Reviewer’s report

Title: Epidemiology of Ossification of the Spinal Ligaments and Associated Factors in the Chinese population: a cross-sectional study of 2,000 consecutive individuals

Version: 0 Date: 30 Oct 2018

Reviewer: Kanichiro Wada

Reviewer's report:

The authors investigated the prevalence of ossification of the spinal ligaments using whole spinal computed tomography and the related factors correlated with OSL in Chinese patients who underwent fluorin-18 fluorodeoxyglucose positron emission tomography and CT (PET/CT). They found that tandem OSL was not uncommon, approximately half of the subjects with ossification of posterior longitudinal ligament (OPLL) coexist with thoracic ossification of ligament flavum (OLF). Also they show significant correlations between cervical OPLL and body mass index (BMI), T-OLF and age, sex and thoracic kyphosis, diffuse idiopathic skeletal hyperostosis (DISH) and age, sex, BMI, TK and cervical lordosis (CL).

The data is analyzed in detail and will be of interest to musculoskeletal clinicians, as well as researchers in the field. There are several concerns. We advise the authors to include these points as new paragraphs in the manuscript.

1. Please cite some representative literatures about clinical problems of OSL. (pg. 3, lines from 9 to 11)

2. Please describe to which level C7 / T1 and T12 / L1 were included. (pg. 3, in paragraph of radiographic assessment)

3. It is necessary to differentiate DISH from ankylosing spine. So, I think it should be stated that there were no fusion of sacroiliac joints in DISH. Please describe this point in the paragraph of radiographic assessment. (pg. 5-6)

4. Typing mistakes (unit of cervical lordosis). (pg. 5 and 8)

5. Did you mean "when patients with clinical symptoms induced by OPLL" equal as "when there is no OPLL of the lumbar levels"? The frequency of L-OPLL was 0.8% in this study. So, you may not be emphasize like the sentence; "when clinical symptoms induced by OPLL are present, we recommend thorough evaluation of whole spine using CT". Please reconsider this point in discussion. (pg. 11, lines from 14 to 15)
6. Presence or absence of OSL, especially OPLL may effect the flexibility of the thoracic spine in sagittal plane. I think that this point will be a limitation for measuring the thoracic kyphosis on CT in the supine position. Please consider adding this point as a limitation.

**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?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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