SAT0344

STRUCTURAL RADIOLOGICAL DAMAGE MSASSS SCORE: ASSOCIATION WITH THE PRESENCE OF SUBCLINICAL CAROTID ATHEROMATOSIS IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

Sonia Peña Montelongo¹, Hernandez Vanessa¹, Delgado Frias Esmeralda^{1,2}, Herrera García Ada², Juan Carlos Quevedo-Abeledo³, Iván Ferraz-Amaro^{1,2}.

¹Hospital Universitario de Canarias, Rheumatology, San Cristobal de la Laguna, Spain; ²Hospital Universitario de Canarias, San Cristobal de la Laguna, Spain;

³Hospital Universitario Doctor Negrin, Rheumatology, Las Palmas de Gran Canaria, Spain

Background: Axial spondyloarthropathies (SpA) are associated with an increase in cardiovascular morbidity and mortality, showing an increase of 20% to 40% in the risk of cardiovascular events compared to the general population and constituting the main cause of death. The presence of subclinical atheromatosis, in the form of carotid plaques, is more frequent in patients with SpA than in healthy controls. Axial structural radiological damage in SpA is a consequence of the inflammatory activity of the disease.

Objectives: To analyze whether axial radiological damage by mSASSS (Modified Stoke Ankylosing Spondylitis Spine Score) is related to cardiovascular risk factors or the presence of subclinical atheromatosis in patients with SpA.

Methods: 195 patients diagnosed with SpA according to ASAS criteria without previous history of cardiovascular events or diabetes were assessed. The clinical characteristics, cardiovascular comorbidity, risk profile by Systematic Coronary Risk Evaluation (SCORE) and axial radiological damage (mSASSS score) were analyzed. The presence of plaques and intima-media thickness (cIMT) was determined by carotid ultrasound. The relationship between mSASSS and subclinical atheromatosis was analyzed by multivariate regression analysis.

Results: 36% of patients with SpA showed presence of carotid plaque and a cIMT of 0.651 ± 0.121 mm. *log* mSASSS disclosed a positive univariate relationship with age (beta coefficient 0.07 [95% CI 0.06-0.08], $p = 0.000$) and classic cardiovascular risk factors such as abdominal waist, hypertension (0.73 [95% CI 0.31-1.16], $p = 0.001$), smoking (0.33 [IC95% 0.08-0.59], $p = 0.010$), SCORE (0.33 [IC95% 0.24-0.42], $p = 0.000$) and levels of C-reactive protein, glucose and C-peptide. Similarly mSASSS showed a positive relationship with the BASFI (0.18 [IC95% 0.11-0.26], $p = 0.000$) and BASMI (0.31 [IC95% 0.23-0.38], $p = 0.000$) scores, but not with ASDAS-CRP or BASDAI. The presence of carotid plaque (0.51 [95% CI 0.09-0.93], $p = 0.018$) and a higher cIMT (4.1 [IC95% 2.4-5.7], $p = 0.000$) were also significantly and positively related to a higher mSASSS. When these analyzes were performed in a multivariate phasion adjusting for age and sex, the relationships of *log* mSASSS with cardiovascular risk factors were lost, although the relationship of the former with BASFI, BASMI and SCORE remained statistically significant. With regard to subclinical atheromatosis, the relationship between *log* mSASSS and cIMT was not significant after the multivariate analysis; however, the presence of plaque showed an almost significant relationship after adjustment for age, sex and cardiovascular risk factors (0.34 [95% CI -0.42-0.73], $p=0.081$).

Conclusion: Axial radiological damage through mSASSS is independently related to cardiovascular risk SCORE. A tendency to an independently significant relationship with the presence of carotid plaque was observed.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6451

SAT0345

PREGNANCY RATES AND OUTCOMES IN EARLY AXIAL SPONDYLOARTHRITIS: ANALYSIS OF THE DESIR COHORT

^{1,2}Marion Pons, Nathalie Costedoat-Chalumeau², Karine Briot^{1,2}, Philippe Goupille³, Christian Roux^{1,2}, Maxime Dougados^{1,2}, Anna Moltó^{1,2}.

¹University Paris Descartes, Cochin Hospital, Paris, France; ²INSERM U-1153, CRESS Paris-Sorbonne, Paris, France; ³Tours University, Paris, France

Background: Only scarce data is available on regarding pregnancy rates and pregnancy outcomes in early axial Spondyloarthritis (axSpA).

Objectives: a) to estimate the probability of achieving a clinical pregnancy over time and its associated factors in early axSpA, b) to estimate the probability of presenting an unfavorable pregnancy outcome over time and its associated factors in this population.

