Reviewer's report

**Title:** The influence of long-term treadmill exercise on bone mass and articular cartilage in ovariectomized rats

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**Reviewer:** Jeng-Jiann Chiu

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The manuscript by Chang et al. aims at investigation of the influence of long-term treadmill exercise on the changes of bone mass and articular cartilage in ovariectomized rats. By evaluating changes in bone mass and articular cartilage with (1) trabecular bone volume and bone mineral density and (2) histology analysis and a modified Mankin scoring method, respectively, in different groups of rats with different treatments, the authors claimed that long-term exercise may exert beneficial effects on articular cartilage for the rats with ovariectomy, but appears to have few improvements on the bone mass in the rats after ovariectomy. This is an interesting study, and the manuscript is well written. Since the loss of bone quality and change in articular cartilage are commonly events after menopause, the present study has provided data for the understanding of the role of running exercise in the changes in bone mass and articular cartilage in subjects after menopause. The manuscript will be significantly improved by the additional data or more detailed discussions on whether running exercise can influence changes in the concentrations of certain hormones in animals by ovariectomy, which consequently leads to changes in articular cartilage rather than bone mass. This will strengthen the mechanistic insight of the study.

**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.