Reviewer’s report

Title: At the moment of occurrence of a fragility hip fracture men have higher trabecular bone mechanical resistance than women

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Reviewer: Danijela Djonic

Reviewer’s report:

In this study, Vale et al. performed mechanical testing of trabecular bone in patients of both sexes who suffer from hip fracture and claim that in the moment of the fracture men had better mechanical resistance than women. This study is interesting, nicely written. However, there are some issues to be considered before publishing. Considering that inter-sex differences are the primary aim of the study, discrepancy between the numbers of cases of different sex is a major issue. Moreover, subdivision of sample on the three groups is additionally problematic. Rearrangement of cases is necessary. Also, part discussion is short and completely undeveloped. It’s necessary to discuss all findings in the context of available literature. In particular, micro-architecture has to be considered when discussing mechanical properties of trabecular bone (for example Ciarelli et al. JBMR, 2000; Milovanovic et al. Bone 2012; Djuric et al. Calc Tissue Int 2010; Cui et al. Osteop Int 2008; Busse et al. Bone 2009) and material properties of trabecular bone influence its macro-mechanical behavior (Milovanovic and all Exp Gerontol 2012; Fratzl-Zelman et al. Calc Tissue Int 2009).

I’m curious to know how authors did “adjusting gender for age”?

In the section background (p.4) typing mistake “70th decade”?

In the whole study it’s necessary to check units (what is N.mm?)

Level of interest: An article whose findings are important to those with closely related research interests

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