

was attributed to PsA, IL-21 increase (90.6±158) was found in AS group. Nevertheless, there was no significant difference between patients' groups in the tested cytokines concentrations. Despite of less active disease in PsA than in AS patients (ASDAS<sub>CRP</sub> 2.76±1 vs 3.44±0.89), PsA patients had higher AI (4.44±1.3 vs 3.37±1). Importantly, in both AS and PsA groups, OPG concentration positively correlated with SCORE values ( $R=0.613$  and  $0.792$ , respectively). However, in PsA patients also IL-18 concentration showed similar noxious associations, correlating positively with AI ( $R=0.705$ ), and triglycerides level ( $R=0.679$ ) but inversely with HDL level ( $R= -0.525$ ) and HDL/LDL ratio ( $R= -0.623$ ). On the other hand, neither in AS nor in PsA patients the cytokines of IL-17/IL-23 axis were significantly related to CV risk.

**Conclusions:** By showing positive correlation of serum OPG with CV risk expressed by SCORE in AS and PsA patients we support opinion of an important role of OPG in CVD pathogenesis. Our results may also suggest that in PsA patients IL-18, up-regulated owing to skin inflammation, contributes to dyslipidemia and thus further increases CV risk.

**Acknowledgements:** Supported by the NIGRiR, Warsaw, Poland (grants No S/16 and S/2).

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.3475

#### AB0734 EVALUATION OF CARDIOVASCULAR RISK PROFILES IN A POPULATION OF PATIENTS WITH ANKYLOSING SPONDYLITIS: A CROSS-SECTIONAL STUDY

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**Background:** ankylosing spondylitis (AS), like the other chronic inflammatory rheumatic diseases, is considered to have higher cardiovascular (CV) risk (1). The Etiopathogenesis is not clearly defined.

**Objectives:** assess the early biological markers of atherosclerosis in Tunisian patients with AS compared with healthy controls and evaluate the relationship between Systematic Coronary Risk Evaluation (SCORE) for CV-related mortality and biological markers (2).

**Methods:** This was a cross-sectional study conducted since June 2015 until October 2016 including patients with AS in the South of Tunisia and matched controls with sex, age, body mass index (BMI) and smoking. Patients diagnosed with AS should fulfill the modified New York criteria. For patients and controls, we measured total cholesterol (TC), high density lipoprotein (HDL) cholesterol, triglycerides, apolipoprotein (Apo) AI, ApoB, lipoprotein (a) [Lp(a)] and C-Reactive Protein (CRP). Low-density lipoprotein (LDL) cholesterol was calculated with the Friedewald formula. SCORE was calculated through the use of sex, age, systolic pressure, smoking and TC. Comparisons were performed using two sample t-tests for parametric values and Wilcoxon Mann-Whitney Test for non-parametric values. Correlation analyses were performed with Spearman rank.

**Results:** Overall 79 patients with AS and 79 controls were included. The mean age was (43.81±14.29 vs 44.27±14 years). The sex ratio (M/F) was 2/1 and the mean BMI was (25.9±5.3 vs 25.76±3.5 kg/m<sup>2</sup>). AS patients had significantly lower levels of HDL and TC and a higher level of CRP and atherogenic index (TC/HDL, ApoB/ApoA). AS patients had higher CV mortality than controls (1.1±1.8 vs 0.51±1.13%,  $p=0.01$ ). The frequency of high cardiovascular risk was higher in AS patients (5 vs 2,  $p=0.4$ ). The correlation between SCORE's risk and biological markers were positive with TC, LDL, Lp (a), TC/HDL ratio and LDL/HDL ratio.

**Conclusions:** AS patients are at a greater cardiovascular risk due to a higher CRP rate, atherogenic index and 10-year risk SCOREs of CV mortality. So, the dyslipidaemia and inflammation could be the aetiology of cardiovascular risk.

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**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.6936

#### AB0735 EVALUATION OF PSYCHOLOGICAL STATE OF PATIENTS WITH ANKYLOSING SPONDYLITIS: REGIONAL REGISTRY AS A TOOL FOR IMPROVEMENT OF MANAGEMENT

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**Background:**

According to modern conception "T2T" a patient with ankylosing spondylitis (AS) takes an active part in the disease treatment that determines the importance of his psychological state.