Methods: Observational prospective French cohort (DESIR) with 6y of follow-up, including 381 of TNFi-naïve women with early axSpA. Study visits were scheduled every 6 months in the first two years of follow up then yearly up to 6 years. Data on pregnancy were collected both retrospectively (before cohort inclusion) and prospectively (since inclusion) up to 6

years of follow up. Baseline characteristics of nulligravidae and uni/multi-gravidae patients where compared. The probability of achieving at least one pregnancy over time was estimated (Kaplan Meier). Associated factors were estimated by multivariable Frailty Shared Models and mixed models taking into account the correlation between several pregnancies from the same women. The probability to present an unfavorable pregnancy outcome over time (i.e. a miscarriage or pre-term delivery or an elective termination of pregnancy) was estimated only during the prospective period (Kaplan Meier) since associated factors were collected also prospectively. Associated factors to an unfavourable pregnancy outcome were estimated by multivariable Frailty Shared Models and mixed models.

Results: Of the 381 women included in the analysis, 276 (72.4%) and 105 (27.6%) women were respectively multigravidae and nulligravidae at the end of the 6y follow-up. Multigravidae women were significantly older (37.2 ± 8.0 vs 27.6 ± 7.1 , $p < 0.01$), less educated (56.7% vs 71.2% university studies, $p = 0.01$), reported higher fatigue levels (6.3 ± 2.1 vs 5.7 ± 2.4 , $p = 0.02$), higher BASDAI (4.9 ± 1.9 vs 4.4 ± 1.9 , $p = 0.03$), and higher BASFI (3.6 ± 2.4 vs 2.8 ± 2.2 , $p = 0.003$) scores at baseline. The probability to have at least one pregnancy throughout life was 61.8% [55.1-67.5]. The mean age at the first pregnancy was 27.3 years old.

One hundred and twenty-four pregnancies occurred during follow-up. The probability to have at least one clinical pregnancy during this period was 28.5% [0.2-0.3]. Lack of TNFi use in the 6 months preceding the pregnancy outcome (HR=2.0 [95%CI 1.1-3.3], $p = 0.01$) and a CRP ≥ 6 mg/L (HR=1.7[95%CI 1.2-2.5], $p = 0.01$) were found to be associated with a pregnancy over follow-up.

Among the 80 pregnancies occurring after inclusion with data available on the outcome, 60 (75%) presented a full-term delivery while 12 (15.0%) presented an unfavorable pregnancy outcome (6 (7.5%) and 6 (7.5%) had a miscarriage or a pre-term delivery, respectively), 2(2.5%) had a voluntary interruption of pregnancy and 6 (7.5%) were pregnancies still ongoing at the end of follow-up. Only NSAID use (HR=2.5[95%CI 1.1-5.0], $p = 0.02$) within 6 months of delivery were associated with an unfavorable outcome. TNFi use during pregnancy (6 patients) was not associated with an unfavorable outcome (HR=2[95%CI 0.8-5.0], $p = 0.10$).

Conclusion: More than 70% patients within this early axSpA had at least one pregnancy. A favorable pregnancy outcome (i.e. full-term delivery) was observed in 75% of patients, which is comparable to the general population data. Patients who achieved a pregnancy were more likely to have stopped their TNFi 6 months prior to the pregnancy outcome and increased their CRP, probably reflecting clinical practice from 10 years ago, when recommendation was to withdraw TNFi before pregnancy. NSAID use within 6 months of delivery was independently associated with an unfavorable pregnancy outcome, while TNFi use was not.

Disclosure of Interests: Marion Pons: None declared, Nathalie Costedoat-Chalumeau: None declared, Karine Briot Consultant for: Karine Briot has received consultancy honoraria and conference fees from UCB, Amgen, Lilly and MSD, Philippe Goupille Grant/research support from: Financial compensation received from MSD on a pro-rotas basis for participation in Scientific Committee meetings and functions for this study, Speakers bureau: Abbvie, Biogaran, BMS, Hospira, Janssen, MSD, Pfizer, Sanofi-Genzyme, UCB, Christian Roux Grant/research support from: Alexion, Amgen, UCB, maxime dougados Grant/research support from: Eli Lilly and Company, Pfizer, AbbVie, and UCB Pharma, Consultant for: Eli Lilly and Company, Pfizer, AbbVie, and UCB Pharma, Anna Moltó: None declared

DOI: 10.1136/annrheumdis-2019-eular.5001

SAT0346

EARLY RECOGNITION OF AXIAL SPONDYLOARTHRITIS IN PATIENTS WITH ACUTE ANTERIOR UVEITIS: COMPARISON OF TWO REFERRAL STRATEGIES

