can be tried in patients with AS. The obstetric and perinatal outcomes in women with AS were also comparable to normal pregnant women.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.2511

SAT0399 HEADACHE AS A CLINICAL COMPLAINT AT INITIAL PRESENTATION AND DURING THE DISEASE COURSE IN PATIENTS WITH SPONDYLOARTHRITIS INDICATES CONCOMITANT / SECONDARY FIBROMYALGIA

E. Roussou, M. Karela, A. Georgiou. *Rheumatology, Barking, Havering and Redbridge University Hospitals NHS Trust, London, United Kingdom*

Objectives: To evaluate the symptom of headache as being able to clinically distinguish associated secondary fibromyalgia in patients with spondyloarthropathies (SpA). To compare the incidence of MSK complaints (related to SpA) in patients with headache to those that did not. To assess headache during the SpA disease course.
Methods: Registry data from 776 patients seen in clinic with SpA were analysed with reference to headache as symptom at presentation. The data of those patients presented with headache were compared with data of those patients who did not report headache with regards to demographics and disease characteristics. In addition, other MSK complaints, fatigue and pain during disease course were also analysed.
Results: From a total of 776 patients (m: f=265:508) age 48.3 (SD +14.1), 13 were excluded as no answer was recorded. 117/ 763 patients (15.08%) representing 28 males and 89 females (23.9% vs 76.1% ratio 1:3.1) reported headache at disease onset.
During the disease course, 13 patients out of the initial 117 did not record an answer to the question and were excluded. From remaining 104 patients, 95 patients (91.3%) continued to describe headache as a symptom.
From those not reporting headache as initial symptom, (n=659) 148 did not record an answer and were excluded. From the remaining 511 patients, 194 (37.9%) reported headache during the disease course.
On the data obtained from these 2 sub-groups, comparison took place using paired sample t-test.
Table shows demographics and disease characteristics as well as differences between the 2 SpA sub-groups. Those presenting with headache describe worse disease, more fatigue and a greater percentage describe pain at pressure points and MSK system.

	Headache at presentation (n=117)	No headache at presentation (n=656)	Statistical significance (p)	CI
Age (mean ± SD)	47.7 (13.16)	48.3 (14.3)	0.1	-5.757 to 0.912
Gender (M:F) ratio	28:89 (1:3.1)	219:419 (1:1.9)	0.3	-0.025 to 0.077
Disease duration (y) (mean ± SD)	11.4 (12.1)	10.9 (10.8)	0.4	-1.905 to 4.470
Delay in diagnosis (y) (mean ± SD)	6.43 (8.9)	6.3 (8.1)	0.7	-3.151 to 2.151
ESR (mean ± SD) mmHg	15.5 (14.8)	18.2 (18)	0.07	-11.064 to 0.582
CRP (mean ± SD) mg/dL	10.4 (36)	8.2 (9.8)	0.4	-6.106 to 12.536
BASDAI score (mean ± SD)	7.31 (3.7)	6.06 (2.08)	<0.005	0.783 to 2.624
BASFI score (mean ± SD)	5.6 (2.7)	5.04 (2.7)	0.09	-0.143 to 1.626
Buttock pain (%)	31.6	12.8	0.001	0.083 to 0.293
Back pain (%)	82.9	58.8	<0.005	0.125 to 0.337
Neck pain (%)	72.6	24.4	<0.005	0.340 to 0.583
Knee pain (%)	63.2	30.6	<0.005	0.284 to 0.520
Shoulder (%)	70.9	23	<0.005	0.312 to 0.559
Foot (%)	57.2	22	<0.005	0.279 to 0.524
Hip (%)	55.5	19.9	<0.005	0.217 to 0.467
Eye (%)	23	4.3	<0.005	0.102 to 0.274
Fatigue	77/116 (66.4%)	340/608 (55.9%)	0.018	0.029 to 0.299
Pain with pressure	71/117 (61.2%)	257/807 (42.4%)	0.000	0.122 to 0.378
Headache as co-morbidity	95 (109) 87.2%	195/509 (38.3%)	0.000	0.808 to 0.935

Conclusions: Headache can clinically represent secondary FM among SpA patients. A proportion of patients (representing 15%) report headache at presentation. The majority of those patients (>90%) continue to describe headache during the disease course. From those patients who did not have headache at presentation, 38% report headache during the disease course. Patients describing headache at presentation have more MSK complaints at presentation.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.5354

SAT0400 IS WHIPLASH INJURY A TRIGGERING OR EXACERBATING FACTOR FOR AXIAL SPONDYLOARTHRITIS?

