Reviewer’s report

Title: Regulation of vascular tone by adipocytes

Version: 1 Date: 28 December 2010

Reviewer: Gary Hausman

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The authors reviewed the role of adipokines in the regulation of vascular tone. Adiponectin, omentin and visfatin are vasorelaxants, as is the unidentified “adipocyte-derived relaxing factor” (ADRF). In contrast, angiotensin II and resistin are vasoconstrictors. Several adipokines including leptin, tumor necrosis factor # (TNF#), interleukin-6 (IL-6) and apelin share both vasorelaxing and constricting properties. The authors concluded that dysregulated synthesis of the vasoactive adipokines may be involved in the compromised vascular reactivity in obesity and obesity-related disorders. This is a comprehensive and well written review of an important aspect of adipokine influence in several human health issues. 1.A point to be addressed centers on page 18, lines 4-6, where it is not clear what the protein bands were. Were these ADRF bands? 2. In the instances where obesity is associated with the production of an adipokine have the authors considered the influence of stretch or mechanical factors on adipokine production and endothelial dysfunction? The morphology of adipose tissue in obese individuals seems to warrant consideration of the influence of stretch or mechanical forces on blood vessel integrity and function. Regardless, this review makes a very noteworthy contribution to our understanding of adipose tissue adipokine function.

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.