Figure 1 Comorbidities defined by Elixhauser coding algorithms* in patients with axial spondyloarthritis (N=1,776) and matched controls (N=1,776).

*excluding rheumatic diseases. AxSpA, axial spondyloarthritis; COPD, chronic pulmonary disease.

Conclusion: Comorbid conditions are common in axSpA patients and are independently associated with higher disease activity and higher level of functional impairment. Higher disease activity and a higher level of functional disability might be indicators of a severe disease resulting in the development of comorbid conditions.

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SAT0348 HOW FREQUENT IS NEUROPATHIC PAIN COMPONENT IN PATIENTS WITH SPONDYLOARTHRITIS?

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Background: Criteria to define inflammatory back pain in Spondyloarthritis (SA) are multiple. Although neuropathic pain component was known to be part of disease symptoms, it has been rarely assessed.

Objectives: The aim of this study was to determine the prevalence of the neuropathic pain component in SA patients and secondarily, to detect correlation with the disease duration, activity scores and functional impairment.

Methods: A cross-sectional study including patients with radiographic axial SA defined by ASAS criteria was conducted. Patients were questioned about their neuropathic pain using painDETECT questionnaire and Douleur Neuropathique en 4 Questions (DN4) interview. Further information about disease characteristics, activity (BASDAI, ASDAS_{CRP}) and functional (BASFI) scores were assessed the same day.

Statistical analysis, was performed by K χ^2 -test for qualitative variables and Student-test for quantitative variables. A p value ≤ 0.05 was considered significant.

Results: Forty patients were included. The average age was about 41 years old (± 12.9) and the sex ratio was 12.3 (H/F). The mean disease duration was 10.7 ± 6.9 years. Most of patients suffered from back pain and the visual analogic scale pain scale was about 3.78 ± 2.5 . The mean BASDAI score was 2.75 ± 2.3 and the mean ASDAS_{CRP} was 2.24 ± 1.07 . The average BASFI score was 2.57 ± 2.5 . Neuropathic pain component was noted only in 7.5% of patients by DN4 interview ($\geq 4/10$) and in 10% of patients by pain DETECT questionnaire.

As expected, patients with DN4 ≥ 4 were correlated to the visual analogic scale pain ($p=0.04$) and female gender ($p=0.07$). But no relation was found with the type of SA or the disease activity or the functional scores.

Conclusion: Neuropathic pain component was noted only in 10% of SA in our work. Positive correlation was found with visual analogic scale pain and female gender. Larger studies are needed to assess this type of pain since therapeutic strategy may be affected.

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SAT0349 HIGHER DISEASE ACTIVITY IS ASSOCIATED WITH MORE SPINAL RADIOGRAPHIC PROGRESSION IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

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Background: The association between disease activity and spinal radiographic progression in radiographic axial spondyloarthritis (r-axSpA) has been previously shown in a cohort of patients (pts) not being treated with TNF inhibitors (TNFi).¹

Objectives: To test the possible association between disease activity and spinal radiographic progression in r-axSpA in a real-life cohort, also including patients treated with TNFi.

Methods: Pts with axial spondyloarthritis (axSpA) fulfilling the modified New York criteria (mNY) were included in this prospective, observational cohort (ALBERTA FORCAST). Clinical and imaging data were collected at baseline and every 2 years up to 10 years of follow-up. Radiographs of the spine were independently scored by 2 central readers and one adjudicator (if disagreement), with known chronological order but blinded to clinical data, using the modified Stoke Ankylosing Spondylitis Spine Score (mSASSS). To be included, pts had to have ≥ 1 2-year interval with data on mSASSS from ≥ 1 reader available as well as complete data on ASDAS and TNFi exposure at the start of the interval. The association between ASDAS at the start of the interval (t) and mSASSS 2 years later (t+1) was tested in two types of longitudinal GEE models: i. multilevel (2 readers) model with the individual reader scores as outcome (2-level models); ii. Using as outcome averaged scores between readers (1-level models). Both type of models were adjusted for mSASSS at t (autoregression) and for a set of potential confounders defined a priori on clinical grounds (Figure).

