ONLINE SUPPLEMENTARY TEXT SECTION 1

Individual missing VCs were imputed using an adaptation algorithm: First, a missing value for a VC was replaced with the value of the previous observation. Second, the mean spinal segment's progression score (either cervical or lumbar) per patient was calculated. This segmental progression score was added to the imputed value. It was assured that the score achieved per VC could never exceed a score of 3. Similarly, in case of a score missing in a patient with a score of 0 in the same VC at a subsequent time point, the score of 0 for the previous time point(s) was assumed. If the baseline score of a VC was missing, the same procedure was applied, subtracting the mean segment progression from the score of year 2 for a particular patient. If a value of this VC was also missing at year 2, then the average of the other available VCs from this spinal segment at baseline was used to replace the missing VC(s).

ONLINE SUPPLEMENTARY TEXT SECTION 2

For the present study, and besides the data on radiographic damage, we used socio-demographic and clinical variables. These included information collected at baseline such as age, gender, symptom duration, HLA-B27 status and presence of family history of spondyloarthritis (SpA) or SpA related manifestations (uveitis, inflammatory bowel disease and/or psoriasis). Over the follow-up, information collected on treatment with non-steroidal anti-inflammatory drugs (NSAIDs) and with tumor necrosis alpha inhibitors (TNFi) was used. These were dichotomous variables (yes/no) reflecting treatment with each drug class at each visit. NSAID intake was also computed according to the NSAID index proposed by the ASAS (Assessment of SpondyloArthritis international Society), which takes into account the type of drug, dose and duration of treatment, varying from 0-100, where 100 means daily NSAID intake in full dose[1]. Because the score was not available at the start of the data collection, details of the NSAID therapy were retrospectively obtained from the

medical charts in order to enable its computation. The presence, according to the rheumatologist, of extra-articular manifestations (EAM), i.e. uveitis, psoriasis and inflammatory bowel disease, was also assessed at every visit. After a first diagnosis of any of these EAM, the patient was considered to have it, independently of whether it was or not active.

