

In AS, CEC improved significantly during anti-TNF therapy, probably due to increase in anti-atherogenic HDL. Despite the LDL increase associated with the anti-TNF therapy in AS patients, CLC stayed constant, standing against a hypothetical pro-atherogenic effect of such LDL increase. These data may be useful for atherosclerosis prevention and treatment with tailored strategies for AS and PsA patients.

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AB0731 OVERCOMING THE PROBLEMS OF UNTRANSLATABILITY: A MOBILE PHONE APPLICATION IN THE EXAMPLE OF TURKISH VERSION OF BASDAI

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Background: Patient-reported outcomes (PROs) are important in monitoring and making treatment decisions. Recently, we reported that the translation of "tender points" in the fourth question of the Turkish version of BASDAI was not correctly understood, and replacing this question with an entheses examination (BASDAI-Q4) decreased the score (Δ BASDAI:0.99, $p < 0.0001$, 95% CI 0.54–1.44).¹

Objectives: We report here the results of an investigator initiated clinical trial using a self-developed mobile phone application (MPA)² to overcome the problem of untranslatability.

Methods: Out of 135 invited 95 axSpA patients participated. Initially, BASDAI self-report forms (BSRF) were administered. Thereafter, patients were randomized into two groups (2:1). Group A completed a second set of BSRF after using the MPA with embedded videos defining terms and grading for each domain. Group B completed a second set of BSRF under guidance of an experienced family physician (FP). A third set of BSRFs were completed by Group B with the same FP after he went through the MPA. Afterwards, an entheses examination (EE) was performed by a blinded rheumatologist and patients graded entheses pain between 0–10. Standart Q4 was replaced with the EE scoring (BASDAI-Q4). Patients older than 45 years of age were excluded.

Results: Fiftythree male (55.7%) and 42 female (44.3%) patients, with a mean disease duration of 13 years (SD=8.7) were studied. Sixtyfour and 31 patients were randomized to Groups A and B, respectively. Nine patients reported the Q4 as "not understood". 32 patients had no enthesitis on EE, but of those only 21 scored "0" for Q4 during the unassisted-PRO. Eleven reporting no enthesitis had so on EE. In Group A, out of six "not understood" responders for Q4, five reported enthesitis after MPA assistance and four had enthesitis at the final EE. Nineteen patients had no enthesitis on physical examination, but of those only 12 scored "0" for Q4 during the unassisted PRO, and an additional nine scored "0" for Q4 after MPA assistance. Six out of seven patients reporting no enthesitis, but with enthesitis on EE reported enthesitis after MPA assistance. In Group B, scoring for Q4 was similar after both the unassisted- and FP's first assistance PRO. Out of four "not understood" responders for Q4, two reported enthesitis after the second assistance of FP and both had enthesitis at the final EE. Six patients had no enthesitis on EE, but of those only 4 scored "0" for Q4 during the unassisted-PRO, and an additional two scored "0" for Q4 after second FP-assistance. Two out of four patients reporting no enthesitis, but with enthesitis on EE, reported enthesitis after second FP-assistance. Mean BASDAI was significantly higher in both groups than BASDAI-Q4 (Group A=3.97±1.95 vs. 2.84±1.98, $p < 0.0001$, 95% CI 0.58–1.52, Group B=3.81±2.05 vs. 2.98±2.25, $p < 0.0001$, 95% CI 0.48–1.31). In both groups, MPA for both, patients and FPs resulted in more reliable overall BASDAI scores with BASDAI-Q4 as the gold standard (Group A=3.05±2.25 vs. 2.84±1.98, $p = 0.081$, 95% CI 0.71–1.45, Group B=3.21±1.87 vs. 2.98±2.25, $p = 0.075$, 95% CI 0.71–1.63).

Conclusions: Mobile applications may improve the quality of collected data in cases of untranslatability even in previously validated PROs.

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AB0732 SPONDYLOARTHRITIS IN THE DEMOCRATIC REPUBLIC OF CONGO

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Background: While spondyloarthritis (SpA) is intensively studied in the Western

world, data are scarce in sub-Saharan Africa.

Objectives: To determine the spectrum of SpA in outpatients with rheumatological complaints attending two rheumatology practices in Kinshasa, Democratic Republic of Congo.

Methods: A descriptive cross-sectional study over six months (December 1st, 2012 till May 31st, 2013) in consecutive patients attending the two rheumatology practices of Kinshasa; diagnosis was based on Amor or the ESSG criteria, and a clinical evaluation by a rheumatologist. Sacroiliac joint radiographic lesions were scored with the modified New York criteria. BASDAI and BASFI were evaluated in axial SpA.