Judith Rademacher^{1,2}, Hildrun Haibel¹, Susanne Lüders¹, Burkhard Mücke¹, Fabian Proft¹, Mikhail Protopopov¹, Valeria Rios Rodriguez¹, Laura Spiller¹, Sabrina Sron¹, Anne Katrin Weber¹, Uwe Pleyer³, Denis Poddubnyy^{1,4}, ¹Charité – CBF Medizinische Klinik für Gastroenterologie, Infektiologie u. Rheumatologie, Rheumatology, Berlin, Germany; ²Berlin Institute of Health, Berlin, Germany; ³Charité Campus Virchow Klinikum, Ophthalmology, Berlin, Germany; ⁴Deutsches Rheuma-Forschungszentrum (DRFZ), Berlin, Germany

Background: Diagnostic delay in axial spondyloarthritis (axSpA) remains with 5 to 9 years very high. Extraarticular manifestations like acute anterior uveitis might occur as first manifestations. Up to 40% of patients with acute anterior uveitis have an undiagnosed SpA. Recently, the Dublin Uveitis Evaluation tool (DUET) was proposed as a SpA screening

instrument for ophthalmologists [1]. At the same time, the ASAS referral tool [2] can also be used on the level of ophthalmologists.

Objectives: The objective of the study was to compare the performance of the DUET and the ASAS referral tools for recognition of SpA in patients with acute anterior uveitis.

Methods: A total of 100 consecutive patients with acute anterior uveitis of an ophthalmology clinic were included, 87 had completed a standardized rheumatological examination (including MRI of sacroiliac joints) allowing for a definite conclusion on the presence/absence of SpA. The sensitivity, the specificity and the positive predictive value of both referral tools were calculated.

Results: Out of the 87 patients with acute anterior uveitis 54 (62%) were diagnosed with SpA (51 with axSpA, one with peripheral SpA, one with reactive arthritis and one with psoriatic arthritis), in 36 cases the diagnosis was made for the first time. The performance of both referral tools is presented in table. The ASAS referral tool showed higher sensitivity (that was especially evident in the previously undiagnosed population) but somehow lower specificity compared to the DUET. The positive predictive value was comparable for both tools indicating that approximately 2 patients with uveitis should be referred in order to diagnose one case of SpA.

In our study, MRI scans were performed on all patients including those without back pain. We thereby diagnosed axial spondyloarthritis in 5 patients, even though they did not fulfill the ASAS classification criteria as they never reported back pain (1 patients) or their back pain did not start prior to the age of 45 years (4 patients).

Table. Test performance of two referral tools in all patients and only patients without a diagnosed spondyloarthritis (SpA): Dublin Uveitis Evaluation Tool (DUET) versus an adaptation of the Assessment of SpondyloArthritis International Society referral tool (ASAS).

	ASAS, n/N (%)	DUET, n/N (%)	ASAS, patients without a known diagnosis of SpA, n/N (%)	DUET, patients without a known diagnosis of SpA, n/N (%)
Sensitivity	48/54 (88.9%)	45/54 (83.3%)	31/35(86.1%)	27/35(75.0%)
Specificity	8/33 (24.2%)	13/33 (39.4%)	8/31(25.8%)	12/32(41.9%)
Positive predictive value	48/73 (65.8%)	45/65 (69.2%)	31/54(57.4%)	27/45(60.0%)

Figure. DUET and ASAS referral tool, modified after [1,2].

Conclusion: We revealed a high prevalence of undiagnosed SpA in patients with acute anterior uveitis. As anticipated, the more complex DUET including also psoriasis and HLA-B27 positivity showed higher specificity for recognition than the ASAS referral tool. However, the ASAS tool has a higher sensitivity (especially in undiagnosed population) and a better feasibility (purely clinical tool, does not include HLA-B27 testing and evaluation of psoriasis by an ophthalmologist).

REFERENCES

- [1] Haroon M, et al. *Ann Rheum Dis* 2015;74:1990-5.
- [2] Poddubnyy D, et al. *Ann Rheum Dis* 2015;74:1483-7.

Acknowledgement: The study was supported by an unrestricted research grant from Abbvie.

