AB0516

THE INCONSISTENCY IN THE ASSESSMENT OF SACROILIAC JOINTS MRI PERFORMED BY A BLINDED AND UNBLINDED RHEUMATOLOGISTS AND A RADIOLOGISTS AFTER AND WITHOUT SPECIAL MRI TRAINING

E. Vasilenko^{1,2}, I. Gaydukova¹, V. Mazurov¹, R. Samigullina¹, A. Dadalova¹, I. Crylov³, A. Krylova³. ¹North-Western State Medical University named after I. I. Mechnikov, St. Petersburg, Russia, Department of Therapy, Rheumatology, Examination of Temporary Disability and Quality of Medical Care named after E.E. Eichwald, St. Petersburg, Russian Federation; ²Clinical Rheumatology Hospital №25, outpatient department, St. Petersburg, Russian Federation; ³Clinical Rheumatology Hospital №25, radiology department, St. Petersburg, Russian Federation

Background: Despite of the development the criteria for the diagnosis of axial spondyloarthritis (axSpA) the problem of late axSpA diagnostics is not resolved. The difficulties in the assessment of MRI sacroiliitis (SI) could be of the reasons of axSpA diagnostic delay.

Objectives: to evaluate the inconsistency in the assessment of sacroiliac joints MRI that was performed by a blinded and unblinded rheumatologists and a radiologists.

Methods: The assessment of 80 magnetic-resonance tomograms of sacroiliac joints (SIJ) was performed by 4 independent readers, one which was blinded to clinical data radiologist (BR), another radiologist was informed that the study was performed for axSpA (unblinded radiologist - UR), another 2 readers were blinded to diagnosis rheumatologists. One of the rheumatologists was trained in SIJ MRI (BTRh), another rheumatologist was not trained specially in MRI of SIJ (BURh). The study was carried out on the magnetic resonance tomography (GE Discovery MR750W 3.0T) in T1 and STIR regimens. 65 MRI were performed in pts that fulfilled the ASAS criteria for the axSpA and history of active SII (bone marrow edema) on previous SIJ MRI. According CT of SIJ 25 (38.5%) of these pts had nr-axSpA, 22 (33.8%) had SI grade II / III, in 18 (27.7%) of the pts SI grade IV was detected. 15 MRI scans were performed in healthy volunteers who did not meet the ASAS 2009 criteria at the time of the study and had no CT changes in SIJ.

The number of detected by each reader cases of active SII as defined by ASAS were analyzed with the calculation of the inter-reader reliability.

Results: There was found that there was inter-reader reliability between results of blinded and unblinded radiologists (73.8%) with statistical differences in the number of detected and undetected signs of SII ($p < 0.05$).

The inter-reader reliability scores between the unblinded rheumatologist and the radiologist were 97.5% and did not have statistically significant statistical differences ($p \geq 0.05$).

And for a trained rheumatologist and a blinded untrained rheumatologist it was 53.5% and had significant statistical differences ($p < 0.05$).

The results of 4 readers SIJ MRI assessments are presented at Table 1.

Table 1. The results of MRI sacroiliitis assessments performed by blinded and unblinded radiologists and rheumatologists

	BR	UbR	BTRh	BURh
Revealed SII in axSpA (n = 65), n(%)	44 (67.7)*	64 (98.5)*	62(95.4)	26 (40)*
Undetected SII in axSpA (n = 65), n(15)	21(32.3)*	1(1.5)	3(4.6)	39(60)*
Revealed SII in controls (n = 15), n(%)	2 (13.3)*	3 (20) #	3(20)	1(6.7)*
Undetected SII in controls (n=15), n(%)	13(86.7)*	12(80) #	12(80)	14(93.3)*

*inter-reader reliability with the results of all another reader with $p < 0.05$. # inter-reader reliability between unblinded radiologist (UR) and blinded treated rheumatologist (BTRh) with $p < 0.05$. BURh – blinded untreated rheumatologist. BR – blinded radiologist.

Conclusion: The better agreement in inter-reader reliability in MRI of SIJ assessment was detected between unblinded radiologist and trained blinded rheumatologist. Blinded radiologist had shown lower inter-reader agreement with another specialists. The lowest of all inter-reader agreement had shown untrained blinded rheumatologist. Special MRI of SII assessment trainings for rheumatologists and radiologists are unmet need for the improvement of in-time axSpA diagnostics.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.3861

AB0517

THE HIDDEN FACE OF SMOKING IN AXIAL SPONDYLOARTHRITIS

S. Bouden¹, L. Kharrat¹, A. Ben Tekaya¹, O. Saidane¹, R. Tekaya¹, I. Mahmoud¹, L. Abdelmoula¹. ¹Hospital Charles Nicolle, Rheumatology, Tunis, Tunisia

Background: The deleterious effect of smoking on spondyloarthritis has been studied for several decades. Indeed, smoking increases inflammation and disease activity, hence, promotes bone damage.

