Reviewer's report

Title: Size and Position of the Healthy Meniscus, and its Correlation with Sex, Height, Weight, Bone Size, and Age - a cross-sectional study

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Reviewer: Michel D. D Crema

Reviewer's report:

This is a cross-sectional study aiming to correlate the size and position of the healthy meniscus with variables such as sex, height, weight, age, and bone size. This is a well-written manuscript with detailed methodology and analyses. However, there are several issues which directly impact on the objective and nature of this study:

- One of main limitations of this study is the fact that the authors "assume" that the menisci in subjects without clinical symptoms (from the healthy reference cohort of OAI) are "healthy". This assumption can not be made based on the reported prevalence in the literature of meniscal lesions in asymptomatic subjects without radiographic OA. Furthermore, the meniscal integrity was never assessed in this study, meaning that we don't know whether meniscal tears are present in such "healthy" cohort. It is widely known that different types of meniscal tears are associated with meniscal extrusion. Thus, we can not be sure in the present study that extrusion detected (especially in women) was not related to a prevalent meniscal tear.

- The authors give a lot of credit to meniscal hypertrophy in OA. Meniscal maceration, meaning loss of meniscal substance is much more common that meniscal hypertrophy in knee OA, especially in advanced OA. Further, it is very common to find meniscal tears in conjunction with meniscal maceration. How this data will help the understanding of the natural history of OA if it never evaluated associated meniscal tears? Loss of meniscal integrity (tears) is just important as it is extrusion in the prediction of structural deterioration in knee OA.

- Another important limitation (although acknowledged by the authors) to this study is the use of coronal imaging for meniscal segmentation. I don't think this is a minor limitation as discussed, since it does not allow proper segmentation of both anterior and posterior horns; in the lateral meniscus, this represents 2/3 of meniscal volume, and it is even more problematic for the medial meniscus, as the posterior horn is fairly larger than the anterior horn (anterior + posterior have maybe more than 2/3 of volume). How the authors expect to present normative data on meniscal volume without properly segmenting the anterior and posterior body?

- Since there is so much data supporting the role of meniscal integrity in load distribution and shock absorption in the tibiofemoral compartments, it does not
make sense to evaluate meniscal volume and position without evaluating meniscal integrity; e.g. presence of meniscal tears.

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

**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