**Objectives:** To evaluate interconnection between the psychological state of the patient with AS and the disease course.

**Methods:** Within the regional registry which is a part of epidemiological study of clinical diversity of AS in Russian population, 40 patients (32 males and 8 females) at the age of 21 to 56 years (average age 40,3±10,0) were examined. The average disease duration on the day of examination was 12,7±9,9 years, BASDAI - 5,54±1,8, BASFI - 5,34±2,48. Functional status (range of motion) was evaluated by means of BASMI. EQ-5D questionnaire was used for psychological state evaluation.

**Results:** A total of 17 (42,5%) patients had anxiety and depression: moderate - 15 (88,2%), severe - 2 (11,8%) responders. With the disease duration of less than 5 years propensity for depression and anxiety was noted by 6 out of 11 (54,5%) patients, 5 to 10 years - 2 out of 12 (16,7%), more than 10 years - 9 out of 17 (52,9%).

In patients with mild disease activity anxious and depressive states were not observed, with moderate disease activity they were revealed in 3 out of 7 patients (42,8%), with severe activity - in 9 out of 21 (42,8%), with very severe activity - in 5 out of 10 (50%) responders.

Among the patients without limitation of motion (BASFI) anxiety and depression was revealed in 2 out of 11 (18,2%), with moderate limitation - 6 out of 18 (33,3%), with severe limitation - 9 out of 11 (81,8%) patients. According to BASMI 1 out of 2 patients without limitation of motion had anxiety and depression, 6 out of 19 (31,5%) - with moderate limitation and 10 out of 19 (52,6%) with severe limitation. The direct correlation was revealed between EQ-5D score and BASFI ( $r=0,996$ ) and between EQ-5D and BASDAI ( $r=0,855$ ), concurrently such correlation was absent between BASMI and EQ-5D.

Among the patients without anxious and depressive states 14 out of 23 (60,8%) patients take NSAIDs regularly while among the patients who noted propensity for anxiety and depression only 7 out of 17 (41,17%) take NSAIDs regularly.

**Conclusions:** Patients with short (less than 5 years) and long (more than 10 years) AS duration, severe disease activity and functional limitation are more prone to anxiety and depression. Patients with anxious and depressive states are less compliant with therapy which influences its efficacy. These data should be considered when the programs of AS patients' management are developed.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.3959

#### AB0736 THE DATA OF CENTRAL AORTIC PRESSURE AND PULSE WAVE VELOCITY IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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**Background:** Pulse Wave Velocity (PWV) is the main determinant of arterial stiffness. In recent years the increased arterial stiffness in Ankylosing Spondylitis was shown [1]. The most of investigations of arterial stiffness in ankylosing spondylitis were performed on the treatment by anti TNF-therapy [2]. However, today this issue has not been adequately studied.

**Objectives:** To evaluate the data of central aortic pressure and PWV and their relationship with Ankylosing Spondylitis.

**Methods:** 49 patients with Ankylosing Spondylitis aged between 19 and 60 (mean age 39.6±10.6) were examined. This group (group 1) included 38 men, 11 woman. Ankylosing Spondylitis Disease Activity Score (ASDAS-CRP) was 3.11±0.55. Duration of Ankylosing Spondylitis was from 0.5 to 20 years (mean 5.87±4.76 years). X-ray stage sacroiliac joints (according Modified New York Criteria) was 2.59±1.42. The control group included 33 healthy individuals. The groups were similar in age and sex. 10 patients with ankylosing spondylitis have history of arterial hypotension, however, at the time of inclusion in this study their blood pressure was stabilized. The groups did not differ by office blood pressure parameters and heart rate. Indicators of central aortic pressure and PWV were determined by applanation tonometry by SphygmoCor, Australia. For statistical analysis we used Mann-Whitney criteria and Spirmen correlation method. The study was based on GCP principles.

**Results:** Increased levels of central systolic blood pressure (118.02±14.02 vs 101.1±10.2,  $p=0.00001$ ), central diastolic blood pressure (80.23±11.86 vs 71.8±7.3,  $p=0.001$ ) were determined in patients with Ankylosing Spondylitis. Patients with Ankylosing Spondylitis demonstrated the increase in central mean pressure compared to control group on 17.2% (108.5±13.6 vs 92.6±9.4  $p=0.0001$ ). Pulse Wave Velocity (PWV) in the carotid-femoral segment in patients with ankylosing spondylitis was 6.5±1.3 m/sec vs 5.2±0.96 m/sec ( $p=0.0001$ ) in the control group. The levels of augmentation pressure and Subendocardial viability ratio (SERV) were similar in the examined groups.

