intersection over union (I/U: Intersection over Union is a form of measurement used to indicate the accuracy of an object detector.) for grade 3-4. The mean average precision (mAP) score of our object detection model is %65.9 for test data set (image 1). The estimation quality of the model can be affected by the distribution and number of each class.

Conclusion: The experience of the x-ray technician, dose adjustment, and position differences due to patient compliance complicate the standardization of SIJ radiography and this may cause interobserver disagreement (3). Artificial intelligence models to be created with a larger and homogeneous data set in order to ensure objective standardization in the interpretation of the SIJ graph can help physicians.

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POS0037

DOES IMAGING OF THE SACROILIAC JOINT DIFFER IN PATIENTS PRESENTING WITH UNDIAGNOSED BACK PAIN AND PSORIASIS, ACUTE ANTERIOR UVEITIS, AND COLITIS: AN INCEPTION COHORT STUDY

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Background: Axial spondyloarthritis (axSpA) presents diagnostic challenges incurring a delay of up to a decade and relies considerably on radiographic and MRI evidence of sacroiliitis which has led to the development of classification criteria which also rely on imaging. However, it has been suggested that such criteria may not be appropriate for axSpA patients presenting with other forms of SpA, especially psoriatic, because imaging features may vary in frequency and/or may be atypical. This hypothesis has never been tested in a prospective inception cohort of patients presenting with undiagnosed back pain.

Objectives: We aimed to compare the spectrum of radiographic and MRI abnormalities in the sacroiliac joint (SIJ) of an inception cohort of patients presenting with undiagnosed back pain and psoriasis, iritis, and colitis.

Methods: We used data from the prospective multicenter Screening for Axial Spondyloarthritis in Psoriasis, Iritis, and Colitis (SASPIC) Study, which is aimed at early detection of axial SpA in patients referred by the respective specialist after first presenting with these disorders. Consecutive patients ≤ 45 years of age with ≥ 3 months undiagnosed back pain with any one of psoriasis, AAU, or colitis undergo routine clinical evaluation by a rheumatologist for axial SpA followed by imaging. In SASPIC I, MRI evaluation of the SIJ was ordered per rheumatologist decision. In SASPIC II, MRI evaluation was ordered for all patients. Radiographs and MRI scans were assessed by two central readers and comparisons of the three groups were based on concordant assessments of imaging features. Evaluation of MRI scans included both global assessment for presence/absence of axSpA with confidence scale (-10 to +10), active and structural lesions typical of axSpA per recent ASAS definitions, and granular assessment of individual lesions according to SIJ quadrants and halves in consecutive semicoronal slices through the SIJ. Groups were compared by ANOVA and the chi-square test.

Results: A total of 240 patients were recruited, 143 from SASPIC I and 97 from SASPIC II, 101 (42.1%) being diagnosed with axSpA (65.3% male, mean age 34.4 years, mean symptom duration 8.7 years, B27 positive 55.4%). Mean age of colitis (N=101), psoriasis (N=61), iritis (N=78) patients were 33.4, 36.6, 34.3 years, respectively, mean symptom duration was 6.8, 7.2, 9.4 years, respectively, and % males were 45.5%, 52.5%, 51.3%, respectively. There were no significant group differences for unilateral versus bilateral radiographic sacroiliitis and no significant differences in the frequencies, type, or distribution of MRI lesions (Table 1).

Conclusion: Data from the SASPIC prospective inception cohort does not support the view that imaging of the SIJ differs in psoriatic axSpA, which appears similar to axSpA associated with iritis or colitis. These data support the umbrella concept of axSpA.

