Abstract AB1170 – Table 1. Crosstab for total optical score of the handscan versus DAS28

DAS28	TOS<17	TOS≥17	Total	P-value
Mean	2.54	3.07	2.56	0.068
Std	0.90	1.72	1.12	
Median	2.55	3.13	2.61	
N	76	19	95	
	(4missings)	(1missing)	(5missings)

Abstract AB1170 – Figure 1

Conclusions: In this preliminary evaluation of the first 100 patients, we observed a limited positive correlation between the total optical score of the handscan and the DAS28. The TOS above 17 associates with moderate to severe disease activity. The definite clinical value of the handscan needs to be determined with longitudinal measurements and its predictive value versus the DAS28. The ongoing current registry aims to answer these questions.

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Disclosure of Interest: A. Al Hasan Grant/research support from: this research is supported by an unrestricted grant from Stichting De Friesland, R. Bos Grant/research support from: this research is supported by an unrestricted grant from Stichting De Friesland, N. Veeger: None declared, D. Zhang: None declared, L. Hendriks: None declared, F. Wink: None declared, A. Schilder: None declared, F. Reimann: None declared, K. Bergsma: None declared

DOI: 10.1136/annrheumdis-2018-eular.5986

AB1171 **ULTRASOUND ASSESSMENT OF THE KNEE IN ELDERLY JAPANESE POPULATION**

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Background: Osteoarthritis (OA) is known as degenerative arthritis. Knee OA is a common disease among aged population and one of the leading causes of disability. Many modalities are used to evaluate bony abnormalities and joint space narrowing for knee OA.

Ultrasound is one of the imaging modalities for evaluating knee joint structures such as cartilage, meniscus, osteophyte and synovium. There are few large-scale

studies focused on ultrasound findings of the knee of the elderly in general population.

Objectives: The aim of our study is to evaluate relationship between clinical and ultrasound findings of the elder population.

Methods: Two hundred and twenty two participants were recruited from Naga-hama residents aged 60 years or older. We evaluated the both knees of participants with ultrasound with a 5MHz transducer. Ultrasound scans were performed and assessed by a standardised protocol of the Outcome Measures in Rheumatoid Arthritis Clinical Trial Guidelines. The symptoms were clinically assessed by using Knee Society Score 2011 (KSS). We statistically examined whether the KSS (symptom) correlated with other clinical parameters and each ultrasonographical findings.

Results: Participants were 65 men and 137 women with a mean age of 67±5 years old. The mean body mass index (BMI) was 21.8±2.76 kg/m². The symptom subscale of KSS were significantly associated with age, BMI, knee maximum extension and flexion angle, suprapatellar effusion, medial meniscus protusion, medial recess synovial hypertrophy, and femoral and tibial medial osteophytes. Multiple regression analysis showed that medial osteophytes was most closely related to the symptom subscale of KSS among the ultrasound findings and demographic data evaluated.

Conclusions: The present study showed a strong association between the symptoms of the knee and the medial osteophytes in Japanese elder population.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5047

AB1172 **DOES ULTRASOUND-SCORED SYNOVITIS DEPEND ON THE PHARMACOKINETICS OF INTRAVENOUS INFLIXIMAB IN PATIENTS WITH RHEUMATOID ARTHRITIS?**

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Background: Musculoskeletal ultrasound (US) was developed more than four decades ago and gradually made its way to daily rheumatological practice. This dynamic, non-irradiating and relatively inexpensive technique allows detection of synovitis/tenosynovitis as well as quantification of joint inflammation. However, several external factors, such as, joint position, machine settings, sonographer expertise and certain medications can influence the results of the US examination.

Objectives: The aim of this study was to investigate whether the pharmacokinetics of intravenous (i.v.) infliximab (IFX) influences the grade of US detected synovitis, measured by gray-scale (GS) and colour Doppler (CD) in rheumatoid arthritis (RA) patients.

Methods: Inclusion criteria were RA patients with at least one swollen joint, being treated with i.v. IFX, who had neither, changes in DMARD therapy nor local corticosteroid injections in the previous 3 months. Patients underwent clinical, laboratory and US assessment at three time points: at trough, peak plasma drug concentration and at mid-cycle. US assessments were performed blindly to the clinical and laboratory data. Twenty-four joints were assessed for the presence and grade (0–3) of GS synovitis and synovial CD signal: elbows, wrists, 2nd-5th metacarpophalangeal (MCP) joints, knees, ankles, 2nd-5th metatarsophalangeal (MTP) joints. A global OMERACT-EULAR synovitis score (GLOESS) as well as the sum of GS and CD scores were calculated for the 24-joint set, for the 12-joint set (Naredo score) and for wrists-MCP-ankles-MTP joints. Several disease activity scores (DAS) [28-joint DAS (DAS28-CRP), Simplified Disease Activity Index (SDAI)] and health assessment questionnaire (HAQ) were assessed in all patients. Trough plasma IFX concentrations were available in 20 patients.

Results: Twenty-two RA patients were prospectively recruited from the biologic therapy unit of our hospital. Two thirds of patients were female and mean age was 61 years. The majority of them had long-standing seropositive RA and over 90%

had radiographic damage. The median of IFX treatment duration was 9 years. There were no significant differences between the GS, CD and GLOESS scores at IFX peak time and trough time. US-joint count, GS, CD and GLOESS scores did not significantly differ between peak time and trough time. Patients with long-lasting RA treated with IFX had relatively stable US-detected synovitis and slightly lower clinical scores at 4 weeks after IFX administration as compared to baseline. The DAS28CRP, 28 and 44 swollen joint counts did not correlate with trough serum IFX concentrations. US scores (GS and GLOESS) significantly correlate with trough serum IFX concentrations (Spearman correlation coefficient, $r=-0.55$, $p=0.01$, $n=20$). Patients with low trough IFX levels, especially $\leq 1 \mu\text{g/ml}$, had higher US joint count as well as US scores ($p<0.01$).

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- [1] US-scored synovitis is not significantly influenced by pharmacokinetics of IFX in RA patients. US examination can be conducted independently of time of IFX administration i.e. before or after IFX administration in clinical trials. Although there was no correlation with clinical scores, low trough IFX concentration correlated with the degree of US-detected synovitis.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6901

AB1173

CORRELATION BETWEEN TRABECULAR BONE SCORE (TBS) AND NAILFOLD VIDEOCAPILLAROSCOPY IN SYSTEMIC SCLEROSIS PATIENTS

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Background: Systemic sclerosis (SSc) is associated with an increased risk of altered bone and fractures as a result of multiple factors, including treatment-related side effects, low vitamin D serum concentrations and reduced physical activity.¹ Trabecular Bone Score (TBS) is an index extracted from dual-energy X-ray absorptiometry (DXA) analysis, that provides an indirect measurement of axial bone microarchitecture and bone quality.²

Objectives: The aim of this study was to evaluate possible correlation between bone quality, by TBS, and different levels of microvascular damage, as evaluated by nailfold videocapillaroscopy (NVC) patterns³ in SSc patients and to compare the results regarding bone quality with RA patients and healthy subjects (CNT).

Methods: Eighty-eight SSc patients, 98 rheumatoid arthritis (RA) patients and 60 CNT were studied. Bone Mineral Density (BMD, g/cm^2) of the lumbar spine (L1-L4) was analysed by dual-energy X-ray absorptiometry (DXA) scan. Lumbar spine bone quality was derived from each spine DXA examination using the TBS analysis. NVC patterns were analysed as previous reported.³ All patients were subjected to 25 hydroxyvitamin D (25(OH)D ng/ml) serum dosage.

Results: TBS values were found statistically higher in SSc with a "Early" NVC pattern, compared to the "Active" or "Late" pattern (1.182 ± 0.1 , 1.101 ± 0.8 , 1.074 ± 0.1 respectively, $p<0.001$). No statistical significant difference was observed in the three groups about DXA values ($p=0.13$, for all areas). A total of 56/84 SSc patients (66%) as well as in 78/98 RA patients (80%) showed bone loss at DXA and BMD was found significantly lower than in the CNT ($p<0.001$). Similarly, lumbar spine TBS was found significantly lower in SSc and RA patients than in CNT ($p<0.001$). There was no statistically significant difference in the mean lumbar spine TBS between SSc and RA patients ($p=0.238$). Serum levels of 25 (OH) D were statistically significantly higher in patients with "Early" SSc pattern than in those both "Active" and "Late" pattern (19.1 ± 7.5 , 15.1 ± 5.3 , 12.1 ± 7.1 respectively, $p=0.002$).

Conclusions: The bone quality seems lower in SSc patients with more altered microvasculature ("Late" NVC pattern). The data obtained showed also a significantly lower bone quality (lower TBS and BMD) in SSc and RA patients compared to CNT. The association between bone damage and the "Late" advanced NVC

pattern of microvascular damage, may suggest that tissue hypoxia/ischemia related to the diffuse microangiopathy might be a further promoting factor for osteoclastogenesis and bone loss. Our results support the development of a combined approach using both TBS and BMD for the assessment of bone microarchitecture/quality in SSc patients during their disease progression.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5461

AB1174

THE INFLAMMATORY CHANGES AT JOINTS AND ENTHESIS IN A COHORT OF PATIENTS AFFECTED BY OCHRONOSIS: AN ULTRASONOGRAPHIC STUDY

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Background: The pathogenesis of Ochronosis, the musculoskeletal manifestation of alcaptonuria (AKU) is still unclear. The joint damage usually described is similar to osteoarthritis, but in some cases the spinal involvement could resemble spondyloarthritis (SpA). These findings suggest that inflammatory changes could be prevalent in some cases while degenerative aspects could be dominant in others.

Objectives: To evaluate the prevalence of inflammatory changes in peripheral joints and entheses of a cohort of patients affected by AKU.

Methods: Consecutive patients with definite diagnosis of AKU referred to our clinic from 2014 to 2017 were enrolled. All patients underwent an ultrasound (US) exam of the metacarpo-phalangeal joints (MCP), proximal interphalangeal joints (PIP), radiocarpal/mid carpal joints, elbow, gleno-humeral, hip, knee, ankle and metatarso-phalangeal (MTP) joints bilaterally; flexor and extensor tendons of fingers and wrists and the ankle tendons were also examined. Further, the entheses of the rotator cuff of the shoulder, triceps, quadriceps, patellar and Achilles tendons were assessed. Joints and tendons with a synovial sheath were assessed for effusion, synovial hypertrophy and power Doppler (PD) signal while entheses were evaluated for the presence of PD signal, enthesophytes and calcifications. All the US lesions were scored using a dichotomous scale (presence/absence). All US exams were performed by an expert sonographer blind to clinical history, using an Esaote MyLab70 scanner equipped with high resolution linear probes.

Results: We enrolled 19 patients (11 women) with a mean age of 53 yo (SD ± 14.69). Only 2 patients didn't show inflammation at any joint or tendon. The most involved joint was the knee (11/19), while regarding entheses, the Achilles tendon (4/19) and the distal patellar tendon insertion were the most frequently involved (6/19). The mean number of joints with effusion or synovial hypertrophy was respectively equal to 2,47 (median 2, range 1–8) and 1,84 (median 2, range 1–7), while 0,21 joints (median 0, range 0–2) presented also PD. The mean of the exudative tenosynovitis was 0,47 (median 0, range 0–3), while for proliferative tenosynovitis was 0,42 (median 0, range 0–2). The PD signal in tendons with sheaths was rare (mean 0,16, median 0, range 0–2). Finally, the mean number of entheses with PD was 0,95 (median 0, range 0–7) while the mean value was 0,37 (median 0, range 0–3) for enthesophytes and 2,63 (median 1, range 0–9) for calcifications.

Conclusions: The pathological processes that lead to the typical joint damage in ochronosis are not yet completely clarified. The results of this study showed that articular inflammation is common in these patients, sometimes associated with entheses involvement. The role of inflammation should be further addressed as could be a new therapeutic target for this disease.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7447