Objectives: The aim of our study was to evaluate the clinical, biological and radiological impact of smoking on axial spondyloarthritis (axSpA).

Methods: We conducted a retrospective study including patients meeting the Assessment of SpondyloArthritis international Society (ASAS) criteria between 2000 and 2020.

The following parameters were collected: age, smoking, ASDAS, BASDAI, and BASFI. We also measured inflammatory biomarkers (erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP)).

Results: We included 138 patients. Sixty-eight per cent of them were males. The mean age was 45.73 ± 12.66 years. The mean age at the disease onset was 28.89 ± 12.54 years. The mean CRP was 33.38 ± 39.65 mg/dL. The mean BASDAI and ASDAS-CRP were 4.21 ± 2.23 and 3.06 ± 1.26 , respectively. The mean BASFI was 4.77 ± 2.58 .

Fifty-one of our patients were smokers (37%). They were 48 men and 3 women. The mean pack-year was 45 ± 17.15 .

Smokers had a significantly younger age of the disease onset (25.21 ± 11.37 versus 31.96 ± 12.67 , $p = 0.009$).

Moreover, patients who smoke Tabaco had developed significantly more ankylosis compared to patients who don't ($p = 0.026$).

Osteoporosis was also more frequent in smoking patients ($p = 0.032$).

However, no association was found between smoking and ESR, CRP, ASDAS-CRP, BASDAI and BASFI.

Conclusion: Our results reveal that smoking can be responsible of a younger axSpA onset, and can lead to more severe structural damages regardless the disease activity. This highlights the importance of smoking cessation in preventing early bone damage in axSpA.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.3924

AB0518

ATHEROSCLEROTIC RISK IN PATIENTS WITH ANKYLOSING SPONDYLITIS: BIOMARKERS VERSUS SCORE

R. Dhahri¹, S. Miri¹, M. Slouma¹, B. Louzir¹, L. Metoui¹, I. Gharsallah¹. ¹The Military Hospital of Tunis, Rheumatology, Tunis, Tunisia

Background: Chronic inflammatory rheumatic diseases are associated with a high cardiovascular risk. However, data in ankylosing spondylitis (AS) are still limited.

Objectives: The aim of our study was to assess the atherosclerotic risk in patients with AS, by comparing the Systematic coronary risk evaluation: SCORE, with biomarkers of atherosclerosis: High sensitivity C-reactive protein (Hs-CRP), LDL/HDL ratio and apolipoprotein A1 (Apo A) /apolipoprotein B (Apo B) ratio.

Methods: We conducted a cross-sectional observational study of 40 patients with AS, over a period of 3 months. Socio-demographic data, clinical characteristics of the disease, as well as biological, radiological and therapeutic data were collected for each patient. Coagulated blood samples were collected following a 12-hour fast. Cardiovascular risk was considered high for Hs-CRP>3.0 mg/L [1], LDL/HDL> 3.5 in men and 3.0 in women [2], and ApoB/ApoA level>0.9 [3,4]. SCORE was calculated for all patients.

Results: The mean age of our population was 44 ± 10 years. Male predominance was noted with a sex ratio = 11.1. The mean ASDAS-CRP and BASDAI levels were 2.1 ± 0.95 and 2.25 ± 1.33 . Thirty-two percent of the patients had a high risk of cardiovascular diseases according to Hs-CRP level, with an average of 10.7 mg/L. The mean LDL/HDL ratio was high in twenty-two percent of the patients. The mean value of ApoA1 and ApoB was respectively 1.3 g/l. and 0.9 g/l. Low values of Apo A1 were determined in 12.5% of the subjects, and high values of ApoB were found in 15% of subjects. The mean value of ApoA/ApoB ratio was 0.7. Ten percent of the studied subjects had an unfavourable ApoB/ApoA1. The predicted 10-year risk of CV mortality according to SCORE was high in 5% of the patients, very high in 2.5% and moderate in 35% of them. Over 17 patients with moderate, high and very high risk according to SCORE: Four patients (23.5%) had high LDL/HDL ratio, 8 (47%) had high waist/hip ratio, 5 (29.4%) had high Hs-CRP level, and 2 (11.7%) had high ApoB/ApoA ratio.

We found ApoB/ApoA to be positively correlated with Hs-CRP ($r = 0.31$, $p = 0.05$). The SCORE was correlated to the age at the onset of the disease ($r = 0.78$, $p < 10^{-3}$).

Conclusion: The atherosclerotic risk in our population ranged from 10 to 43%. SCORE presented with the highest percentage, making it more suitable for mass screening. Biomarkers on the other hand are more precise. Hs-CRP is biomarker to be included in daily practice, even when AS is in remission. Accuracy of the apoB/apoA ratio is significantly great and appears to be associated with inflammation.