Imaging Feature	Colitis (n=30)	Psoriasis (n=19)	Iritis (n=52)	P value
Unilateral sacroiliitis (grade ≥ 2), N(%)	1 (3.3%)	0 (0%)	2 (3.8%)	0.69
mNY criteria +, N(%)	5 (16.7%)	6 (31.2%)	15 (28.8%)	0.39
Grade of sacroiliitis, mean(SD)	1.8 (2.2)	2.1 (2.7)	2.2 (2.4)	0.76
MRI indicative of axSpA, N(%)	15 (50.0%)	11 (57.9%)	32 (61.5%)	0.60
MRI indicative of axSpA (confidence $\geq 5/10$), N(%)	14 (46.7%)	10 (52.6%)	30 (57.7%)	0.63
MRI active lesion typical of axSpA, N(%)	6 (20.0%)	6 (31.6%)	18 (34.6%)	0.37
MRI structural lesion typical of axSpA, N(%)	11 (36.7%)	7 (36.8%)	18 (34.6%)	0.98
MRI with unilateral lesion (any)	2 (6.7%)	3 (15.8%)	11 (21.2%)	0.22
MRI with unilateral lesion (BME)	1 (3.3%)	2 (10.5%)	5 (9.6%)	0.54
MRI with unilateral lesion (Erosion)	0 (0%)	0 (0%)	3 (5.8%)	0.23
MRI with unilateral lesion (Sclerosis)	1 (3.3%)	1 (5.3%)	3 (5.8%)	0.89
MRI with unilateral lesion (Fat)	0 (0%)	0 (0%)	0 (0%)	NA
MRI with iliac lesion	17 (56.7%)	12 (63.2%)	32 (61.5%)	0.88
MRI with sacral lesion	12 (40.0%)	11 (57.9%)	31 (59.6%)	0.21

Disclosure of Interests: Walter P Maksymowych Speakers bureau: Abbvie, Janssen, Novartis, Pfizer, UCB, Consultant of: Abbvie, BMS, Boehringer, Galapagos, Gilead, Lilly, Novartis, Pfizer, UCB, Grant/research support from: Abbvie, Novartis, Pfizer, Ulrich Weber: None declared, Jon Chan: None declared, Raj Carmona: None declared, James Yeung: None declared, Sibel Aydin: None declared, Jodie Reis: None declared, Liam Martin: None declared, Ariel Masetto: None declared, Olga Ziouzina: None declared, Dianne Mosher: None declared, Stephanie Keeling: None declared, Sherry Rohekar: None declared, Rana Dadashova: None declared, Joel Paschke: None declared, Amanda Carapellucci: None declared, Robert G Lambert: None declared.

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POS0038

THE INFLUENCE OF AGE ON THE PREVALENCE OF INFLAMMATORY AND POST-INFLAMMATORY MRI LESIONS IN THE SACROILIAC JOINTS OF PATIENTS WITH AND WITHOUT AXIAL SPONDYLOARTHRITIS

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Background: Axial spondyloarthritis (axSpA) is clinically characterized by chronic inflammatory back pain and by inflammatory and structural changes in the sacroiliac joint (SIJ) as assessed by magnetic resonance imaging (MRI). Several studies have reported high rates of bone marrow edema (BME) suggestive of inflammatory SIJ changes in up to 20% of individuals in the general population <45 years. An update of the definition of a positive MRI of the SIJ in axSpA for classification purposes, based on the number of slices or quadrants showing BME or structural changes such as erosions or fat lesions (FL), was recently published by ASAS.

Objectives: To compare the influence of age on the prevalence of inflammatory and structural MRI changes in the SIJ of patients with chronic low back pain diagnosed with axSpA or non-SpA.

Methods: MRIs of the SIJ of patients referred for differential diagnosis of back pain who were finally diagnosed with axSpA or not by experienced rheumatologists, were evaluated using semi-coronal STIR and T1-weighted MRI sequences. All images were scored blinded to, age, sex and diagnosis for the occurrence of BME, FL, erosions and ankylosis on the level of SIJ-quadrants (SIJ-Q). Patient groups were built based on decade of age (until 29, 30-39, 40-49 and ≥ 50 years).

Results: A total of 309 patients (175 axSpA and 134 non-SpA) with complete MRI sets were included in the analysis. The mean age was 38.5 $\pm$ 11.4 and 43.4 $\pm$ 13.8, 66.9% and 35.8% were male, the mean CRP was 1.6 $\pm$ 2.4 and 1.1 $\pm$ 2.1mg/dl and the median back pain symptom duration was 48 and 60 months, respectively. The number of SIJ-Q with BME and erosions was significantly higher in axSpA vs. non-SpA independent of the age group (Table 1). In comparison, with exception of the patients in the oldest population (≥ 50 years), the number of SIJ-Q with FL and the number of patients with at least one FL was not different between subgroups, while the number of erosions and FL but not BME was higher in both groups with increasing age. In the univariate analysis, only female sex was significantly associated with higher occurrence of FL.

Conclusion: Despite a relatively high prevalence in non-SpA patients, BME and erosions were significantly more frequent in axSpA independent of age, while the presence of FL was not different between groups. FL and erosions are increasingly found in older age groups independent of diagnosis. These data are relevant for the interpretation of MRI findings in the SIJ of patients suspicious of axSpA.