Response to: 'Frequency of MRI changes suggestive of axial spondyloarthritis in the axial in a large population-based cohort of individuals aged <45 years' by Parperis

We agree with the authors of the comment that caution in the interpretation of MRI is needed, though we think this is generally the case for any kind of imaging techniques. Regarding the axial skeleton including the spine and the sacroiliac joints (SIJs) this is particularly critical if identification of patients with axial spondyloarthritis (axSpA) is pursued. In this context our study[1] confirms earlier data.[2] We conclude that false positive MRI findings account for much of the confusion that has been created in relation to the Assessments in Spondyloarthritis International Society (ASAS) classification criteria.[3]

However, Dr Parperis has a different issue[4] since he proposes that some subjects in our study with described fatty changes may already have or potentially develop diffuse idiopathic skeletal hyperostosis (DISH). This condition may be difficult to differentiate from ankylosing spondylitis especially in older ages. In fact, we cannot preclude the presence of DISH since we do not have X-ray or CT images for comparison which are considered the gold standard for diagnosis of DISH. Further, no follow-up data of the individuals are available yet. However, the likelihood of a high prevalence of DISH in a population with a mean age of 38 years is below 1%.[5] Considering the dramatic increase of DISH in older age groups, only a small subset of participants in our study might have represented early cases of DISH. The balanced distribution of sex in participants affected by fatty lesions in our cohort mitigates this potential bias since DISH is usually more prevalent in males being associated with the metabolic syndrome.[6] Slightly more females had bone marrow edema (BME) and slightly more males had fatty lesions (FL) in the spine. These results were similar in subanalyses based on body mass index (BMI), where BME was not found in volunteers with higher BMI, whereas FL were only slightly increased in those in higher BMI categories. Furthermore, there were no differences in the distribution of study participants with different spinal back pain levels in the last 3 months prior to the MRI examination. All of them showed a similar distribution of both BME and FL in the spine. In addition, the distribution of lesions (particularly in the lower part of the thoracic spine) in our study does not support a diagnosis of DISH, since those patients rather present with pathological lesions in the middle part of the thoracic spine, which is in contrast to other pathological finding that rather occur in the thoracolumbar area.[7]

Finally, we would like to stress that it was not the intention of our study to make diagnoses of axSpA but to provide background population based data which questions the sensitivity and specificity of previously proposed MRI criteria for classification purposes.[3] Nevertheless, our results may also be relevant for clinical purposes and the design of future prospective studies to assess the natural course of degenerative changes including DISH.

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