peripheral and axial spondyloarthritis, $n = 1$, peripheral inflammatory arthralgia, $n = 4$) with parallel evolution to intestinal symptoms ($n = 8$) or with independent evolution ($n = 3$). One patient had chondrocalcinosis ($n = 1$) (cf figure).

Among the 11 patients with articular manifestations linked to IBD, 10 were previously treated with anti-TNF α . The only predictive factor for inflammatory manifestation was a history of previous inflammatory articular manifestation, present in 43.8% ($n = 7/16$) of patients with inflammatory articular manifestation versus in 12.5% ($n = 10/80$) of patients without articular manifestation, $p = 0.007$.

Vedolizumab was stopped in 7 patients (6.3%), due to articular symptoms ($n = 1$), to digestive symptoms ($n = 4$) or both ($n = 2$).

Conclusion: Articular manifestations occurred in almost 30% of patients treated with vedolizumab. Half of them were inflammatory (15%), including 5% of early reversible arthralgia during perfusion. We observed 11 manifestations linked to IBD, including 7 spondyloarthritis, potentially unmasked by withdrawal of anti-TNF α . Indeed, the only predictive factor of inflammatory arthritis was history of previous articular inflammatory manifestation. However, withdrawal of vedolizumab because of inflammatory arthritis was necessary in only 0.9% of all patients.

Disclosure of Interests: Anastasia Dupré: None declared, Michael Collins Speakers bureau: Lecture fee for Takeda, Abbvie, MSD et Celgene, Frank Carbonnel: None declared, Xavier Mariette Grant/research support from: Servier, Consultant for: AstraZeneca, Bristol-Myers Squibb, GlaxoSmithKline, Janssen, Pfizer, UCB Pharma, Gaetane Nocturne: None declared, Raphaële Seror: None declared

DOI: 10.1136/annrheumdis-2019-eular.3969

SAT0325 REDUCED STRAIN AND INCREASED STIFFNESS OF COMMON CAROTID ARTERIES IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Ankylosing spondylitis (AS) is associated with an increased risk of cardiovascular disease (CVD) which also contributes to the increased mortality observed in AS. It is therefore important to develop non-invasive, accurate methods for early detection of atherosclerotic vascular changes. Studies, in other populations, have demonstrated associations between arterial stiffness and atherosclerotic burden and incident cardiovascular events. The arterial stiffness can be examined by ultrasound providing the β stiffness index that evaluates mechanical deformation properties. Technological advancements in ultrasound have developed a method assessing strain, using speckle tracking technique, which measures deformation mechanics in more dimensions. The speckle tracking method assessing arterial wall motion might permit earlier detection of subclinical CVD.

Objectives: To study, for the first time, bilateral common carotid arterial (CCA) circumferential strain and β stiffness index in patients with AS and 1) compare the results with age and sex-matched controls and 2) explore relationships between circumferential strain and β stiffness index with

disease activity, physical function and traditional risk factors for CVD in patients with AS.

Methods: A cohort of 149 patients with AS from Northern Sweden (Modif NY, mean age 55.3 ± 11.2 years, 102(68.5%) men, 146(98%) HLAB27) were assessed with spinal radiographs for mSASSS, clinical examination and BASMI, BASFI, ASDAS-CRP and BASDAI. Forty-six patients with AS (50.4 ± 8.7 years, 31(67%) men) and 46 age- and sex-matched controls (49.8 ± 9.2 years, 31(67%) men) with no known hypertension, diabetes or previous CV events were compared. Bilateral CCA ultrasound was carried out on all patients and controls. The circumferential systolic strain was measured and the β stiffness index was calculated. To analyze factors associated with strain and β stiffness index univariate and standard multivariable linear regression analyses were used. Variables with a univariate p -value ≤ 0.1 were considered for the multivariable models. For dichotomous variables, yes was coded 1 and no was coded 0.

