Reviewer's report

Title: Visually assessed severity of lumbar spinal canal stenosis is paradoxically associated with leg pain and objective walking ability

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Reviewer: Lukas Staub

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Kuittinen and colleagues studied associations between quantitative radiological measures and clinical findings in patients with LSS. They found no clear association between imaging findings and patient symptoms or functional restrictions. This research question is not new, and the fact that anatomical features of LSS are often not correlated with clinical findings is widely accepted. However, as the authors rightly point out, previous studies on the subject were often methodologically flawed. I therefore believe this prospective study adds important information and is worth being published.

I have only a few comments and suggestions the authors may wish to consider.

Minor essential revisions

1) The paper has clearly been written by non-native English speaking authors. There are minor grammatical and typographical errors throughout the manuscript, and I would recommend the manuscript to be reviewed by a native speaking person.

2) Results section: I prefer a more consistent reporting of quantitative measures in the text. For example, the age distribution is given as mean and range, while standard deviations are reported elsewhere.

3) Discussion: This is somewhat repetitive. For example, the statement “...that LSS is not solely an anatomical disorder but the disease may have also other pathobiological mechanisms to be discovered" can be found in two places. The discussion could also be structured more clearly. For example, I could not locate the description of the weaknesses and strengths of the study. An introductory sentence at the beginning of each paragraph would help readers navigate through the paper.

Discretionary revisions

4) Figures 2 and 3 could be better represented by box plots rather than mean and SD alone.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published
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