**Supplemental tables**

**Supplemental table 1. Baseline characteristics of patients in the SIAS cohort**

|  |  |  |
| --- | --- | --- |
|  | **mSASSS vs CTSS**  **n=37 (%)** | **Syndesmophyte analysis**  **n=50** |
| Age at inclusion (SD) | 48 (9.3) | 50 (9.8) |
| Male | 30 (81) | 42 (84) |
| HLA-B27 positive | 33 (89) | 43 (86) |
| Uveitis | 10 (33) | 15 (30) |
| Psoriasis | 4 (11) | 5 (10) |
| IBD | 3 (8) | 4 (8) |
| Enthesitis | 8 (22) | 11 (22) |
| Dactylitis | 4 (11) | 5 (10) |
| Peripheral arthritis | 10 (27) | 12 (24) |
| Elevated CRP (mg/L) | 14 (38) | 19 (38) |
| BASDAI | 3.5 (2.2) | 3.7 (2.2) |
| ASDAS | 2.4 (1.2) | 2.5 (1.2) |
| Physician global | 4 (1.9) | 4 (2.1) |
| NSAID use | 22 (59) | 31 (62) |
| csDMARD use | 9 (24) | 13 (26) |
| TNF use | 9 (24) | 11 (22) |

*Results are presented in number (%) unless otherwise specified.*

*mSASSS: modified Stoke AS Spine Score, CTSS: CT Syndesmophyte Score, HLA-B27: Human Leukocyte Antigen B27, IBD: inflammatory bowel disease, CRP: C reactive protein, BASDAI: Bath Ankylosing Spondylitis Disease Activity Index, ASDAS: Ankylosing Spondylitis Disease Activity Score, NSAID: Non-Steroidal Anti-Inflammatory Drugs, csDMARD: conventional synthetic Disease Modifying Anti-rheumatic drugs, TNF: TNF-alpha blocker therapy.*

**Supplemental table 2. Mean status and progression scores of the whole spine and sections of the spine for CR and CT. Data are presented for all patients included in the analysis (n=37) and for all patients for whom mSASSS (n=45) and CTSS (n=46) could be calculated.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **CR** | **CT** | **CR** | **CT** |
|  |  | **mean (SD)** | **mean (SD)** | **mean (SD)** | **mean (SD)** |
|  |  | **n=37** | **n=37** | **n=45** | **n=46** |
| **Status score at baseline** |  |  |  |  |  |
|  | Whole spine | 17.9 (13.8) | 161.7 (126.6) | 16.9 (13.3) | 155.6 (125.6) |
|  | CS | 8.1 (8.6) | 27.7 (40.5) | 7.7 (8.3) | 27.4 (38.6) |
|  | TS | NA | 97.0 (78.8) | NA | 92.6 (77.0) |
|  | LS | 9.7 (10.1) | 37.0 (36.0) | 9.2 (9.7) | 35.6 (36.2) |
| **Status score at 2 years** |  |  |  |  |  |
|  | Whole spine | 20.2 (15.2) | 179.6 (133.0) | 19.1 (14.7) | 173.2 (131.5) |
|  | CS | 9.4 (8.8) | 31.4 (44.0) | 8.9 (8.6) | 31.3 (41.5) |
|  | TS | NA | 108.7 (82.4) | NA | 103.7 (80.9) |
|  | LS | 10.8 (10.6) | 39.5 (37.6) | 10.2 (10.2) | 38.2 (37.8) |
| **Progression score** |  |  |  |  |  |
|  | Whole spine | 2.4 (3.8) | 17.9 (22.1) | 2.2 (3.8) | 17.6 (21.1) |
|  | CS | 1.3 (2.3) | 3.6 (10.8) | 1.1 (2.5) | 3.9 (11.2) |
|  | TS | NA | 11.7 (18.4) | NA | 11.1 (16.9) |
|  | LS | 1.1 (2.1) | 2.5 (3.4) | 1.1 (1.9) | 2.6 (3.3) |