Results: In total, 314 pts (442 intervals) were included [74% males, mean symptom duration 17.8 (SD 11.7) years, 83% HLA-B27 positive and 7% previously treated with ≥ 1 TNFi]. At baseline the mean ASDAS was 2.7 (1.3) and the mean mSASSS 13.8 (18.9). During follow-up 213 (68%) pts received treatment with TNFi in ≥ 1 visit. Overall, the average 2-year progression was 1.33 (2.68) mSASSS-units per 2-year interval. In the 2-level multivariable model, 1 ASDAS-unit increase at t was associated with an increase of 0.25 mSASSS-units at t+1 [β (95% CI): 0.25 (95%CI 0.10; 0.41)] (Figure). Results were similar using the averaged mSASSS as the outcome [β (95% CI): 0.25 (0.08; 0.43)].

Conclusion: These data add to previous evidence by showing that a higher ASDAS is associated with higher spinal radiographic progression in pts with r-axSpA independent of prior treatment with TNFi.

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Figure. Longitudinal effect of ASDAS at the start of the interval on mSASSS 2 years later in a multilevel, multivariable linear GEE model with autoregression (N=313; model also adjusted for mSASSS at t-1 ('autoregressor'), Number of TNFi before baseline (continuous) and TNFi at t-1 (yes vs no)).

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Pfizer, Sanofi, Stephanie Wichuk: None declared, Praveena Chiowchanwisawakit: None declared, Terrie MacCosham: None declared, Joel Paschke: None declared, Désirée van der Heijde Consultant for: AbbVie, Amgen, Astellas, AstraZeneca, Bristol-Myers Squibb, Boehringer Ingelheim, Celgene, Daiichi, Eli-Lilly, Galapagos, Gilead, GlaxoSmithKline, Janssen, Merck, Novartis, Pfizer, Regeneron, Roche, Sanofi, Takeda, Union Chimique Belge, Robert B.M. Landewé: None declared, Walter P. Maksymowych Grant/research support from: Abbvie, Novartis, Pfizer, Consultant for: Abbvie, Boehringer, Celgene, Galapagos, Lilly, Novartis, Pfizer, UCB, Speakers bureau: Abbvie, Boehringer, Celgene, Galapagos, Lilly, Novartis, Pfizer, UCB

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SAT0350

THE IMPACT OF FIBROMYALGIA ON SLEEP DISTURBANCE AND QUALITY OF LIFE IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Sleep disturbance is a very frequent symptom in patients with diseases associated with pain syndrome [1, 2]. Prevalence of sleep disorders in ankylosing spondylitis (AS) patients varies in a range of 35% to 90% [2]. One of the most common comorbid condition in patients with AS is fibromyalgia (FM), that can significantly worsen quality of life and sleep quality in patients with AS.

Objectives: The aim of this study was to evaluate the impact of FM comorbidity on sleep disturbance and quality of life in patients with AS.

Methods: One hundred and nineteen patients with AS according to modified New York criteria (mean age (M±SD) 42.23±11.5 years; 21 women and 98 men) were enrolled in the study. FM was diagnosed based on the 1990 American College of Rheumatology classification criteria. All patients were asked to complete self-report questionnaires, including the Pittsburgh Sleep Quality Index (PSQI) and Ankylosing Spondylitis Quality of Life Questionnaire (ASQoL) to assess sleep disturbance and quality of life.

Results: Of the AS patients, 23 (19.3%) met the criteria for FM. The patients were divided into two groups in terms of having or not having FM. Groups were representative for age and disease duration. Patients with AS and concomitant FM showed significantly increased frequency of sleep disturbance according to the PSQI. Only 26 patients with AS (27%) scored <5 and indicated as "good sleepers", whereas all patients with AS and concomitant FM has poor sleep quality. In group with AS patients mean scores (M±SD) of PSQI were 7.52±3.96 and in group with AS+FM - 11.04±3.5 ($P < 0.01$). Table 1 shows detailed information on the sleep quality of patients with and without FM.

