no significant changes were observed in the levels of RANKL, osteoprotegerin, and TRAP5b between wild type and transgenic mice at the 12 week old time point. Bone mass was significantly increased in Ad-Tg mice with increased osteoblastogenesis without affecting osteoclast formation. Immunohistochemical assays showed that while cells with osteocalcin immunoreactivity were significantly increased in Ad-Tg mice, those immunoreactive for cathepsin-k were not. The authors conclude that hyperadiponectinemia enhances osteogenesis through osteoblast formation in mice.

It would have been very informative if the authors complemented their in vivo studies with in vitro experiments using cells isolated from these mice. Osteoblast and osteoclast differentiation assays using marrow from WT and TG mice would strengthen the quality of this manuscript. Also since there seems to be age and gender differences, designing these in vitro experiments to reflect age and gender would be even more informative.

Level of interest: An article of importance in its field

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