*CR: conventional radiography, CT: computed tomography, mSASSS: modified Stoke AS Spine Score, CTSS: CT Syndesmophyte Score, SD: standard deviation, CS: cervical spine, TS: thoracic spine, LS: lumbar spine, NA: not applicable.***Supplemental table 3. Number of patients with a new syndesmophyte or growth of a syndesmophyte per corner/quadrant from the SIAS cohort (n=50) for individual readers and consensus.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Reader 1** | | **Reader 2** | | **Consensus** | |
| **VU** | **VC** | **CR** | **CT** | **CR** | **CT** | **CR** | **CT** |
| 1 | 1 | 1 | 5 | 2 | 5 | 1 | 2 |
|  | 2 | 3 | 4 | 0 | 5 | 0 | 2 |
| 2 | 1 | 2 | 3 | 4 | 4 | 2 | 1 |
|  | 2 | 4 | 2 | 4 | 5 | 3 | 2 |
| 3 | 1 | 6 | 2 | 5 | 4 | 3 | 1 |
|  | 2 | 3 | 1 | 4 | 3 | 1 | 1 |
| 4 | 1 | 5 | 2 | 5 | 5 | 3 | 1 |
|  | 2 | 2 | 1 | 5 | 5 | 2 | 1 |
| 5 | 1 | 4 | 6 | 6 | 7 | 2 | 3 |
|  | 2 | 2 | 5 | 5 | 6 | 2 | 2 |
| 6 | 1 | 0 | 2 | 2 | 4 | 0 | 2 |
|  | 2 | 0 | 2 | 1 | 4 | 0 | 2 |
| 7 | 1 | NA | 7 | NA | 6 | NA | 1 |
|  | 2 | NA | 5 | NA | 6 | NA | 1 |
| 8 | 1 | NA | 8 | NA | 7 | NA | 2 |
|  | 2 | NA | 6 | NA | 7 | NA | 1 |
| 9 | 1 | NA | 7 | NA | 6 | NA | 3 |
|  | 2 | NA | 7 | NA | 6 | NA | 2 |
| 10 | 1 | NA | 7 | NA | 10 | NA | 2 |
|  | 2 | NA | 3 | NA | 8 | NA | 1 |
| 11 | 1 | NA | 11 | NA | 7 | NA | 3 |
|  | 2 | NA | 9 | NA | 6 | NA | 1 |
| 12 | 1 | NA | 18 | NA | 11 | NA | 8 |
|  | 2 | NA | 16 | NA | 11 | NA | 7 |
| 13 | 1 | NA | 7 | NA | 6 | NA | 3 |
|  | 2 | NA | 7 | NA | 7 | NA | 3 |
| 14 | 1 | NA | 10 | NA | 9 | NA | 5 |
|  | 2 | NA | 11 | NA | 8 | NA | 4 |
| 15 | 1 | NA | 13 | NA | 14 | NA | 4 |
|  | 2 | NA | 12 | NA | 10 | NA | 5 |
| 16 | 1 | NA | 9 | NA | 11 | NA | 2 |
|  | 2 | NA | 9 | NA | 7 | NA | 4 |
| 17 | 1 | NA | 12 | NA | 11 | NA | 2 |
|  | 2 | NA | 13 | NA | 8 | NA | 2 |
| 18 | 1 | 5 | 13 | 5 | 12 | 1 | 4 |
|  | 2 | 3 | 10 | 4 | 11 | 2 | 4 |
| 19 | 1 | 4 | 10 | 5 | 9 | 2 | 4 |
|  | 2 | 7 | 6 | 4 | 9 | 3 | 3 |
| 20 | 1 | 4 | 7 | 2 | 8 | 1 | 2 |
|  | 2 | 4 | 6 | 1 | 7 | 1 | 2 |
| 21 | 1 | 5 | 6 | 3 | 5 | 2 | 0 |
|  | 2 | 5 | 4 | 5 | 6 | 2 | 1 |
| 22 | 1 | 3 | 7 | 1 | 6 | 0 | 3 |
|  | 2 | 3 | 8 | 4 | 8 | 2 | 4 |
| 23 | 1 | 0 | 3 | 0 | 4 | 0 | 0 |
|  | 2 | 1 | 7 | 1 | 6 | 1 | 1 |

*VU: vertebral unit, VC: vertebral corner, CR: conventional radiograph, CT: computed tomography, NA: not applicable.*

**Supplemental table 4. Number of new syndesmophytes, growing syndesmophytes or the combination of new or growing syndesmophytes per corner/quadrant for 50 patients from the SIAS cohort for the consensus definition.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **New** | | **Growth** | | **New or growth** | |
| **VU** | **Corner** | **CR** | **CT** | **CR** | **CT** | **CR** | **CT** |
| 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 |
|  | 2 | 0 | 1 | 0 | 1 | 0 | 2 |
| 2 | 1 | 2 | 1 | 0 | 0 | 2 | 1 |
|  | 2 | 3 | 1 | 0 | 1 | 3 | 2 |
| 3 | 1 | 3 | 1 | 0 | 0 | 3 | 1 |
|  | 2 | 1 | 1 | 0 | 0 | 1 | 1 |
| 4 | 1 | 3 | 1 | 0 | 0 | 3 | 1 |
|  | 2 | 2 | 1 | 0 | 0 | 2 | 1 |
| 5 | 1 | 1 | 5 | 1 | 0 | 2 | 5 |
|  | 2 | 1 | 3 | 1 | 1 | 2 | 4 |
| 6 | 1 | 0 | 2 | 0 | 3 | 0 | 5 |
|  | 2 | 0 | 5 | 0 | 0 | 0 | 5 |
| **Total CS** |  | **17** | **23** | **2** | **7** | **19** | **30** |
| 7 | 1 | NA | 1 | NA | 0 | NA | 1 |
|  | 2 | NA | 1 | NA | 0 | NA | 1 |
| 8 | 1 | NA | 1 | NA | 1 | NA | 2 |
|  | 2 | NA | 1 | NA | 0 | NA | 1 |
| 9 | 1 | NA | 2 | NA | 1 | NA | 3 |
|  | 2 | NA | 2 | NA | 0 | NA | 2 |
| 10 | 1 | NA | 2 | NA | 0 | NA | 2 |
|  | 2 | NA | 1 | NA | 0 | NA | 1 |
| 11 | 1 | NA | 3 | NA | 0 | NA | 3 |
|  | 2 | NA | 1 | NA | 0 | NA | 1 |
| 12 | 1 | NA | 10 | NA | 1 | NA | 11 |
|  | 2 | NA | 11 | NA | 0 | NA | 11 |
| 13 | 1 | NA | 3 | NA | 1 | NA | 4 |
|  | 2 | NA | 5 | NA | 0 | NA | 5 |
| 14 | 1 | NA | 6 | NA | 2 | NA | 8 |
|  | 2 | NA | 4 | NA | 3 | NA | 7 |
| 15 | 1 | NA | 4 | NA | 1 | NA | 5 |
|  | 2 | NA | 5 | NA | 1 | NA | 6 |
| 16 | 1 | NA | 0 | NA | 2 | NA | 2 |
|  | 2 | NA | 2 | NA | 2 | NA | 4 |
| 17 | 1 | NA | 0 | NA | 2 | NA | 2 |
|  | 2 | NA | 1 | NA | 1 | NA | 2 |
| **Total TS** |  | **NA** | **66** | **NA** | **18** | **NA** | **84** |
| 18 | 1 | 0 | 2 | 1 | 3 | 1 | 5 |
|  | 2 | 1 | 3 | 1 | 4 | 2 | 7 |
| 19 | 1 | 2 | 2 | 0 | 2 | 2 | 4 |
|  | 2 | 3 | 1 | 0 | 2 | 3 | 3 |
| 20 | 1 | 0 | 1 | 1 | 1 | 1 | 2 |
|  | 2 | 0 | 0 | 1 | 2 | 1 | 2 |
| 21 | 1 | 1 | 0 | 1 | 0 | 2 | 0 |
|  | 2 | 1 | 1 | 1 | 0 | 2 | 1 |
| 22 | 1 | 0 | 0 | 0 | 5 | 0 | 5 |
|  | 2 | 2 | 4 | 0 | 3 | 2 | 7 |
| 23 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 2 | 1 | 1 | 0 | 0 | 1 | 1 |
| **Total LS** |  | **11** | **15** | **6** | **22** | **17** | **37** |
| **Total CS+LS** |  | **28** | **38** | **8** | **29** | **36** | **67** |
| **Total overall** |  | **28** | **104** | **8** | **47** | **36** | **151** |

*VU: vertebral unit, CR: conventional radiograph CT: computed tomography, NA: not applicable, CS: cervical spine, TS: thoracic spine, LS: lumbar spine.*