Table 1.

Variable	Models of FM development		Models of FM recovery	
	Adjusted univariate OR (95% CI)	Multivariate model OR (95% CI)	Adjusted univariate OR (95% CI)	Multivariate model OR (95% CI)
Age years	1.01 (0.98-1.03)	1.00 (0.98-1.03)	1.00 (0.97-1.02)	1.02 (0.99-1.06)
Female gender	1.89 (1.01-3.53)*	2.04 (0.99-4.21)[$]	0.90 (0.40-2.04)	1.20 (0.48-3.03)
BASDAI per unit	1.39 (1.21-1.60)**	1.27 (1.08-1.49) *	0.79 (0.63-1.00)*	
BASFI per unit	1.22 (1.08-1.38)*		0.70 (0.56-0.88)*	0.68 (0.53-0.86)*
ASDAS-CRP per unit	1.47 (1.11-1.95)*		0.63 (0.39-1.01)[$]	
Started on TNF	1.95 (0.92-4.15)[$]		2.78 (1.21-6.38)*	4.23 (1.63-11.00)*
Symptomscale per unit	1.28 (1.13-1.45)**		0.76 (0.61-0.96)*	
WPI index per unit	1.24 (1.13-1.36)**	1.14 (1.02-1.28) *	0.84 (0.73-0.96)*	0.84 (0.72-0.97)*
HADS Anxiety per unit	1.12 (1.05-1.20)*		0.96 (0.88-1.04)	
Chalder per unit	1.14 (1.05-1.24)*		0.91(0.81-1.02)	
Jenkins baseline	1.07 (1.01-1.13)*		0.90 (0.83-0.98)*	
ROC/sensitivity/specificity		0.75/55.6/75.6		0.78/62.3/73.7

Logistic regression models. OR; Odds ratio, BASDAI; Bath Ankylosing Spondyilits Disease Activity IndexBASFI; Bath Ankylosing Spondylitis Functional Index, TNF; Tumour Necrosis Factor inhibitor, HADS; Hospital Anxiety Scale, WPI; widespread pain index, Chalder; Chalder fatigue index, Jenkins; Jenkins sleep evaluation, ROC; receiver operator curve.

longitudinal development of, or recovery from, FM in patients with axial Spondyloarthritis(axSpA).

Objectives: To identify predictors for FM development and recovery in patients with axSpA.

Methods: The British Society of Rheumatology Biologics Register (BSRBR-AS) recruited patients with axSpA from 83 centres in a prospective study. Fibromyalgia was diagnosed using the self-reported Fibromyalgia Survey Diagnostic Criteria (FSDC). Measures of axSpA disease activity and clinical findings were recorded at regular intervals. We identified predictors for developing FM, and for recovering from FM, between yearly visits using uni- and multivariate logistical regression models.

Results: Eight hundred and one patients had two or more visits and were eligible for inclusion. 686 patients did not have FM at baseline, of whom 45 had developed FM by follow-up. 115 patients had FM at baseline, of whom 77 had recovered by follow-up. The uni- and multivariate models are presented in table 1.

Conclusion: The development of FM in patients with axSpA can be predicted by high levels of axSpA activity and presence of widespread pain, while low levels of the same variables, and starting a TNF-inhibitor predict recovery from FM. The presence of co-morbid FM should be considered in patients with a history of high axSpA disease activity and wide spread pain.

References:

[1] Zhao SS, Duffield SJ, Goodson NJ. The prevalence and impact of comorbid fibromyalgia in inflammatory arthritis. Best Pract Res Clin Rheumatol. 2019;33(3):101423.

Disclosure of Interests: Sella Aarrestad Provan Consultant of: Novartis, Linda Dean: None declared, Gareth T. Jones Grant/research support from: Pfizer, AbbVie, UCB, Celgene and GSK., Gary Macfarlane: None declared

DOI: 10.1136/annrheumdis-2020-eular.1178

OP0086 THE DEGREE OF BONE MARROW EDEMA AS DETECTED BY MAGNETIC RESONANCE IMAGING IN THE SACROILIAC JOINTS AND THE SPINE SUSPICIOUS OF AXIAL SPONDYLOARTHRITIS IN THE GENERAL POPULATION IS ASSOCIATED WITH DIFFERENT FACTORS

X. Baraliakos[1], A. Richter[2], D. Feldmann[1], A. Ott[1], R. Buelow[3], C. Schmidt[2], J. Braun[1]on behalf of n/a. *[1]Rheumazentrum Ruhrgebiet Herne, Ruhr-University Bochum, Herne, Germany; [2]Institute for Community Medicine, University Greifswald, Greifswald, Germany; [3]Department of Diagnostic Radiology and Neuroradiology, University Medicine Greifswald, Greifswald, Germany*

Background: Taking advantage of a large population-based study we have recently reported that the frequency of bone marrow edema (BME) and fatty lesions (FL) in the sacroiliac joints (SIJ) and the spine of individuals <45 years detected by magnetic resonance imaging (MRI) suggestive of axial spondyloarthritis (axSpA) is higher than expected.