Results: The mean strain was significantly lower in AS patients compared with controls, $7.9 \pm 2.6\%$ vs $10.3 \pm 1.9\%$, $p < 0.001$ and the mean β stiffness index was significantly higher in AS compared to controls, 13.1 ± 1.6 mmHg/mm vs 12.3 ± 1.3 mmHg/mm, $p = 0.018$.

Conclusion: Both CCA strain and β stiffness index differed significantly between AS patients and controls indicating a worse subclinical arterial status in AS. The CCA strain was associated with several AS related variables while the β stiffness index with age and smoking indicating that the methods complement each other in the assessment of distensibility of arteries in patients with AS.

Disclosure of Interests: Helena Forsblad-d'Elia Grant/research support from: Unrestricted grants from Novartis outside the submitted work, Consultant for: Advisory board fees from Sandoz, Novartis and Abbvie, Speakers bureau: Lecturing fees from Novartis, Lucy Law: None declared, Karin Bengtsson: None declared, Stefan Söderberg Consultant for: Advisory board fees from Actelion and MSD, Speakers bureau: Lecturing fees from Actelion, Per Lindqvist: None declared

DOI: 10.1136/annrheumdis-2019-eular.4587

SAT0326 PLANS FOR MOTHERHOOD ARE CHANGED AFTER DIAGNOSING ANKYLOSIS SPONDYLITIS (AS). AS FEMALE PATIENTS' ATTITUDE TO THE USE OF AS MEDICATIONS DURING PREGNANCY PLANNING AND CONCEPTION

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Background: Plans for motherhood are changed after diagnosing ankylosing spondylitis (AS). AS female patients' attitude to the use of AS medications during pregnancy planning and conception.

Objectives: To describe the impact of diagnosing AS on woman's plans to have children, and patients' attitude to continuing AS therapy while planning pregnancy or after definite conception.

Methods: 302 AS female patients participated in the survey conducted from May to November 2018. Patient's mean age was 32.4 ± 6.0 years, average AS duration from onset of symptoms was 10.2 ± 7.4 years. 224 (74.2%) respondents had higher education, 68 (22.5%) – vocational college education and 10 (3.3%) – secondary education. Totally 492 pregnancies were reported in 214 (70.9%) respondents, including 278 pregnancies before AS onset, while 214 occurred with underlying AS.

Results: 206 women (68.2%) have changed their attitude to potential pregnancy occurring during AS:

- 12 (5.8%) were firmly set to terminate an unplanned pregnancy;
- 21 (10.2%) were giving up on pregnancy because they already have children born before AS onset;
- 9 (4.4%) were against getting pregnant, although they yet haven't had children;
- 164 (79.6%) accepted potential pregnancy, although recognizing they would experience continuous emotional discomfort and fear for their own health and health of the unborn child.
- 42 (13%) women were distinctly against getting pregnant in case they have AS.

There was a weak inverse correlation between AS duration and changing patients' attitude to pregnancy ($R = -0.14$, $p < 0.05$).

150 (49.7%) respondents discussed pregnancy planning with a rheumatologist. Women with university degree were more likely to consult a rheumatologist before trying for a baby compared to subjects with vocational college and secondary education (55.5%, 35.3% and 40%, respectively; $p = 0.02$). 53 (35.3%) patients failed to receive a comprehensive answer to their questions related to AS and pregnancy mutual influence, the probability of AS inheritance by a child, safety of AS therapy at conception

Table.. Multivariable linear regression analysis in 149 patients with AS

Mean CCA circumferential strain, %			Mean β stiffness index, mmHg/mm		
Covariates	β	p-value	Covariates	β	p-value
Age, years	-0.22	0.021	Age, years	0.29	0.008
Anterior uveitis, Y/N	-0.17	0.021	Peripheral arthritis, Y/N	0.077	0.35
cs and/or bDMARD, Y/N	-0.15	0.036	Hypertensive disease, Y/N	0.066	0.43
BASFI, score	0.033	0.69	BASMI, score	0.12	0.32
BASMI, score	-0.008	0.93	Syndesmophyte, Y/N	-0.039	0.69
ESR, mm/h	-0.30	<0.001	Pack years, smokers, n	0.16	0.059
Cholesterol, mmol/L	-0.021	0.79	Pulse pressure, mmHg	-0.002	0.98
HDL, mmol/L	-0.094	0.22	Heart rate, bpm	0.13	0.12
Systolic blood pressure, mmHg	-0.025	0.81			
Diastolic blood pressure, mmHg	-0.121	0.22			
Heart rate, bpm	-0.16	0.038			
Adjusted R ² 0.31			Adjusted R ² 0.22

and during pregnancy; moreover, in 4 cases AS was interpreted as contra-indication to pregnancy.

107 (35.4%) respondents believe that AS medications should be discontinued during pregnancy planning and conception, 75 (24.8%) subjects accepted possible use of AS therapy during this period, while 120 (39.8%) didn't know the answer. 15.2% of respondents were ready to continue on NSAIDs, 20 (6.6%) – on glucocorticoids and sulfasalazine, and 21 (7%) – on biological drugs (GBD). Of those who are ready to continue on AS medications at conception, 46 women (61.3%) consulted pregnancy planning with a rheumatologist. Respondents with higher education were slightly more likely to continue on AS therapy at conception (29%) compared to women with vocational college education (11.8%). Age, AS duration, or marital status had no influence on patients' attitude to AS therapy during pregnancy planning and conception.

Conclusion: The majority of surveyed female patients changed their attitude to pregnancy after establishing AS diagnosis, although only 13% of them were ready to avoid pregnancy due to AS. No more than 50% of respondents were consulted a rheumatologist before planning pregnancy, and up to one third of them were not receive all expected answers to their questions and recommendations. Only 1/4 of participants accept the idea of continuing AS therapy during pregnancy planning and conception.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.3958

SAT0327

SEGMENTAL RELATIONSHIP BETWEEN MOBILITY, STRUCTURAL DAMAGE AND DISEASE ACTIVITY IN AXIAL SPONDYLOARTHRITIS

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Background: Axial Spondyloarthritis (axSpA) is characterised by progressive loss of spinal mobility, due to inflammation and structural damage. Conventional mobility tests have been used alongside radiographic structural damage and disease activity scores in order to explore the overall relationship between spinal mobility, structural damage and disease activity. This has rarely been done at the segmental level e.g. at the level of the lumbar spine only. The ViMove inertial motion sensor-based system allows segmental spinal mobility to be directly measured, namely at the lumbar spine level.

Objectives: To analyse the relationship between mobility, structural damage and disease activity in the lumbar spine of patients with axSpA.

Methods: Lumbar spinal mobility was measured using the the ViMove system with a pair of sensors located at L1 and the sacrum. Lumbar ROM in the three planes (anterior flexion - LFF, extension - LFE, lateral flexion - LL, and rotation - LR) was measured. Radiographs were obtained to calculate the lumbar part of the mSASSS (LmSASSS). Other outcome measures were: BASMI, Schober and lateral flexion (measured with a tape), BASDAI and ASDAS-CRP. Subgroups of patients with high and low levels of lumbar structural damage were defined, by dichotomising the population based on the median LmSASSS (5.5). Pearson correlations between measures, Student T tests for significant differences between groups and linear regression analysis, to analyse relationship between structural damage and mobility, were obtained.

Results: 44 axSpA patients were recruited from the COSPAR cohort of the Reina Sofia University Hospital (39% females, age 43±12 years, disease duration 17±14 years, BMI 26±3). All mobility measurements (except for LFE) in the severe damage group were significantly reduced compared to the group with less damage ($p<0.001$). BASDAI and ASDAS

were not significantly different between these groups. LmSASSS correlated ($p<0.001$) with all mobility measures obtained by IMU system and conventional metrology, especially with LFF, but not with activity indexes. Only a weak relation between BASDAI and LFE was found ($p<0.05$). A linear regression for analysing relationship between LmSASSS and LFF including as variables: age, sex, evolution time, BMI, PCR, ASDAS, LFF, LFE, LL, LR and LmSASSS was done. LmSASSS linear regression using only LFF obtained an adjusted R^2 of 0.72 (Figure-A). Introducing the rest of variables, the most significant for LmSASSS was LFF ($p<0.001$) and the other mobility measures (LL, LR with $p<0.05$) and age, PCR and ASDAS ($p<0.01$) with an adjusted R^2 of 0.81 (Figure-B). For LFF, LmSASSS was the most significant ($p<0.001$), with Sex ($p<0.01$) and PCR ($p<0.05$) included, obtaining an adjusted R^2 of 0.76 (Figure-C). Differences between models and fitted values (RMSE) were 3.8 units for LmSASSS and 7.7° for LFF.

Conclusion: Other studies have shown a relationship between mobility, structural damage and disease activity using a more global assessment. Our study focuses on the analysis of structural damage and mobility in the lumbar vertebrae, and our results suggest that structural damage is the dominant factor determining spinal mobility in this region (especially lumbar frontal flexion). Further studies are needed combining these results with MRI.

Acknowledgement: This study was funded by FOREUM (www.foreum.org), Junta de Andalucía (PIN-0079-2016) and XXI Research Promotion Program of the University of Córdoba (Spain).

Disclosure of Interests: Juan L. Garrido-Castro: None declared, Inmaculada Concepcion Aranda-Valera: None declared, Cristina Gonzalez-Navas: None declared, Pedro Machado Consultant for: Abbvie, BMS, Celgene, Janssen, MSD, Novartis, Pfizer, Roche and UCB, Speakers bureau: Abbvie, BMS, Celgene, Janssen, MSD, Novartis, Pfizer, Roche and UCB, Philip Gardiner: None declared, Joan Condell: None declared, Eduardo Collantes Estevez: None declared

DOI: 10.1136/annrheumdis-2019-eular.1035

SAT0328

PATIENT-REPORTED ATTITUDES TOWARDS AXIAL SPONDYLOARTHRITIS: RESULTS FROM THE EMAS SURVEY

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Background: Understanding patient disease-related attitudes plays an important role in effective management of axial spondyloarthritis (axSpA). Nevertheless, the patient perspective remains insufficiently explored.

Objectives: To describe patients' axSpA-related fears and hopes and their associations with sociodemographic, disease outcomes and psychological distress.

Methods: The European Map of Axial Spondyloarthritis (EMAS), conducted from July 2017 to February 2018, was a cross-sectional on-line survey of unselected patients with self-reported axSpA from Austria, Belgium, France, Germany, Italy, Netherlands, Norway, Russia, Slovenia, Spain, Sweden, Switzerland, and the UK. Participants were recruited through an online panel and patient organizations. Participant's axSpA-related fears and hopes were freely expressed through open-ended questions (except in France where multiple-choice items were used). Thematic analysis, using the French categories and data-driven codes, was performed and frequencies of specific fears and hopes were subsequently calculated. Associations between disease-related fears and hopes with sociodemographic characteristics, disease outcomes (BASDAI, self-reported spinal stiffness and functional limitation), and psychological distress (General Health Questionnaire, GHQ-12; with a cut-off point of ≥ 3) were

	N	Flexion	Extension	Lateral	Rotation	LmSASSS	BASMI	ASDAS	BASDAI
Total	44	48.8(17.4)	10.5(13.4)	42.7(17.0)	24.8(8.8)	8.0(9.7)	3.0(1.9)	1.9(1.1)	3.7(2.0)
Low	22	57.2(10.0)	12.7(16.9)	49.4(10.1)	27.9(7.6)	1.8(1.5)	2.3(1.4)	1.8(1.2)	3.6(1.9)
High	22	39.6(19.7)	7.7(9.1)	35.1(20.0)	21.1(8.4)	14.2(10.5)	3.9(2.1)	2.2(1.0)	3.7(2.1)