F. Urano, S. Ono, R. Hara, M. Yasumura, T. Muramatsu, S. Suzuki. *Arthritis and Lupus Center, J a Nagano Koseiren Shinonoi General Hospital, Nagano City, Japan*

Background: Axial spondyloarthritis (AxSpA) can be triggered by infection and environmental factors, and some cases involve trauma. Whiplash injury in a traffic accident may lead to exacerbation of symptoms of AxSpA.
Objectives: The aims of this study are to survey the prevalence of trauma before or after onset of AxSpA and to examine the prevalences of neck trauma and other trauma in patients with a history of AxSpA.
Methods: The patients completed a questionnaire, and clinical presentation, inflammatory markers (ESR, CRP), radiographs, MRI of sacroiliac joints, Bath ankylosing spondylitis disease activity index (BASDAI), Bath ankylosing spondylitis functional index (BASFI), and Bath ankylosing spondylitis metrology index (BASMI) were assessed. Onset of symptoms was evaluated using European criteria for spondyloarthritis and patients were asked about mechanical stress (spinal trauma, extremity trauma, and internal organ injury). Patients with rheumatoid arthritis (RA) were included as controls and underwent the same evaluation. Patients with neck trauma were divided into four groups based on a short (<3 years) (group A) or long (≥3 years) (group B) period between disappearance of trauma symptoms and onset of inflammatory back pain (IBP); continuous IBP after trauma (group C); and a gradual change from minor symptoms to severe IBP after trauma (group D).
Results: The subjects were 124 patients with AxSpA and 102 with RA. Trauma occurred at a significantly higher rate in patients with AxSpA than in those with RA (66 (53.2%) vs. 12 (11.8%), p<0.0001). Neck trauma was also significantly more frequent in patients with AxSpA (63 (53.2%) vs. 9 (8.8%), P<0.0001) (Table 1). There were no significant differences in clinical background between patients with AxSpA with and without trauma (Table 2). Regarding the period from neck trauma to onset of IBP in patients with AxSpA, there were 4 (6.3%), 22 (34.9%), 14 (22.2%), and 23 (36.5%) cases in groups A, B, C and D, respectively.

Table 1. Prevalence of items related to mechanical stress in patients with axial spondyloarthritis (AxSpA) and rheumatoid arthritis (RA)

Item	AxSpA n (%) (95%CI)	RA n (%) (95%CI)	P value
Cases (male/female)	124 (46/78)	102 (15/87)	
Mean age (yrs)	51.8±12.9* (49.5-54.1)	66.0±11.7* (63.7-68.2)	<0.0001
Mean duration of illness (yrs)	25.8±14.4*(23.3-28.3)	23.4±10.5* (21.3-25.6)	0.1294
Trauma to date	66 (53.2%) (44.4-62.0)	12 (11.8%) (5.5-18.0)	<0.0001
Neck trauma to date	63 (50.8%) (41.2-58.8)	9 (8.8%) (3.3-14.3)	<0.0001
Neck trauma before onset	25 ** (20.2%) (13.1-27.2)	9 (8.8%) (3.3-14.3)	0.1046
Lumbar trauma	2 (1.6%) (-0.6-3.8)	1(1%) (-0.1-3.0)	0.9244
Operation before onset	33 (26.6%) (18.8-34.4)	16 (15.7%) (8.6-22.7)	0.1048
Fracture before onset	9 (7.3%) (2.7-11.8)	7(6.9%) (2.0-11.8)	0.9001

n: Number of patients, CI: confidence interval, * standard deviation, ** groups A and B

Table 2. Clinical features in patients with AxSpA and without trauma

	AxSpA with trauma average ± SD (95% CI)	AxSpA without trauma average ± SD (95% CI)	Statistical significance
ESR (mmHg/h)	10.48±9.39 (8.21-12.75)	12.84±15.32 (8.90-12.78)	ns
CRP (mg/dl)	0.23±0.42 (0.13-0.33)	0.35±0.78 (0.15-0.55)	ns
BASDAI	2.66±1.24 (2.36-2.96)	2.40±1.23 (2.08-2.72)	ns
BASFI	2.95±2.46 (2.36-3.54)	2.36±2.70 (1.67-3.05)	ns
BASMI	2.62±1.58 (2.24-3.00)	2.48±1.69 (2.05-2.91)	ns

