and histological studies have revealed that the accelerated bone turnover is associated with an increased blood flow and hypervascularity, suggesting a role of high-resolution sonography with power-Doppler (PD) and color- Doppler (CD) in Paget's disease. Our preliminary data demonstrated that this technique shows not only the alterations of the pagetic bone profile, but also the hypervascularization of the osteoperiosteal-layer, both at the diagnosis and during follow-up.

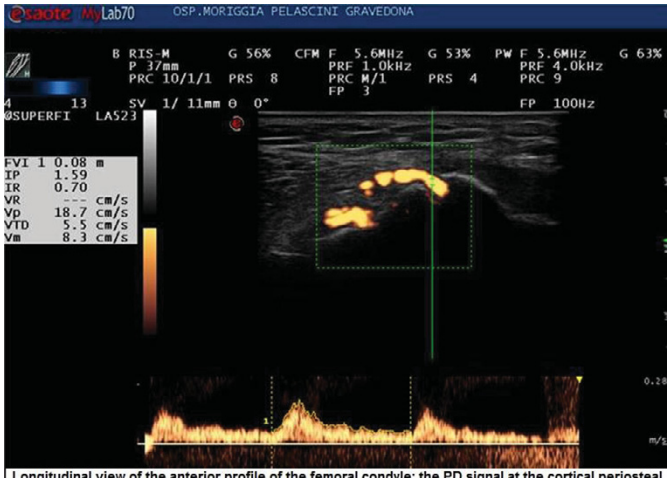
Objectives: To validate the PD technique as a useful tool not only for the diagnosis of Paget's disease of bone but also for the evaluation of the disease activity and for the monitoring of the therapeutic response.

Methods: Forty-three consecutive patients affected by Paget's disease of bone and treated with neridronate were followed up over the last ten years. Patients were classified in eight clinical patterns defined by the presence of bone alkaline phosphatase elevation over the normal range (BAP+), bone pagetic pain as visual analogue scale ≥30 (VAS+) and PD alterations of osteoperiosteal vascularization (PD+). Data were analyzed by Fisher exact test (two tails) to assess the associations between BAP+, VAS+ and PD+ at different times during follow up: before the start of the therapy, after the first, the second and the third neridronate cycle of therapy, and at the end of all cycles.

Results: At any time BAP+ and VAS+ were not associated. A trend of association between VAS+ and PD+ could be observed only after the first neridronate cycle. In contrast, the association between BAP+ and PD+ was statistically significant before the therapy, at the end of all cycles of therapy and after the second one, but not after the first one.

Table 1. Associations between BAP elevation over the normal range, VAS and PD alterations of osteoperiosteal vascularization, p<0.05

	BAP+/VAS+		BAP+/PD+		VAS+/PD+	
	n	P value	n	P value	n	P value
Before therapy	40	1.000	35	0.0063	35	0.5620
After first therapy cycle	40	0.6225	35	0.6176	35	0.0751
After second therapy cycle	22	0.4701	21	0.0263	21	1.000
After third therapy cycle	9	1.000	9	1.000	9	1.000
At the end of all therapy cycles	40	1.000	35	0.0290	35	1.000



Longitudinal view of the anterior profile of the femoral condyle: the PD signal at the cortical periosteal layer shows a systolic peak and a continuous diastolic flow with low-resistance index.

Conclusions: The lack of association between VAS+ and PD+ or BAP+ may be due to the difficulty of the patients in identifying and quantifying the pagetic pain, and suggests the weakness of the clinical criteria in defining the disease activity. Otherwise, PD technique proves to be a fast, reliable and not expensive tool, which is also very useful for monitoring/achieving better control of Paget's disease of bone.

