Reviewer’s report

Title: Genistein Treatment Improves Fracture Resistance in Obese Diabetic Mice

Version: 0 Date: 10 Oct 2016

Reviewer: Mark W. Hamrick

Reviewer’s report:

The impact of obesity and type 2 diabetes on the skeleton is a significant concern, and the paper investigates an interesting and relevant topic. The animal model is also interesting, and genistein as a phytoestrogen is an appropriate dietary supplement to investigate. The following minor issues should be addressed:

1. The abstract should include the duration of treatment (4 wks) and the number of animals per group (n=5)

2. Genistein treatment appears to shorten the femora of db mice. Presumably this is due to some effects on the growth plate. Could the authors provide some histological images of growth plates in treated vs control mice, or in vitro data on proliferation and/or differentiation of genistein-treated chondrocytes?

3. Representative force-displacement curves should be added, and also data on post-yield mechanical properties.

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.

Yes
I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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