Disclosure of Interests: Judith Rademacher: None declared, Hildrun Haibel: None declared, Susanne Lüders: None declared, Burkhard Mueche Speakers bureau: Yes less than 10.000, Fabian Proft Grant/research

support from: Novartis, Consultant for: yes but less than 10.000, Paid instructor for: yes but less than 10.000, Speakers bureau: yes but less than 10.000, Mikhail Protopopov: None declared, Valeria Rios Rodriguez: None declared, Laura Spiller: None declared, Sabrina Sron: None declared, Anne Katrin Weber: None declared, Uwe Pleyer: None declared, Denis Poddubnyy Grant/research support from: AbbVie, Merck Sharp & Dohme, Novartis, Consultant for: AbbVie, Bristol-Myers Squibb, Janssen, Merck Sharp & Dohme, Novartis, Pfizer, UCB Pharma, Speakers bureau: AbbVie, Bristol-Myers Squibb, Janssen, Merck Sharp & Dohme, Novartis, Pfizer, Roche, UCB Pharma

DOI: 10.1136/annrheumdis-2019-eular.2853

SAT0347

COMORBID CONDITIONS ARE ASSOCIATED WITH HIGHER DISEASE ACTIVITY AND WORSE FUNCTIONAL STATUS IN AXIAL SPONDYLOARTHRITIS: A POPULATION-BASED ANALYSIS OF INSURANCE CLAIMS LINKED TO PATIENT SURVEY DATA

Imke Redeker¹, Johanna Callhoff², Falk Hoffmann³, Hildrun Haibel¹, Joachim Sieper¹, Angela Zink², Denis Poddubnyy¹. ¹Charité – Universitätsmedizin Berlin, Department of Gastroenterology, Infectiology and Rheumatology, Berlin, Germany; ²German Rheumatism Research Centre, Epidemiology Unit, Berlin, Germany; ³Carl von Ossietzky University, Department of Health Services Research, Oldenburg, Germany

Background: Data on the prevalence of comorbidities and their association with disease activity and functional status in axial spondyloarthritis (axSpA) are scarce.

Objectives: The aim of this study was to investigate the prevalence of comorbid conditions and to analyse their association with disease activity and functional status in a population-based cohort of patients with axSpA.

Methods: A stratified random sample of subjects with a diagnosis of axSpA (ICD-10 M45) was drawn from health insurance data in Germany and received a questionnaire on disease-related, demographic and socioeconomic parameters. A sex- and age-matched control cohort without axSpA was drawn from the claims data. Information on comorbidities, drug prescriptions and non-pharmacological treatment was retrieved from claims data and linked to the questionnaire data for axSpA. Multivariable linear regression models were used to determine the association of comorbidities (defined by Elixhauser coding algorithms excluding rheumatic diseases) with disease activity and functional status.

Results: A total of 1,776 patients with axSpA were included in the analyses; mean age was 56.1 years and 46.4% were female. The most prevalent comorbid conditions were hypertension (50.9%), depression (25.5%), and chronic pulmonary disease (23.4%) (Figure 1). The prevalence of the majority of comorbidities was higher in axSpA as compared to controls. In the multivariable linear regression analyses, the number of comorbidities was significantly associated with both BASDAI and BASFI: each comorbidity was associated with BASDAI increase by 0.12 and BASFI increase by 0.10 points independently of other factors including treatment (Table 1).

Table 1. Impact of comorbidity on disease activity (BASDAI) and functional impairment (BASFI) in patients with axial spondyloarthritis (N=1,776): Results from multivariable linear regression models.

Reference	BASDAI β (95% CI)	BASFI β (95% CI)
Elixhauser Index*	per unit 0.12 (0.07, 0.17)	0.10 (0.04, 0.17)
Number of pharmaceuticals**	per unit -	0.03 (0.01, 0.06)
Age	per 10 years 0.11 (0.04, 0.19)	0.51 (0.42, 0.60)
Sex, female	male 0.55 (0.37, 0.73)	-0.02 (-0.24, 0.21)
Uveitis, present	not present -0.42 (-0.74, -0.09)	-
In rheumatological care	no 0.29 (0.09, 0.50)	0.60 (0.37, 0.82)
Body mass index, kg/m ²	per unit 0.02 (0.00, 0.04)	0.07 (0.05, 0.10)
Lack of exercise	no -	0.62 (0.37, 0.88)
Smoking (current)	no 0.28 (0.05, 0.52)	0.54 (0.28, 0.80)
Suffering from stress	no 0.76 (0.57, 0.95)	0.23 (0.01, 0.46)
NSAIDs	no 0.43 (0.24, 0.62)	-
bDMARDs	no -0.37 (-0.63, -0.11)	-
Non-opioid analgesics	no 0.34 (0.12, 0.56)	0.43 (0.15, 0.71)
Opioids	no 1.02 (0.76, 1.27)	1.64 (1.32, 1.97)
Steroids	no 0.26 (0.02, 0.49)	-
Physical therapy	no 0.31 (0.13, 0.50)	0.37 (0.15, 0.59)

*excluding rheumatic diseases; **except axSpA-related medication.

BASDAI, Bath Ankylosing Spondylitis Disease Activity Index; BASFI, Bath Ankylosing Spondylitis Functional Index; bDMARDs, biological disease-modifying anti-rheumatic drugs; NSAIDs, non-steroidal anti-inflammatory drugs.