References:

[1] Adami S., et al. Italian guidelines for the diagnosis and treatment of Paget's disease of bone. Reumatismo, 2007; 59(2):153–168.
[2] Singer F.R., et al. Paget's Disease of Bone: An Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab, 2014; 99(12):4408–4422.
[3] Mastaglio C., et al. Characterization of Osteocortical-Periosteal Layers by High-Resolution Sonography Using a Doppler Technique in Paget's Disease of Bone. JDMS, 2008; 24(3):136–144.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.4272

AB1007 THE SLE-KEY® TEST DETECTS AN SLE SEROLOGIC SIGNATURE THAT PERSISTS OVER TIME AND IS INDEPENDENT OF DISEASE ACTIVITY

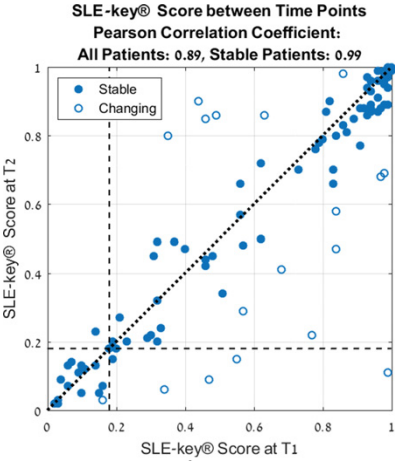
C. Putterman[1], M. Petri[2], R. Caricchio[3], P. Safer[4], K. Jakobi[4], R. Sorek[4], I. Gluzman[4], S. Wallace[5], I.R. Cohen[6]. *[1]Division of Rheumatology, Albert Einstein School of Medicine, NY; [2]Division of Rheumatology, Johns Hopkins University School of Medicine, MD; [3]Temple Lupus Clinic, Temple University, Philadelphia, PA, United States; [4]ImmunArray LTD, Rehovot, Israel; [5]ImmunArray Inc, VA, United States; [6]Weizmann Institute of Science, Rehovot, Israel*

Background: We previously described the SLE-key® RuleOut test[1,2] to rule out the presence of systemic lupus erythematosus (SLE) with 94% sensitivity, 75% specificity, and 93% negative predictive value. We also reported that the SLE-key® signature appeared to be independent of disease activity or duration[3] suggesting[4] that that the SLE-key® signature might persist over time in the same subject.

Objectives: Here we report that the SLE-key® signature remains stable over time in paired samples drawn from most individual subjects, regardless of disease activity.

Methods: We determined the SLE-key® RuleOut scores for 113 paired serum samples submitted by clinics specializing in SLE. SLEDAI scores at the time of the blood draw ranged from 0 to 22. The mean SLEDAI difference within the pairs was 2.7±6.3. Samples were collected from subjects with a T1-T2 time difference that ranged from 0 to 11.5 years (mean =2±2.6 years).

Results: The SLE-Key® RuleOut test identifies an SLE-specific signature based on a profile of autoantibodies to a combination of nucleic acids (complex ssDNA and a defined oligonucleotide) and protein biomarkers. Patients with an SLE-key® score of >0.18 are considered not ruled out for a diagnosis of SLE. In 84% of paired samples, patients' SLE-key® scores remained essentially the same (Figure 1, closed circles). The scores for these subjects were stable, persistent, and independent of SLEDAI score or time between sampling. Significant changes in the SLE-key® scores of 18/113 patient pairs (open circles) appear to be independent of time between blood draws and change in SLEDAI score. In 7 cases there was a change in Rule Out status of the patients. In 3 cases, both scores were close to the 0.18 threshold and the change was deemed not significant. In 4 cases, patients' status changed from RuledOut to Not Ruled Out, but with no correlation to change in SLEDAI score or time between sampling dates. Records of patients with changing SLE-key® scores are being studied to determine the reasons and the clinical implications of the change.



Conclusions: The SLE-key® RuleOut test detects a serologic signature which remains stable between sampling dates and over a long period of time after diagnosis in 84% of subjects. Subjects who were ruled out at T1 were generally ruled out at T2. Patients not ruled out at T1 remained not ruled out at T2. The clinical implications of a changing SLE-key® RuleOut score in the remaining 16% of patients may be meaningful, and are currently being carefully investigated.

References:

[1] Fattal et al; Immunology 2010.
[2] Putterman et al., J Immunol Methods, 2016.
[3] Putterman et al., Lupus 2016.
[4] Cohen IR, Lupus Open Access 2016.

Acknowledgements: The authors wish to acknowledge the invaluable contributions of Cohen-Gindi O, Lerner M, Tarnapolski O, Blumenstein Y, Javaherian A, Pitts J, Barton M and Wong E and Innovative Medicines Initiative Joint Undertaking under grant agreement n° 115308 BIOVACSAFE.