PWV was directly correlated with tragus-to-wall ( $r=0,41$ ;  $p=0,005$ ) and with X-ray stage of sacroiliitis ( $r=0,31$ ;  $p=0,043$ ) and negative correlated with Lumbar flexion (Shober test) ( $r= -0,38$ ;  $p=0,009$ ).

**Conclusions:** Increasing indicators of arterial stiffness, such as, PWV, central systolic blood pressure, central diastolic blood pressure, central mean pressure were determined in patients with Ankylosing Spondylitis. The relationship between clinical data, X-ray stage and PWV was demonstrated.

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**Disclosure of Interest:** T. Aksenova Shareholder of: nothing to declare, Grant/research support from: nothing to declare, Consultant for: nothing to declare, Employee of: nothing to declare, Paid instructor for: nothing to declare, Speakers bureau: nothing to declare, N. Ivashchenko Shareholder of: nothing to declare, Grant/research support from: nothing to declare, Consultant for: nothing to declare, Employee of: nothing to declare, Paid instructor for: nothing to declare, Speakers bureau: nothing to declare, S. Tsarenok Shareholder of: nothing to declare, Grant/research support from: nothing to declare, Consultant for: nothing to declare, Employee of: nothing to declare, Paid instructor for: nothing to declare, Speakers bureau: nothing to declare, V. Gorbunov Shareholder of: nothing to declare, Grant/research support from: nothing to declare, Consultant for: nothing to declare, Employee of: nothing to declare, Paid instructor for: nothing to declare, Speakers bureau: nothing to declare, P. Gromov Shareholder of: nothing to declare, Grant/research support from: nothing to declare, Consultant for: nothing to declare, Employee of: nothing to declare, Paid instructor for: nothing to declare, Speakers bureau: nothing to declare

DOI: 10.1136/annrheumdis-2017-eular.2914

## Psoriatic arthritis

### AB0737 AA AMYLOIDOSIS IN RHEUMATOID ARTHRITIS AND IN PSORIATIC ARTHRITIS – A POSTMORTEM CLINICOPATHOLOGIC STUDY OF 173 PATIENTS

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**Background:** Rheumatoid arthritis (RA) and psoriatic arthritis (PsA), like all chronic autoimmune arthritides, may be complicated by AA amyloidosis (AAa).

**Objectives:** The aim of this study was to determine the prevalence and extent of AAa in RA and PsA patients, furthermore appraise the extent of amyloid A deposits in various organs.

**Methods:** At the National Institute of Rheumatology 11860 patients died between 1968 and 1998; among them 161 patients with RA and 12 with PsA. All of them were autopsied. RA and PsA were diagnosed clinically according to the criteria of the ACR [1,2].

Amyloid deposits on different tissue structures [arteriole, small artery, medium size artery, venule, small vein, medium size vein, interstitial collagen fiber, reticulin fiber (collagen IV), basal laminae, nerve, renal glomerulus] of 6 organs [heart, lungs, liver, kidney, skin and brain] were determined histologically.

The extent of amyloid A deposition was evaluated by semi-quantitative, visual estimation on a 0 to 3 plus scale, based on the number of involved tissue structures per light microscopic field [3]. ("0": no amyloid deposits, "1": Sporadic, minimal amyloid deposits on different tissue structures, "2": less than five, "3": five or more involved tissue structures per microscopic field at objective magnification of x20)

The average prevalence and extent of amyloid A deposits of RA and PsA patients and the average prevalence and extent of amyloid A deposits in various organs were compared by Student (Welch) t-probe.

**Results:** The prevalence (in %) and the average extent of amyloid A deposits (absolute value) in various organs of RA and PsA patients are summarized in Table 1.

