To determine whether any particular patient demographic and/or disease characteristics are associated with rheumatologist ordering of MRI. To assess the impact of MRI evaluation on diagnostic ascertainment of axial SpA in patients presenting with undiagnosed back pain.

Methods: The multicenter Screening for AxSpA in Psoriasis, Iritis, and Colitis (SASPIC) Study is aimed at early detection of axial SpA in consecutive patients presenting with undiagnosed back pain to the rheumatologist. Consecutive patients with any one of psoriasis, iritis, or colitis diagnosed by the relevant specialist undergo routine evaluation by a rheumatologist. The rheumatologist determines the presence/absence of axial SpA and the degree of confidence in the diagnosis (−10 (definitely not SpA) to +10 (definite SpA)) on a NRS at 3 consecutive stages: 1. After the clinical evaluation; 2. After the results of labs (B27, CRP) and radiography; 3. After the results of MRI. Differences in patient demographics and/or disease characteristics between those who did or did not have MRI were assessed by chi-square and t-tests. We assessed the degree of diagnostic reclassification after each step at the categorical level (axial SpA yes/no) and also according to the degree of confidence.

Results: 244 patients (51.6% male, mean age 34.6 years, mean age at symptom onset 27.4 years, mean back pain duration 7.1 years, B27 +37.2%) were referred with AAU (29.9%), psoriasis (21.7%), Crohn’s colitis (32.8%), ulcerative colitis (19.3%). A diagnosis of axSpA was made in 67.5% after stage 1 clinical evaluation and in 56.4% at stage 2 after review of the labs and radiography. MRI evaluation varied across sites (mean(range): 73% (16.7%>100%) of patients), ordered in 141 patients, and significantly more frequently in those with probable inflammatory type back pain (probability >5 (0–10 scale) (p=0.04), when radiography was nMV− (p=0.005) and in those without Crohn’s colitis (p=0.001). No differences in ordering of MRI were noted according to age, gender, disease duration, back pain severity, NSAID response, B27 status, or CRP level. In patients with completed MRI scans, a diagnosis of axSpA was made in 70.5% after stage 1 clinical evaluation, in 56.4% after review of the labs and radiography, and in 47.3% after MRI review. 24 (18.6%) were recategorized from SpA to non-SpA and 4 (3.1%) from non-SpA to SpA. Confidence in diagnostic categorization was increased after MRI.

Conclusions: Findings of SJ structural damage are observed differently on radiography and MRI in patients with early axSpA, and may appear to evolve differently.