Objectives: To identify and compare factors associated with the extension of MRI lesions in the spine and the SIJ in the general population.

Methods: All available spinal- (sagittal T1/T2 sequences) and SIJ- (semicoronal STIR sequences) MRIs were evaluated by two trained readers blinded to clinical data. BME (SIJ and spine) suggestive of axSpA were recorded. The extension of BME was quantified using the Berlin MRI score. Discrepancies were resolved by consensus. Degenerative lesions of the Modic type were excluded. The association of age (increase per decade), sex, HLA-B27 and hsCRP positivity, smoking (ever smoker vs. no smoker), spinal pain (yes vs. no in last 3 months), body mass index (BMI) categories (WHO definition), physically demanding job, and giving birth within the last 12 month with the severity of BME were examined. Associations between clinical factors and the Berlin MRI score were analyzed by negative binomial regression models resulting in incidence rate ratios (IRRs).

Results: MRIs of 793 volunteers from the general population, mean age 37.3±6.3 years, 49.4% male, 8.9% HLA B27+, 7% CRP-positive, 56.9% with back pain in the last 3 months (28.8% with back pain NRS ≥4/10), 35.7% reported physically heavy work, 55% with BMI > 25 kg/m^2, 16.2% current smokers, and 5% of females with pregnancy in the last year before MRI examination, were evaluated.

For BME on SIJ-MRIs, significant associations (IRR, 95% confidence level) were found for pregnancy in the last year (3.82, 1.17-14.24), HLA-B27+ (2.42, 1.33-4.55), BMI (25-30 vs. <25; 2.09 (1.33-3.31)) and presence of back pain in the last 3 months (1.54, 1.02-2.33).

For BME on spinal MRIs, significant associations were found for age per decade increase (1.45, 1.10-1.91) and physically demanding work (1.45, 1.04-2.00), while HLA-B27+ (1.32, 0.79-2.24), BMI (>30: 0.84, 0.53-1.32 (<25 reference)) and back pain in the last 3 months (1.29, 0.95-1.77) showed no association. Overall, spinal BME was more frequent than SIJ BME in the participants working at a desktop (61.5% vs. 54.4%), while smokers (66.9% vs. 63.8%) and participants with back pain in the last 3 months (62.5% vs. 56.9%) had more often SIJ BME than spinal BME, respectively.

Conclusion: In this population-based study, individuals aged <45 years, HLA-B27+, women with pregnancy in the last year and presence of back pain were associated with the extent of BME in the SIJ, while age and physically demanding work were associated with the extent of BME in the spine. These data support the hypothesis of a mechanic origin of BME in the general population aged <45 years, while HLA B27 is a severity but not a susceptibility factor for BME in the SIJ.

Acknowledgments: n/a

Disclosure of Interests: Xenofon Baraliakos Grant/research support from: Grant/research support from: AbbVie, BMS, Celgene, Chugai, Merck, Novartis, Pfizer, UCB and Werfen, Consultant of: AbbVie, BMS, Celgene, Chugai, Merck, Novartis, Pfizer, UCB and Werfen, Speakers bureau: AbbVie, BMS, Celgene, Chugai, Merck, Novartis, Pfizer, UCB and Werfen, Adrian Richter: None declared, Daniel Feldmann: None declared, Anne Ott: None declared, Robin Buelow: None declared, Carsten Schmidt: None declared, Juergen Braun Grant/research support from: Abbvie (Abbott), Amgen, BMS, Boehringer, Celgene, Celltrion, Centocor, Chugai, Eli Lilly and Company, Medac, MSD (Schering Plough), Mundipharma, Novartis, Pfizer (Wyeth), Roche, Sanofi- Aventis, and UCB Pharma, Consultant of: Abbvie (Abbott), Amgen, BMS, Boehringer, Celgene, Celltrion, Centocor, Chugai, EBEWE Pharma, Eli Lilly and Company, Medac, MSD (Schering-Plough), Mundipharma, Novartis, Pfizer (Wyeth), Roche, Sanofi-Aventis, and UCB Pharma, Speakers bureau: Abbvie (Abbott), Amgen, BMS, Boehringer, Celgene, Celltrion, Centocor, Chugai, EBEWE Pharma, Eli Lilly and Company, Medac, MSD (Schering-Plough), Mundipharma, Novartis, Pfizer (Wyeth), Roche, Sanofi-Aventis, and UCB Pharma

DOI: 10.1136/annrheumdis-2020-eular.5236