Table 1

Organs	RA-AAa Prevalence in %	PsA-AAa Prevalence in %	p<	RA-AAa Average extent	PsA-AAa Average extent	p<
Kidney	48,49	68,18	0,0611	0,99	1,41	0,0706
Heart	56,97	38,89	0,0651	0,97	0,67	0,1065
Liver	29,17	38,89	0,3014	0,60	0,67	0,3945
Lung	29,80	15,00	0,0852	0,44	0,13	0,0002
Skin	10,83	50,00	0,0000	0,18	1,00	0,0027
Brain	0,00	0,00	–	0,00	0,00	–
Average/Organ	29,21	35,16	0,332	0,529	0,645	0,341
Average/Patient	32,27	36,21	0,244	0,585	0,668	0,198

**Conclusions:** Based on the nearly same 0,585 versus 0,668, significantly not different:  $p < 0.198$ ) average amount of amyloid A deposits/patient, the immune processes (producing amyloid A deposition) of our RA and PsA patients may be similar.

The more prominent amyloid deposition in the lungs of RA patients (in contrast with PsA patients) may be associated with more frequent and pronounced pulmonary complications of RA (vasculitis, interstitial pneumonitis and fibrosis, etc.), than by PsA.

Extreme severe amyloid deposition in the skin of PsA patients may be due to local factors, namely severe systemic dystrophic changes of the skin in psoriasis.

A diverse affinity of amyloid A to qualitative changed collagens cannot be ruled out in PsA in comparison with RA. In systemic sclerosis patients such change of collagens has been demonstrated [4].

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**Disclosure of Interest:** None declared

DOI: 10.1136/annrheumdis-2017-eular.1224

### AB0738 PRECLINICAL IMPAIRMENT OF MYOCARDIAL FUNCTION AND ENDOTHELIAL VASCULAR MARKERS IN EARLY PSORIATIC ARTHRITIS: ASSOCIATION WITH VITAMIN D LEVELS AND INFLAMMATION

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**Background:** Patients with psoriatic arthritis (PsA) have an increased prevalence of cardiovascular risk factors such as hypertension, myocardial dysfunction, and type 2 diabetes mellitus, and cardiovascular diseases (CVD) are the leading cause of death in these patients.

Furthermore, PsA patients have a high prevalence of vitamin D (vit-D) deficiency, considered an independent predictor of cardiovascular diseases and all-cause mortality in several clinical settings.

**Objectives:** We aimed to evaluate left ventricular (LV) mechanics in patients diagnosed with PsA and no clinical evidence for cardiovascular disease (CVD) using a more sensitive technique, which evaluates myocardial deformation in multidimensional planes for the detection of impaired LV function. Furthermore we evaluated carotid intima media thickness (cIMT) and pulse wave velocity (PWV), circulating proangiogenic haematopoietic cells (PHCs), as markers of endothelial dysfunction. We investigated the association between vitamin D levels, inflammatory mediators, markers of endothelial and myocardial dysfunction in patients with PsA.

**Methods:** The study enrolled 19 PsA patients and 16 sex- age matched healthy controls. All participants underwent conventional echocardiography and 2-dimensional speckle tracking echocardiography (STE). Global longitudinal, circumferential, and radial strain were measured. PHCs, Vitamin D levels, C-reactive protein (CRP), fibrinogen, (PWV), (cIMT) were also evaluated.

**Results:** PHCs count and vitamin D levels were lower in PsA patients as compared to controls, while fibrinogen, CRP, PWV and cIMT were higher in PsA patients. STE analysis showed that PsA patients had significantly lower global longitudinal strain (-16.11±2.89% and -19.15±1.9%, respectively,  $p=0.05$ ) and global circumferential strain (-14.21±2.7% and -20.22±4.13%, respectively,  $p<0.01$ ) versus control group.

No correlation was found between longitudinal and circumferential strains and disease-related risk factors.

Vitamin D levels was found to correlate with longitudinal strain, ejection fraction, PHCs, diseases activity markers, and fibrinogen levels.

**Conclusions:** Subclinical impaired myocardial deformation and endothelial dysfunction were common in patients with PsA even when there is no clinical evidence for CVD. Furthermore, vitamin D seems to may have a role in the endothelial homeostasis and myocardial function.

Further studies on larger sample sizes could clarify whether a supplementation of Vitamin D could modify PHCs levels inflammatory indices, myocardial function and arterial stiffness in patients affected by PsA, therefore contributing to reduce cardiovascular risk in this patients.

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**Disclosure of Interest:** None declared

DOI: 10.1136/annrheumdis-2017-eular.5189