REFERENCES:

- [1] Myers GL, Rifai N, Tracy RP, Roberts WL, Alexander RW, Biasucci LM, et al. CDC/AHA Workshop on Markers of Inflammation and Cardiovascular Disease: Application to Clinical and Public Health Practice: Report From the

Laboratory Science Discussion Group. *Circulation* [Internet]. 2004 Dec 21 [cited 2020 Oct 20];110(25).

- [2] Munoz. Lipoprotein ratios: Physiological significance and clinical usefulness in cardiovascular prevention. *VHRM*. 2009 Sep;757.
- [3] Walidius G, Jungner I, Holme I, Aastveit AH, Kolar W, Steiner E. High apolipoprotein B, low apolipoprotein A-I, and improvement in the prediction of fatal myocardial infarction (AMORIS study): a prospective study. *The Lancet*. 2001 Dec;358(9298):2026–33.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.3938

AB0519

PHYSICAL ACTIVITY AND OBESITY IN PATIENTS WITH ANKYLOSING SPONDYLITIS

R. Dhahri¹, S. Miri¹, M. Slouma¹, B. Louzir¹, L. Metoui¹, I. Gharsallah¹. ¹The Military Hospital of Tunis, Rheumatology, Tunis, Tunisia

Background: Ankylosing Spondylitis (AS) is associated with an increased cardiovascular risk. Obesity and limited activity in patients with AS may contribute to this cardiovascular risk.

Objectives: We aimed to evaluate physical Activity and obesity in patients with AS.

Methods: We conducted a cross-sectional observational study of 40 patients with AS, over a period of 3 months. We evaluated the level of physical activity using the IPAQ (International Physical Activity Questionnaire). We also measured body mass index (BMI), body fat percentage, waist circumference, hip circumference and their ratio in all patients.

Results: The mean age of our population was 44±10 years. A male predominance was noted with a sex ratio =11.1. The mean ASDAS-CRP and BASDAI levels were 2.1±0.95 and 2.25±1.33. The mean of IPAQ was 3900 MET minutes per week, with a median of 3069 and extremes of 339 and 11000. 45.5% of patients had moderate physical activity and 20% had low activity. The mean BMI was 26.5 ± 4.7 kg/m². Twenty percent of patients were obese. The mean body fat percentage was 25% with a median of 23.7% and extremes of 8-46%. Forty-five percent of the patients had a high fat mass. The mean waist circumference was 95±13 cm, hip circumference 104±9.5 cm. The mean waist to hip ratio was 0.9±0.07. Thirty-seven percent of patients had a high waist to hip ratio. BMI and body fat percentage were negatively correlated with HDL level; (r=-0.365, p=0.024) and (r=-0.393, p=0.015) respectively.

Conclusion: The majority of our patients have moderate or low levels of physical activity. The increase in BMI and fat mass appear to be associated with disturbance of the lipid balance, with low HDL values.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.4023

AB0520

PUBIC SYMPHYSIS INVOLVEMENT IN NON-RADIOGRAPHIC SPONDYLARTHROSIS

H. Ferjani¹, M. Moalla¹, K. Maatallah¹, D. Ben Nessib¹, W. Triki¹, D. Kaffel¹, W. Hamdi¹. ¹Mohamed Kassab Institute of Orthopedics, Rheumatology, Manouba, Tunisia

Background: Structural change within pubic symphysis (PS) occurs in 20–25% of patients with spondylarthrosis (SpA). It occurs in all developmental stages, even in the early stages of the disease. Changes in the symphysis can sometimes precede spine and sacroiliac involvement. Radiological findings in PS were poorly described in the SpA, especially on its non-radiographic form (nr-axSpA).

Objectives: We aimed in this study to evaluate pubic symphyseal features in patients with a confirmed diagnosis of nr-axSpA and to assess the correlation of these changes with clinical and imaging features of nr-axSpA in these patients. We also focused on the relationship between parity and radiographic changes in pubic symphysis (PS).

Methods: We retrospectively reviewed the data of 40 patients diagnosed with nr-axSpA according to the ASAS criteria. Radiological-morphological changes of PS were assessed in pelvic radiography by two distinct rheumatologists. Grading symphyseal involvement was made as follow: scores ranged from 0-4 per reading: grade 0 = normal; grade 1 = subtle irregularity and/or subchondral sclerosis, grade 2 = clear erosions, 3 = marked sclerosis, grade 4 = ankylosis.

For all patients, we calculated the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and the BASRI (Bath Ankylosing Spondylitis Radiology Index).

For all patients, we recorded the sacroiliac changes showed by the previous pelvic radiography and/or the pelvic scanner and/or by magnetic resonance imaging (MRI).