Results: One hundred five patients (10.7%) were diagnosed among 984 rheumatologic outpatients with a sex ratio (male to female) of 1.4. The average age at the onset of the disease was 41.3±12.4 years. Non-radiographical axial spondyloarthritis was the most frequent subtype (4.98%) followed by reactive arthritis (4.27%). Other subtypes were: ankylosing spondylitis (1.02%), psoriatic arthritis (0.1%), SAPHO syndrome (0.1%) and IBD associated arthritis (0.1%). Mean BASDAI and BASFI in axial SpA were 42.7/100 and 46.4/100 respectively. Peripheral enthesitis was found in 43% of SpA patients and uveitis (10.4%) was the most frequent extra-articular manifestation. We did not detect any family history. Median erythrocyte sedimentation rate and C reactive protein were 37 (range: 7–110) mm/h and 22 (range: 4–48) mg/l respectively.

| Subtypes of SpA | N (Rf) | Sex distribution | | | P | Mean age (years) ±SD |
|------------------------|-----------|------------------|----|-------|------|----------------------|
| | | M | F | Ratio | | |
| Nr-axSpA | 49 (46.7) | 27 | 22 | 1:0.8 | 0.23 | 40.5±7.5 |
| ReA | 42 (40.0) | 20 | 22 | 1:1.1 | 0.47 | 40.2±13.1 |
| AS | 10 (9.5) | 6 | 4 | 1:0.7 | 0.45 | 46.2±4.7 |
| PsA | 1 (0.95) | 0 | 1 | | | 32 |
| SAPHO Syndrome | 1 (0.95) | 1 | 0 | | | 35 |
| Enteropathic arthritis | 1 (0.95) | 0 | 1 | | | 25 |
| Juvenile SpA | 1 (0.95) | 1 | 0 | | | 13 |

Conclusions: This hospital-based study suggests a substantial occurrence of some subtypes of SpA in central Africa. A population-based study is needed.

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AB0733 ASSOCIATIONS OF SERUM OSTEOPROTEGERIN AND IL-18 CONCENTRATIONS WITH CARDIOVASCULAR RISK IN ANKYLOSING SPONDYLITIS AND PSORIATIC ARTHRITIS PATIENTS

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Background: Inflammatory spondyloarthropathies (SpAs), ankylosing spondylitis (AS) and psoriatic arthritis (PsA) are associated with cardiovascular (CV) disorders. In both diseases cytokines of IL-17/IL-23 axis are thought to play a pathogenic role. PsA, but not AS, is usually preceded by psoriasis, suggesting contribution of skin inflammation-related cytokines to disease manifestation and CV risk.

Objectives: To search in AS and PsA patients for the association between CV risk and serum concentrations of select cytokines, i.e. of IL-17/IL-23 axis, IL-18 and osteoprotegerin (OPG) related to skin inflammation and/or cardiovascular disease (CVD) pathogenesis, respectively.

Methods: Twenty patients with AS (15M/5F) and 18 patients with PsA (10M/8F) of similar age (mean±SD, 42±7 vs 46±10 years) and disease duration (6.5±10 vs 6.1±7 years) were evaluated. A group of 38 sex and age-matched healthy volunteers was used as a control. Routine laboratory tests, i.a. measurement of serum C-reactive protein (CRP) concentrations were performed. Clinical data, including evaluation of disease activity by ASDAS_{CRP} and BASDAI indices, calculation of SCORE (Systemic Coronary Risk Evaluation) index and atherogenic index (AI=total cholesterol/HDL) were collected. Serum concentrations of IL-17AF, IL-21, IL-23, IL-27, IL-18 and OPG were measured by specific commercially available enzyme-linked immunosorbent assays (ELISA) and were expressed in pg/ml. The Mann-Whitney U-test was applied for intergroup comparison, and correlation was assessed using a Spearman's Rank two-tailed test (R value is shown).

Results: Compared with control, total group of SpAs patients was characterized by significantly elevated serum concentrations of OPG (1757±852 vs 1062±406 pg/ml), IL-18 (273±235 vs 164±195 pg/ml) and IL-21 (68±127 vs 20±49 pg/ml). Interestingly, while up-regulation of OPG (1517±387) and IL-18 (324±291)

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_{CRP} 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.

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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/m²). 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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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.

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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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