Disclosure of Interest: C. Putterman Consultant for: ImmunArray, M. Petri: None declared, R. Caricchio: None declared, P. Safer Employee of: ImmunArray, K. Jakobi Employee of: ImmunArray, R. Sorek Employee of: ImmunArray, I. Gluzman Employee of: ImmunArray, S. Wallace Employee of: ImmunArray, I. Cohen Shareholder of: ImmunArray, Consultant for: ImmunArray

DOI: 10.1136/annrheumdis-2017-eular.5963

AB1008 DISTRIBUTIONS OF ANTIBODIES IN SLE PATIENTS IN DIFFERENT ETHNIC GROUPS IN XINJIANG

C. Xiaomei, W. Lijun. *Department of Rheumatology and Immunology, People's Hospital of Xinjiang Uyghur Autonomous Region, urumqi, China*

Objectives: The aim of this study was to explore distributions of antibodies in SLE patients in different ethnic groups in xinjiang.

Methods: Data were obtained from 670 patients with SLE from Department of Rheumatology and immunology in our hospital between January 2012 and October 2016.All patients fulfilled the 1997 ACR SLE classification criteria. Data about their gender, age, ethnic groups and result of antibodies test were collected.
Results: Totally 670 completed data were collected.there are 438 (65.37%) of these patients (68.22%) were Han population,136 (20.29%)were Uighur, 43 (6.42%) were Kazakh, 30 (4.48%) were hui people and 23 were other minorities live in xinjiang. The titer of ANA was higher in minorities than Han population (Z=-3.516, P<0.01). As compared with Han population, the positive rate of anti-Smith antibaodies and anti-SSA antibodies in SLE patients, significantly higher than han population (χ^2=5.902, P<0.017; χ^2=42.787, P<0.001, respectively). However, there are no significant different of the positive rate ofanti-SSA antibodies, anti-Scl-70 antibodies, anti-Jo-1 antibodies,anti-ds-DNA antibodies between Han population and minorities.
Conclusions: Distributions of antibodies in SLE patients were different between Han population and minorities.the positive rate of anti-Smith antibaodies and anti-SSA antibodies in SLE patients were significantly higher than han population.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6291

AB1009 MRI CONTRIBUTES TO ACCURATE DIAGNOSIS OF NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS IN PATIENTS WITH SERUM NEGATIVE HLA-B27

C.-C. Lu[1,2], G.-S. Huang[3], H.-C. Chen[1], T.S.-H. Lee[4], F.-C. Liu[1], S.-Y. Kao[1], S.-J. Chu[1], T.-Y. Ho[1], C.-H. Chen[5], S.-Y. Lyu[6]. *[1]Division of Rheumatology, Department of Internal Medicine, Tri-Service General Hopsital, National Defense Medical Center, Taipei City, Taiwan, Province of China; [2]Department of Pathology, University of Washington, Seattle, United States; [3]Department of Radiology, Tri-Service General Hopsital, National Defense Medical Center; [4]Department of Health Promotion and Health Education, National Taiwan Normal University, Taipei City; [5]Division of Rheumatology, Department of Internal Medicine, Taipei Tzu Chi Hospital, New Taipei City; [6]Division of Radiology, Taoyuan General Hospital, Ministry of Health and Welfare, Taoyuan City, Taiwan, Province of China*

