Reviewer's report

Title: Association of calcaneal quantitative ultrasound parameters with metabolic syndrome in middle-aged and elderly Chinese: A large population-based cross-sectional study

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Reviewer: Darko Kastelan

Reviewer's report:

In the present study the authors analysed relationship between metabolic syndrome and QUS parameters in a large cohort of Chinese population older than 40 years of age. The topic of the study is of interest since results of the previous studies are controversial.

Major points:

The major drawback of the study is inconsistency of the results. Moreover, conclusions could not be drawn from the results. Namely, authors conclude that metabolic syndrome has detrimental effect on bone mass. However, only component of metabolic syndrome that was negatively associated with QUS parameters was waist circumference whereas all others (FPG, BMI, SBP, TG) showed positive relationship. Furthermore, associations between metabolic syndrome and QUS parameters were significant only for SOS in postmenopausal women. Nevertheless, significance of this association disappeared after controlling for age, BMI and WC.

Minor points:

Clinical and biochemical characteristics of the cohort of postmenopausal women are missing (Table 1).

In Table 2 there is no data for Model 3 (adjustment for age, BMI, WC and alcohol consumption)

Manuscript needs extensive editing in terms of English syntax and grammar.

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

Quality of written English: Not suitable for publication unless extensively edited

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