Results: We enrolled forty patients with a sex-ratio H/F=1/3. Mean age of patients at diagnosis was 39,9 ± 10,8 [17-59]. Forty percent of patients had peripheral enthesitis, and 45% had peripheral arthritis. BASDAI mean score was 4,63 ± 0,9 [0-8,6]. HLA B-27 was present in 32,3% of cases. We noted radiographic changes in PS in 37,5% (15 patients): grade 1 (n=1), grade 2 (n=10), grade 3 (n=3) and grade 4 (n=1). There was not a significant difference between the sex group (p=0,85). A comparison of 2 groups (women with 3 children or more and women with less than 3 children) concluded that childbirth did not modify PS changes (p=0,9). Also, PS changes did not differ with age (p=0,5). There was no correlation between the BASRI value with the presence of PS changes nor with its grades (p=0,5 and p=0,89, respectively). Also, disease activity did not influence the PS involvement (p=0,4). Radiological findings in PS was not correlated with the sacroiliac features found on MRI or pelvic CT scan (p=0,59 and p=0,1).

Conclusion: In SpA criteria, PS changes were not considered. It can be an additional help in making the diagnosis. Interestingly, pubic symphysis may exist without sacroiliitis.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.4147

Psoriatic arthritis – treatment

AB0521

EARLY REAL-WORLD EXPERIENCE OF TOFACITINIB FOR PSORIATIC ARTHRITIS: DATA FROM A UNITED STATES HEALTHCARE CLAIMS DATABASE

P.J. Mease^{1,2}, P. Young³, D. C. Gruben⁴, L. Fallon⁵, R. Germino⁶, A. Kavanaugh⁷. ¹Swedish Medical Center/Providence St Joseph Health, Rheumatology Clinical Research Division, Seattle, WA, United States of America; ²University of Washington School of Medicine, Rheumatology Clinical Research Division, Seattle, WA, United States of America; ³Pfizer Inc, Inflammation and Immunology, Collegeville, PA, United States of America; ⁴Pfizer Inc, Inflammation and Immunology, Groton, CT, United States of America; ⁵Pfizer Inc, Inflammation and Immunology, Kirkland, QC, Canada; ⁶Pfizer Inc, Inflammation and Immunology, New York, NY, United States of America; ⁷University of California, San Diego School of Medicine, Division of Rheumatology, Allergy, and Immunology, San Diego, CA, United States of America

Background: Tofacitinib is an oral Janus kinase inhibitor for the treatment of psoriatic arthritis (PsA). It was approved in the United States (US) in December 2017 for use in combination with non-biologic disease-modifying antirheumatic drugs (DMARDs).

Objectives: This analysis of real-world data assessed demographic and baseline clinical characteristics, as well as treatment persistence/adherence, in patients (pts) with PsA who had newly initiated tofacitinib treatment.

Methods: This retrospective cohort study included pts aged ≥18 years in the Truven MarketScan™ US Commercial and Medicare Supplemental Claims and Encounters database with ≥1 tofacitinib claim (first = index) between 14 December 2017–30 April 2019, and PsA diagnoses (≥1 inpatient or ≥2 outpatient [30–365 days apart]) on or within 12 months pre-index. Pts were continuously enrolled for 12 months pre-index and 6 months post-index, with no pre-index claims for tofacitinib. Pt demographic and clinical characteristics on the day of index, history of advanced therapy treatment (≥1 claim for biologic DMARDs or apremilast within 12 months pre-index) and tofacitinib treatment regimen (monotherapy or combination therapy [≥1 claim for conventional synthetic DMARDs or apremilast on or within 90 days post-index]) were recorded. Outcomes at 6 months post-index included tofacitinib persistence (<60-day gap without tofacitinib treatment) and adherence (proportion of days covered ≥80% and medication possession ratio [data not shown]). A sensitivity check was performed by analysing a sub-cohort that excluded pts with a diagnosis of rheumatoid arthritis (RA) on or within 12 months pre-index and within 6 months post-index.

Results: Of 17 321 pts receiving tofacitinib, 440 pts met the inclusion criteria for the overall cohort, with 315 pts included in the sub-cohort. In the overall cohort, pts were mostly female, with a mean age of 52.3 years and a mean PsA duration of 738 days (data not shown). Most pts were exposed to ≥1 advanced therapy within 12 months pre-index (mean = 1.1; range = 0–4); most commonly secukinumab (Table 1). Overall, 60.7% of pts received monotherapy and 39.3% of pts received tofacitinib combination therapy post-index; most commonly methotrexate (data not shown). At 6 months post-index, persistence was similar in pts receiving tofacitinib monotherapy vs combination therapy; adherence was slightly lower in pts receiving tofacitinib monotherapy vs combination therapy (Figure 1). Results were similar in the sub-cohort (Table 1, Figure 1).