Reviewer’s report

Title: The combination of Artemisia princeps Pamp, Leonurus japonicas Houtt, and Gardenia jasminoides Ellis fruit attenuates the exacerbation of energy, lipid, and glucose by increasing hepatic PGC-1α expression in estrogen-deficient rats

Version: 0 Date: 10 Nov 2015

Reviewer: Nicholas Gannon

Reviewer's report:

The manuscript by Yang et al. presents observations regarding the effects Artemisia princeps Pamp (APP), Leonurus japonicas Houtt (LJH), and Gardenia jasminoides Ellis fruit (GJE) has on ovariectomized (OVX) rat metabolic alterations (lipid, glucose, bone) related to estrogen deficiency. Authors report that combinations of the fruit appears to reduce menopausal symptoms in OVX rats. Specifically, APP+LJH+GJE rescued the effects of decreased energy expenditure, prevented dyslipidemia, reduced fasting glucose levels and insulin sensitivity, while simultaneously preventing OVX hepatic PGC-1alpha gene expression. Treatment increased CPT-1 gene expression, while decreased FAS, SERBP-1c, and ACC expression in comparison to positive-control mice. Hepatic insulin signaling was also rescued to control levels following this treatment. This study is concise, formally well written, appropriately conducted, and relevant to the field. While these findings are novel and in line with previous observations describing the effects alternative treatments may have on altered metabolism following menopause, several issues need to be addressed. -If serum is available, it would be insightful if authors could measure and report on AST/ALT following feeding protocol. -In the discussion, authors describe these compounds (APP) may have the ability to inhibit expression of pro-inflammatory cytokines through NFkB. If tissues are available, it would be valuable to know the phosphorylation status of NFkB or serum cytokine levels.-No method of scarification protocol is provided. Please elaborate.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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