SD: standard deviation, CI: confidence interval, ns: not significant (P>0.05)

Conclusions: The remarkable finding in this study is that half of patients with AxSpA had a history of whiplash injury. These results suggest that trauma may influence the course of AxSpA through the immunological system or hypothalamic-pituitary-adrenal axis.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.3953

SAT0401 PREVALENCE OF ULTRASONOGRAPHIC LOWER AND UPPER ENTHESITIS IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE

G. Cuomo [1], M. Zappia [2], M. Verde [1], D. Sgambato [2], M. Romano [2]. *[1] Dipartimento Assistenziale Integrato di Medicina Interna, UOC Medicina Interna - Università degli Studi della Campania - Luigi Vanvitelli; [2] Dipartimento di internistica Clinica e Sperimentale, Università degli studi della Campania - Luigi vanvitelli, Napoli, Italy*

Background: Spondyloarthritis (SpA) occurs in up to 20% of patients with inflammatory bowel disease (IBD) [1]. Symptomatic enthesitis is a characteristic feature of SpA and represents an early sign of SpA [2]. The prevalence of enthesitis in patients with IBD is not known.
Objectives: This study was designed to evaluate whether patients with IBD showed an increased prevalence of entheseal involvement, even in the absence of clinical symptoms.
Methods: Thirty-five IBD patients (25 M and 10 F, median age 41 yrs), 25 with Crohn's disease (CD) and 10 with ulcerative colitis (UC), all with moderate intestinal activity, and 22 (13 M and 12 F, median age 44 yrs) control subjects with irritable bowel syndrome underwent a thorough clinical evaluation followed by entheses ultrasonography of upper limb (brachial triceps) and lower limb (quadriceps, proximal and distal rotuleus, Achilles tendon and plantar fascia). The Madrid sonographic entheses index (MASEI) was used to score entheses abnormalities [thickness, enthesophytosis, bursitis, erosions with and without power doppler (PD)]. Correlation between IBD features (type, duration and

activity), age, sex and MASEI score was assessed with nonlinear Spearman's rho. Significance of differences was assessed by chi-square test. The level of statistical significance of differences was set at p

Results: All of 35 patients with IBD presented at least one entheses alteration with a mean MASEI of 5.43 (thickness 57.1%, enthesophytosis 42.8%, bursitis 0%, erosions 0%, PD abnormalities 14.2%) vs 3 patients of control group (enthesophytosis 14%) (p

Conclusions: 1) IBD patients showed a significantly higher prevalence of early entheses involvement, even in the absence of clinical symptoms; 2) the entity of entheses alteration as assessed by MASEI did not correlate with type, duration and activity of IBD; 3) age was the only variable which significantly correlated with ultrasonographic entheses involvement.; 4) we speculate that IBD patients should undergo ultrasonography evaluation of entheses and, if any alteration, be followed up for early detection of SpA.

References:

[1] Harbord M et al. J Crohns Colitis. 2016.
[2] Sakellariou G et Clin Exp Rheumatol. 2014.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.4869

SAT0402 FREQUENCY AND HLA PHENOTYPE OF REACTIVE ARTHRITIS, UVEITIS, AND CONJUNCTIVITIS IN JAPANESE PATIENTS WITH BLADDER CANCER FOLLOWING INTRAVESICAL BCG THERAPY: A 20-YEAR, TWO-CENTER RETROSPECTIVE STUDY

H. Nishikawa[1], Y. Taniguchi[1], K. Inoue[1], Y. Yoshinaga[2], Y. Terada[1]. *[1]Kochi Medical school, Nankoku; [2]Kurashiki Medical center, Kurashiki, Japan*

Background: Intravesical instillation of Bacillus Calmette-Guerin (iBCG) is used as an effective immunotherapy of bladder cancer. However it may have, as adverse event, a reactive arthritis (ReA) and the frequencies are known as about 0.5 to 1% in Western countries.

Objectives: To evaluate the frequencies and HLA phenotype of reactive arthritis (ReA), uveitis, conjunctivitis and other adverse events in Japanese patients with bladder cancer following iBCG therapy.

Methods: The clinical findings of Japanese patients who received iBCG (n=555 [250 and 305 in Kochi Medical School Hospital {KMSH} and Kurashiki Medical Center {KMC}, respectively]) for bladder cancer from March 1997 to February 2016 were retrospectively assessed, with specific attention to patients with ReA and conjunctivitis/uveitis. We also looked at human leukocyte antigen (HLA) phenotypes of patients with ReA.