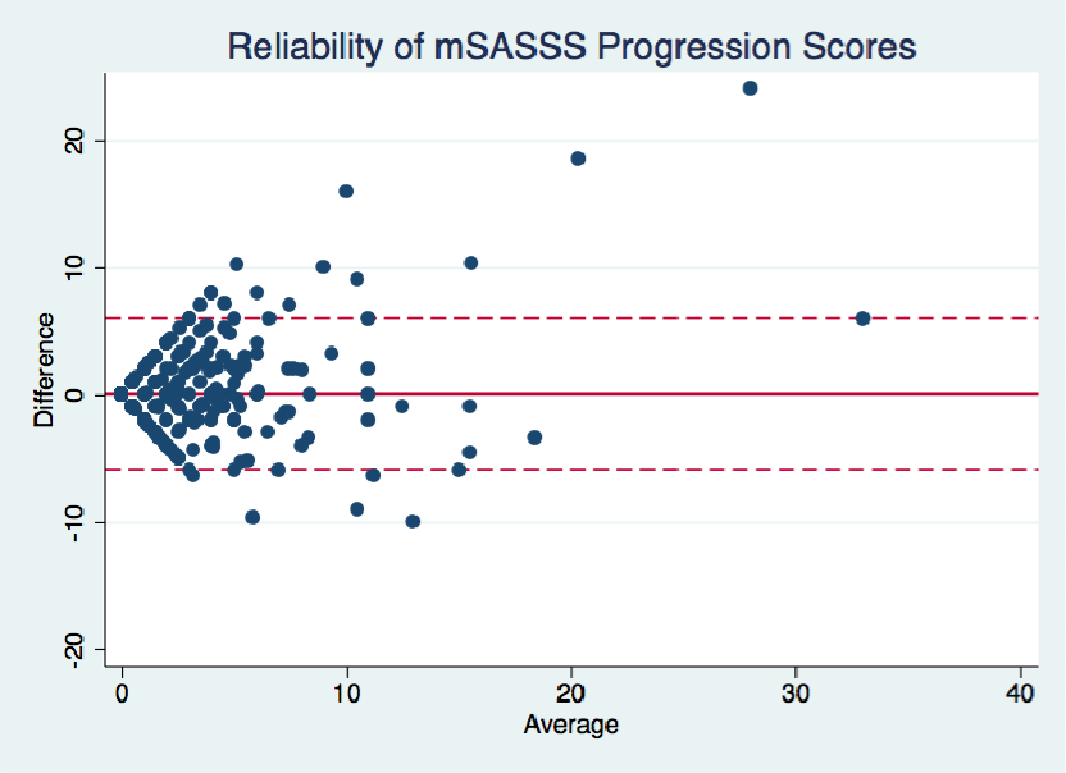

Figure S1 - Bland and Altman plot: reliability of the mSASSS progression scores.

Difference against mean for progression scores of the two readers. The SDC for the progression scores was 2.9.

mSASSS, modified Stoke Ankylosing Spondylitis Spine Score; SDC, smallest detectable change

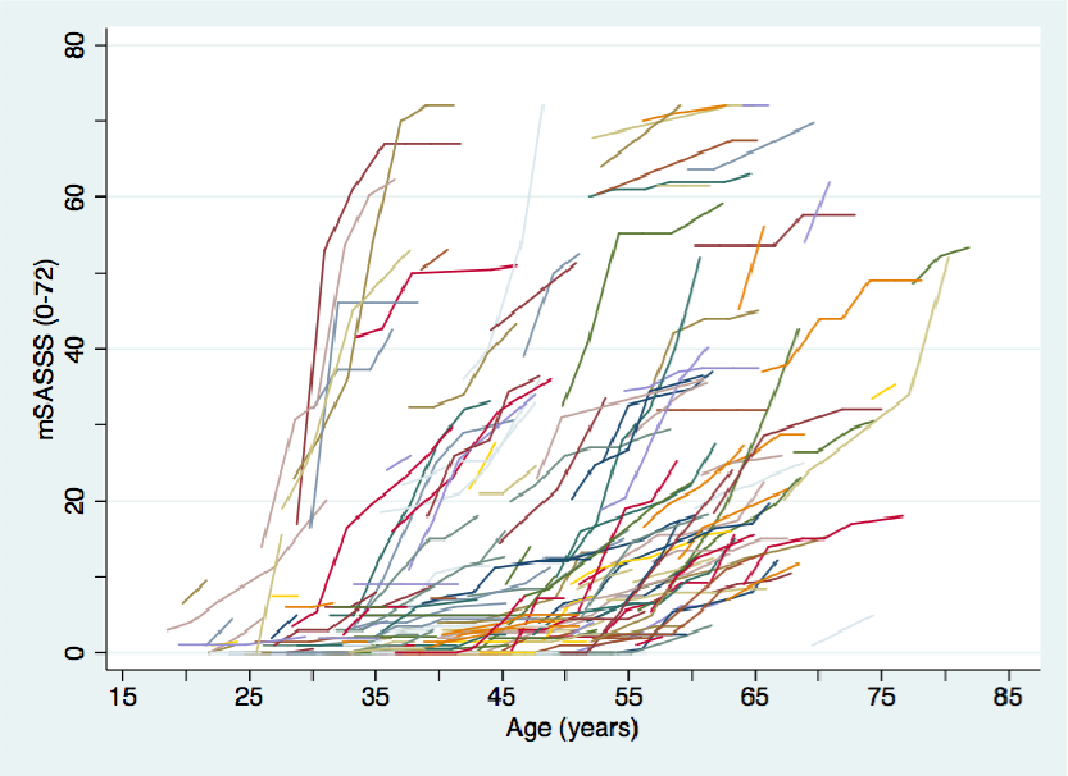

Figure S2 - Radiographic progression at the patient level, modified Stoke Ankylosing Spondylitis Spine Score (mSASSS) per patient plotted in function of age

References

1. Dougados M, Simon P, Braun J, et al. ASAS recommendations for collecting, analysing and reporting NSAID intake in clinical trials/epidemiological studies in axial spondyloarthritis. Ann Rheum Dis 2011;**70**:249-51