Table 1. Sleep Disturbances in patients with Ankylosing Spondylitis and Concomitant Fibromyalgia according to Pittsburgh Sleep Quality Index (sleep component scores)

Component	AS with FM (n=23) (M ± SD)	AS without FM (n=96) (M ± SD)	P
Sleep quality	1.78±0.74	1.49±0.74	< 0,05
Sleep latency (time to fall asleep)	2.00±0.85	1.31±1.03	< 0,05
Sleep duration (hours of sleep)	1.61±1.08	1.16±1.02	< 0,05
Sleep efficiency (percentage of time asleep while in bed)	1.83±1.19	0.85±1.15	< 0,05
Sleep disturbances	1.87±0.46	1.32±0.55	< 0,05
Use of sleep medication	0.30±0.70	0.15±0.53	NS
Daytime dysfunction	1.65±0.93	1.23±0.91	< 0,05

In general, for each of the component scores, patients with AS scored lower than patients with AS+FM, with statistically significantly less severe sleep problems on all domains except for use of sleep medication. Patients with AS and concomitant FM showed poorer quality of life according to ASQoL compared to patients with alone AS (13.8±2.35 vs. 8.6±4.01; $p < 0,01$).

Conclusion: Sleep disturbance is a frequent condition in patients with AS. Our study results demonstrate the significant impact of FM comorbidity on sleep disturbance and quality of life in patients with AS.

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SAT0351

IBIS-Q (IBD IDENTIFICATION OF SPONDYLOARTHRITIS QUESTIONNAIRE): A NEW TOOL TO DETECT SPONDYLOARTHRITIS IN INFLAMMATORY BOWEL DISEASE PATIENTS

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Background: Extra-intestinal manifestations (EIM) are frequent in IBD with peripheral and axial spondyloarthritis (SpA) being the commonest EIM, being reported in up to 23% of subjects.. Early detection of SpA is clinically relevant to drive the therapeutic management including the right treatment at the right time to prevent disability and improve the quality of life. In the literature there are few validated Rheumatology referral models for SpA for gastroenterological use

Objectives: The aim of this study was to develop a questionnaire to identify peripheral and axial SpA in a cohort of IBD patients (setting: IBD Unit of Sacro Cuore-Negar Hospital Verona in a rheumatological-gastroenterology clinic).

Methods: During a preliminary meeting a group of experts in SpA-IBD (6 rheumatologists and 4 gastroenterologists) generated a list of 42 items thought to cover all possible SpA manifestations including spinal, articular and enthesal involvement. Consecutive patients referred to the IBD Unit were then enrolled from January to May 2018 without excluding patients affected by EIM. Rheumatologic assessment was performed in the same day by a Rheumatologist blinded to the medical story and to the questionnaire results in order to collect data about the 66 swollen joint count (SJC) and 68 TJC, MASEI, LEI, presence of ASAS criteria for axial and peripheral SpA, presence of diagnostic criteria for fibromyalgia (FM) and non-specific low back pain (NSLB) pain mainly due to OA). If the patient presented a tender/swollen entheses, a US exam completed the clinical examination. The patient completed BASDAI and BASFI questionnaires in the same day. Factorial analysis to identify the main factors; ROC curves for sensibility/specificity; Youden index for cut-off were performed.

Table 1

1. Have you had pain in your heels?
2. Have you ever had back pain lasting at least 3 months that was not injury related?
3. Have you ever had a swollen wrist without having any trauma?
4. Have you ever had a swollen knee without having any trauma?
5. Do you wake up at night and walk because of low back pain?
6. In the morning is your back stiff for more than 30 minutes?
7. Have you ever had a stiff neck for some weeks or months?
8. Have you ever had a pain in your thigh which goes down to your knee and not beyond?
9. Is it difficult to pick things up from the floor without flexing your knees?
10. Have you ever had a swollen finger like a "sausage" for some days?
11. Do you find it difficult to walk because of foot pain?
12. Do you feel pain when people shake your hand?
13. Have you ever had swollen and painful hands?
14. Have you ever had swollen and painful feet?

Results: A final 38-items questionnaire was tested in 210 patients (excluding 17 patients for presence of other rheumatic diseases and 12 for incomplete evaluation). The psychometric analysis of the questionnaire was done on data of 181 patients. 58 patients of the enrolled patients met the ASAS criteria for SpA (13 axial, 5 both axial and peripheral 40 peripheral). The SpA prevalence in our cohort was 32% with 10 new cases detected by the questionnaire (5.5%: 7 peripheral and 3 axial). Through the psychometric and factorial analysis, we selected 14-items to