Background: Based on ASAS axial spondyloarthritis (SpA) criteria, the presence of structural changes of sacroiliac (SI) joints such as sclerosis, bone erosion, joint space widening or ankyloses dose not meet the definition of active sacroiliitis on magnetic resonance imaging (MRI), if there is no bone marrow edema (BME). However only less than half Asian patients with SpA were characterized by BME. Neither serum inflammatory markers such as c reactive protein (CRP) nor erythrocyte sedimentation rate (ESR) is able to be useful as diagnostic markers in the early phase of SpA. HLA-B27 is associated with early diagnosis of SpA and axial inflammation of SI joints on MRI. Nonetheless, HLA-B27 is not associated with structural lesions of SI joints. All factors contribute to difficult defining early Asian SpA patients in the absence of serum HLA-B27 and active imaging inflammation.
Objectives: The aim of this study is to evaluate the prevalence of structure changes of SI joints on MRI in Taiwanese SpA patients in the absence of serum HLA-B27.
Methods: Thirty-three patients with inflammatory back pain and morning stiffness (disease duration more than 3 months) and high disease activity (BASDAI$\geq$4) who had to be either serum HLA-B27 positive (10 patients) with $\geq$1 SpA-feature or HLA-B27 negative with $\geq$2 SpA-features (22 patients) were included in this prospective study. All patients did not meet the definition for a positive radiograph according to the modified New York criteria. MRI was performed with multiple sequence (Coronal and axial T1-weighted spin echo, coronal and axial short-tau inversion recovery). SI joints were evaluated for the prevalence of subchondral BME and structure changes (sclerosis, bone erosion, joint space widening and ankylosis). All patients were tested for X-rays of the pelvis and serum levels of ESR and CRP. Correlation analysis was performed among the different collected variables.
Results: Subchondral BME was only present in 8 of 23 patients with SpA in the absence of serum HLA-B27 (34.8%), while 7 of 10 (70%) HLA-B27 serum positive SpA patients had active BME on MRI. Structural changes of SI joints, including sclerosis, bone erosion and joint space widening were identified in 8 (80%), 10 (100%) and 5 (50%) SpA patients with positive serum HLA-B27, respectively. Nevertheless, these structural changes of SI joints on MRI were more common in HLA-B27 serum negative patients, as 15 (65.2%), 20 (87.0%) and 7 (30.4%) of 23 serum negative patients, respectively.
Conclusions: MRI contributes to detect structural changes of SI joints for patients with nonradiographic axial SpA in the absence of serum HLA-B27.
References:
[1] Rudwaleit, M. & Sieper, J. Nat. Rev. Rheumatol. 2012;8, 262–268.
[2] van Tubergen, A. & Weber, U. Nat. Rev. Rheumatol. 2012;8, 253–261.
[3] van der Heijde D, et al. Ann Rheum Dis 2017;0:1–14.
[4] Turina MC, et al. RMD Open 2017;2:e000319.
[5] Baraliakos, X. & Braun, J. Nat. Rev. Rheumatol. 2013;9, 498–502.
[6] Navallas M, et al. Radiographics. 2013;33:933–56.
[7] Lambert RGW, et al. Ann Rheum Dis 2016;75:1958–1963.
[8] Chung HY, et al. Ann Rheum Dis. 2011;70:1930–6.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6069

AB1010 ULTRASOUND MORPHOSTRUCTURAL PATTERN OF THE TIBIOFIBULAR JOINT. PRELIMINARY RESULTS

C. Hernández-Díaz[1], L. Ventura-Rios[1], M. Maldonado[2], G. Sanchez-Bringas[3]. *[1]Laboratorio de Ultrasonido Musculoesquelético y Articular, Instituto Nacional de Rehabilitación, Mexico City, Mexico; [2]Reumatologa, Cuzco, Peru; [3]Departamento de Embriologia, Facultad de Medicina, UNAM, Mexico City, Mexico*

Background: The anatomy of the proximal tibiofibular (TF) joint is directly related to its ability to withstand stress applied in either a longitudinal or axial fashion. It is traditionally evaluated by CT scan, however, in certain conditions, it could be evaluated by ultrasound (US) conveniently; so far US has not been using to evaluate the TF joint. US is an innocuous, accessible and cheap image technique, that has demonstrated its utility for evaluating joints in several pathologic conditions, and might have an important role in the early diagnosis of inflammatory, degenerative or even tumoral lesions at the level of the TF joint; there are no studies that have evaluated the morpho- structural pattern of the TF joint.
Objectives: To describe the morphostructural pattern of the tibiofibular joint in healthy subjects.
Methods: Subjects older than 18 yrs old, with no history of past/present lesion of the knee, without any joint or neurovascular disease were included. A short questionnaire related to physical activity applied, and clinical evaluation to discard instability performed. US of both knees in extension done, using an Esaote ® MyLab 70 ultrasound equipment with a 7.5 - 12 MHz linear transducer. Descriptive statistics done
Results: Thirty-six patients (27 women, 75%) included, mean age 41.2±8.9 years, mean weight 71±12.46 kg, mean height 1.61±0.09 ms and BMI 71.07±12.40. 69% of the subjects practice mild exercise activities. By US mean distance between tibia and fibula were 3.2±1.17 cm; the mean thickness of the ligaments (superior and inferior) was 3.2±0.99 cm and 3.2±0.89 respectively, and in the superior e inferior fibular ligaments were 3.2±0.99 cm and 3.2±0.89 cm respectively. Ligaments were hyperechoic in 61.1%, a well-defined border was seen only in 48.6%. Inside of joints a hypoechoic tissue was observed
Conclusions: These preliminary results suggest that US can be a useful tool for evaluating the tibiofibular joint.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6840

AB1011 RELIABILITY OF SONOGRAPHIC PERITENON EXTENSOR TENDON INFLAMMATION PATTERN IN PSORIATIC ARTHRITIS

C. Macía[1], H.B. Hammer[2], S. Falcao[3], J. Medina[4], M. Gutierrez[5], E. De Miguel[6]. *[1]Rheumatology, Hospital Universitario Severo Ochoa, Madrid, Spain; [2]Rheumatology, Diakonhjemmet Hospital, Oslo, Norway; [3]Rheumatology, Chronic Diseases Study Center (CEDOC), NOVA Medical School, UNL, Lisboa, Portugal; [4]Rheumatology, Hospital Clínico Universitario, Valladolid, Spain; [5]Rheumatology, Division of Musculoskeletal and Rheumatic Disorders. Instituto Nacional de Rehabilitación, Mexico City, Mexico; [6]Rheumatology, Hospital Universitario la Paz, Madrid, Spain*

Background: Preliminary results demonstrate that the peritenon inflammation of the extensor digitorum tendon (PTI) is a specific ultrasound (US) pattern of Psoriatic Arthritis (PsA) at metacarpophalangeal joint (MCPj) level. It was suggested as a pattern playing a key role in the differential diagnosis between Rheumatoid Arthritis and PsA [(1,2)].
Objectives: In spite of PTI's clinical impact, there are no data regarding the reliability of US PTI evaluation. The present study addressed this topic by testing the reliability of US on evaluation of PTI.
Methods: 27 consecutive non selected PsA patients with clinical involvement of at least one 2nd to 5th MCPj were included. A rheumatologist trained in PTI assessments obtained the US images exploring the dorsal aspect of MCPj from 2nd to 5th of both hands using a MyLab 70 XVG machine, Esaote, Genova, Italy, with a greyscale (GS) 13 MHz probe and a 7.1 MHz power Doppler (PD) frequency, PRF 750 Hz and a 60 Gain. 3–5 seconds videos of each MCPj were obtained in transversal and longitudinal views for further reliability analysis. In the inter-reader reliability analysis, performed by five readers from five different hospitals and four countries, it was scored as present or absent 1) PTI (defined as an hypoechoic swelling of the soft tissue surrounding the extensor tendon at MCPj level with or without PD) and 2) intra-articular synovitis (IAS, OMERACT definition), both in PD and GS. The consensus of true US results for every joint and lesion was achieved when at least three readers had the same opinion. Cohen's Kappa test was used for statistical analysis.
Results: Clinical MCPj involvement was present in 60 (27.7%) of the 216 joints whereas US detected IAS and/or PTI in 75 (34.7%). US showed GS PTI in 41 (19%) and PD in 38 (17.6%) of the joints, while GS IAS was found in 63 (29.2%) with PD activity in 41 (19%) of the joints. The inter-reader reliability is shown in the Table. Intra-reader reliability results expressed as mean Kappa were 0.826 for PTI PD, 0.784 for PTI GS, 0.743 for IAS PD and 0.637 for IAS GS.
Conclusions: US examination of MCPj shows that PTI is near as frequent as IAS in PsA with reliability of its scoring at least as good as for joint synovitis. This opens the possibility of introducing US scoring of PTI, which may be of importance for the diagnosis and follow-up of PsA patients.
References:
[1] Gutierrez M et al. Ann Rheum Dis 2011; 70: 1111–4.