Reviewer’s report

Title: Investigation of changes in bone density and chemical composition associated with bone marrow oedema-type appearances in magnetic resonance images of the equine forelimb.

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Reviewer: Heidi L. Reesink

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BMSD Review Manuscript Number: BMSD-D-18-01553R1

"Investigation of changes in bone density and chemical composition associated with bone marrow oedema-type appearances in magnetic resonance images of the equine forelimb"

Reviewer Comments to Author

The authors have responded appropriately and updated the text accordingly to most of the concerns raised about insufficient methodological details and statistical analysis in the first review. In addition, the authors now reference a couple of manuscripts describing the physiological and pathophysiological changes that occur in the palmar condylar regions where the authors have identified the presence of BMOA = palmar osteochondral disease (POD). The figures could still be improved upon with additional labeling.

Abstract

Page 3, line 56: No hyphen needed between in-vitro

Methods

Page 5, line 129: Would change to "distal third metacarpal bone of the equine forelimb" rather than "distal metacarpal (third metacarpal)". Same for Page 6, line 144
Page 7, line 7: Remove parentheses around chronologically.

Page 7, line 176: Remove "great" as a qualifier to majority.

Page 7, lines 176-179: In addition to stating that the BMOA lesions were found in the region of greatest loading in the metacarpal, it should be stated what the region of greatest loading is the palmar condyle. This reviewer would suggest "The majority of BMOA lesions, …., were found in the palmar condyles, the region of greatest loading in the metacarpal bone…"

Anatomical location of BMOA

Page 12, lines 295-296: It is stated that 3 BMOA lesions were found in atypical locations compared to the majority of lesions and were subsequently excluded. It would be useful for some readers to include the specific locations of the BMOA lesions that were excluded.

Figures

Figure 1. Some useful information is still missing in the text. In addition to anterior-posterior, "dorso-palmar" should be referenced, at least in parentheses. I would also label medial and lateral aspect of this figure. It looks like medial is to the left of the image and lateral is to the right of the image.

Figure 2. These images are helpful, but labels: anterior-posterior (dorso-palmar) and proximal-distal are strongly recommended.

Figure 4. Anatomical labels are also missing here—strongly recommended. Each image should be able to stand alone.
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?
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I am able to assess the statistics

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