Results: Patient age was 73±10 and 70±11 years and male/female ratio was 198/52 and 240/65 in KMSH and KMC, respectively. 91/555 (16.4%), 121/555 (21.8%), and 196/555 (35.3%) of all enrolled patients presented with fever, haematuria, and dysuria, respectively. Of the 555 cases, ReA, uveitis and conjunctivitis were revealed in 11/555 (2.0%), 4/555 (0.7%) and 33/555 (5.9%), respectively. The frequency and the protocol of iBCG therapy were stable over the 20 years. Notably, HLA-B27, -B35, -B39 and -B51 positivity was more frequent in ReA patients (9.1%, 36.3%, 36.3% and 63.6%, respectively) ($p<0.05$) than in healthy subjects without ReA (0.3%, 8.3%, 4.0% and 9.1%, respectively).

Conclusions: The 2.0% ReA frequency in iBCG-treated Japanese patients exceeds that in Western countries. HLA phenotype, especially HLA-B51 and -B39 alleles in addition to -B27, may be a risk factor in iBCG-induced ReA in Japanese patients.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.1768

SAT0403 ARTERIAL HYPERTENSION IN PATIENTS WITH ANKYLOSING SPONDYLITIS AND PSORIATIC ARTHRITIS – RESULTS OF 10-YEARS FOLLOW-UP

I.Z. Gaydukova, A. Aparkina, E. Kchondkaryan, A. Rebrov. *Hospital Therapy, Saratov State Medical University, Saratov, Russian Federation*

Background: Spondyloarthritis (SpA) (ankylosing spondylitis (AS) and psoriatic arthritis (PsA)) are associated with increased cardiovascular risk [1]. Destabilization of arterial pressure in chronic inflammation and anti-inflammatory treatment could be one of the reasons of early cardiovascular events onset.

Objectives: The purpose of this work is evaluate the occurrence and risk of arterial hypertension (AH) onset in patients with AS and PsA.

Methods: 663 patients were involved in the study: AS patients fulfilled mNew-York criteria (1984), PsA patients fulfilled CASPAR criteria (2006). Study included cross-sectional analyze, where 159 AS and 85 PsA patients participated, and 10-year prospective follow-up part, included 278 AS patients, 109 PsA patients. 276 patients were excluded due to lose the follow-up. In follow-up part of the study were involved SpA patients without AH at baseline. 182 healthy volunteers participated in the study like controls, 32 of them lost the follow-up. New cases of AH were registered after 4 and 10 years.

Statistics was performed in SPSS17 and GraphPadPrizm. All the results were adjusted to cardiovascular risk factors.

Results: Characteristics of the patients and controls with 10-years follow-up are presented in table 1.

Table 1. Baseline characteristics of the patients, involved in the study

	AS, n=278	PsA, n=109	Controls, n=150
Age, years (M ± SD)	40.0±11.4	40.55±10.6	39.0±11.2
Gender, male, n (%)	212 (76.25)#@	41 (48.2)	84 (56)
Disease duration, years (M ± SD)	13.7±10.03	14.8±14.4	–
Obesity, n (%)	32 (11.5)	24 (28.2)	22 (14.7)
Smoking, n (%)	151 (54,31)#@	30 (35,2)	40 (26,7%)

AS, ankylosing spondylitis; PsA, psoriatic arthritis; "–", absence of data. #$p<0.001$ for the difference with controls. @$p<0.001$ for the difference with PsA.

100% of patients recieved NSAIDs, 10% - glucocorticoids (5–10 mg prednisolone), 68.8% of PsA patients recieved methotrexate (10–25 mg/week), 14.3 of AS patients - sulfasalazine (2.0–3.0 g/day).

Due to cross-sectional analyses was shown that AH occurred in 48.7 of AS and in 67.5% of PsA patients, respectively, p=0.03.

Numbers of new AH cases during follow-up are presented in table 2.

Table 2. New cases of arterial hypertension in ankylosing spondylitis, psoriatic arthritis and healthy controls after 4 and 10-years of follow-up

	AS, n=278		PsA, n=85		Controls, n=150	
	4 years	10 years	4 years	10 years	4 years	10 years
AH cases, n (%)	95.0 (34.1)	139.0 (50)*	59.0 (69.4)	61.0 (71.7)*	31.0 (36.5)	31.0 (36.5)

*$p<0.0001$ for the difference with controls.

