Reviewer's report

Title: Effect of training and sudden detraining on the patellar tendon and its enthesis in rats

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Reviewer: James Wang

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Using a rat treadmill running model, this study aims to determine the effect of discontinued training on the tendon’s structure, include the insertion sides (enthesis) and collagen fiber organization, patellar tendon (PT) thickness, and subchondral bone volume (SBV). The authors found that the organization of collagen fibers after discontinued training were altered; the other parameters, namely PT thickness and SBV did not change.

This appears to be the first study that has investigated the effects of “de-training” on rat tendons. Overall, the description of experimental procedures and results is clear. The manuscript is also written well.

Major Compulsory Revisions:

It is suggested that the following points should be discussed more adequately.

1. It seems that rats at the discontinued training groups were active in cage. So it is not clear why disorganized collagen fibers should be expected. It could be that the collagen fiber organization did not change, but its structure became weakened and so collagen fibers were more easily distorted during sectioning for histology.

2. A major weakness of this study is that it did not measure cellular activities in the tendon, nor was determined the biochemical properties of the tendon (collagen types, cross-linking, etc), and nor were measured the tendon’s function (the structural and mechanical properties).

3. Another weaknesses is that one qualitative measurement (i.e. scoring of fiber organization) was done. This is bound to be subjective and subject to bias.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests.