|                      | Patients with axSpA (n=89) | Patients without axSpA (n=74) |
|----------------------|-----------------------------|-------------------------------|
| Age [a]:             | 37.4±10.8                   | 39.3±10.3                     |
| Female:              | 37% (33/89)                 | 65% (48/74)                   |
| IBP*:                | 87% (68/78)                 | 76% (48/63)                   |
| Symptom duration [mo]| 94±99                       | 64±75                         |
| BASDAI:              | 4.5±2.0                     | 4.5±1.6                       |
| HLA-B27:             | 79% (66/84)                 | 42% (30/72)                   |
| CRP [mg/l]:          | 7.8±12.0                    | 2.7±4.3                       |
| mNYC XR:             | 53% (47/89)                 | N/A                           |
| ASAS MRI:            | 61% (54/89)                 | N/A                           |

**Supplement 1 – Patient characteristics:** The number of patients in the two groups with and without axial spondyloarthritis (axSpA) was similar. They were comparable in terms of age, presence of inflammatory back pain, and Bath Ankylosing Spondylitis Disease Activity Index (BASDAI). However, the group without axSpA had more females, shorter disease duration, lower proportion of human leukocyte antigen B27 (HLA-B27) positivity, and lower C-reactive protein (CRP) levels. The relatively high number of HLA-B27-positive patients without axSpA (42% compared to 8% in the general population in Germany) is best explained by a referral bias, i.e., patients with back pain are more likely to be referred to a rheumatologist if HLA-B27 is positive. 53% of the patients with axSpA had a positive radiography according to the modified New York Criteria (mNYC XR). 61% fulfilled the ASAS criteria for active inflammation in MRI. 39% of axSpA patients did not show sufficient inflammatory SIJ changes to meet the ASAS definition of a positive MRI. A part of these patients had either advanced disease with complete bilateral ankylosis or exclusive spinal involvement.

*As assessed by a rheumatologist.*