The relative risk (RR) of AH onset in patients with AS compared to healthy individuals is 2.22 (95% confidential interval (CI) 1.59 - 3.1); RR in PsA patients is 3.08 (95% CI 2.19 - 4.03), difference between risk of AH development in PsA and AS is significant, $p<0.0001$. Median to new AH cases in AS and PsA is 10±2.57 years from the first SpA symptoms appearance.

Conclusions: AH is frequently presented in PsA patients than in AS. Risk of new AH onset in patients with AS and PsA is superior compared with the healthy individuals. The number of new cases of hypertension increases with time, and in 10 years from diagnosis half of PsA/AS patients without cardiovascular disease will be in the risk of hypertension.

References:

[1] Agca R et al. Ann Rheum Dis. 2017 Jan;76(1):17–28.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.6325

SAT0404 RELATIONSHIP OF SCLEROSTIN AND DICKKOPF-1 SERUM LEVELS WITH DISEASE ACTIVITY AND INFLAMMATORY MRI LESIONS IN PATIENTS WITH SPONDYLOARTHRITIS

I. Shynkaruk[1], O. Iaremenko[1], D. Fedkov[1], K. Iaremenko[2]. *[1]Bogomolets National Medical University; [2]Olexandrivska Kyiv City Hospital, Kyiv, Ukraine*

Background: Dickkopf-1 (Dkk-1) and sclerostin (Scl) are likely to play important roles in the process of ankylosis in Spondyloarthritis (SpA) [1]. Their serum levels are associated with the formation of new syndesmophytes [2]. But the relationship between these biomarkers and disease activity including active inflammatory lesions in sacroiliac joints (SIJ) on magnetic resonance imaging (MRI) still not clear.

Objectives: To estimate the relationship between the Scl and Dkk-1serum levels and active inflammatory MRI lesionsin SIJ, disease activity and functional status in SpA patients (pts).

Methods: Serum levels of Scl and Dkk-1 (pmol/l; ELISA) were measured at baseline in 79 pts with SpA. Mean age of pts (63.3% male) was 37.5±11.3, mean disease duration – 10.7±9.44 yrs. Radiological sacroiliitis defined according to Kellgren grade was: 0 – 1.6%, I – 22%, II – 49.2%, III – 13.6% and IV – 13.6%. Active inflammatory lesions in SIJ were evaluated with Spondyloarthritis Research Consortium of Canada (SPARCC) MRI SIJ score (0–72, n=46). Disease activity was measured by Ankylosing Spondylitis Disease Activity Score (ASDAS) using C-reactive protein (CRP), Bath Ankylosing Spondylitis Disease Activity Index (BASDAI, mm), CRP (mg/l) and erythrocyte sedimentation rate (ESR, mm/hr). Functional status estimated using Bath Ankylosing Spondylitis Functional Index (BASFI, mm). For correlation the Spearman correlation coefficient was calculated.

Results: Mean value (M±σ) of biomarkers in all SpA pts were: Scl – 19.2±11.63, Dkk-1 – 30.7±19.5. The mean value of indices and laboratory parameters in all SpA pts were: ASDAS-CRP – 3.01±1.09, BASDAI – 4.36±1.88, CRP – 20.3±33.0, ESR – 25.8±20.7, BASFI – 3.01±2.33. SPARCC score was 24.6±10.9.

Scl level was significantly higher in pts with lower activity by SPARCC score (23.1±12.7) vs higher activity (16.6±7.63), p=0.043, in pts with moderate disease activity by ASDAS-CRP (22.3±15.6) vs very high disease activity (14.6±9.89), p=0.031, and in women (23.1±12.6) vs men (16.9±10.5), p=0.014. Its level didn't depend on CRP, ESR, BASDAI, BASFI and HLA B27 positivity.

Scl showed significantly negative correlation with BASDAI (r=-0.381, p=0.041) only in women.

There was no difference in Dkk-1 serum level depending on the gender, disease activity (by ASDAS-CRP), functional status, the presence of HLA B27 and inflammatory changes in SIJ (with quartile distribution). But the correlation analysis showed significant relationship of Dkk-1 with CRP (r=0.243, p=0.031) and SPARCC MRI SIJ score (r=0.351, p=0.017). The strength of the correlation between Dkk-1 and CRP was slightly higher in HLA B27 positive pts (90%; r=0.334, p=0.018).