respectively ($p < 0.001$). Muscle strength was generally preserved at follow-up. However, there were moderate to strong correlations ($r = 0.54-0.96$) between weaker muscle strength at follow-up and greater reduction in SWV.

Figure 1. Muscle stiffness changes in the quadriceps, hamstrings and biceps brachii.

Conclusion: The GCA patients showed a significant loss of muscle stiffness after 3 and 6 months of corticosteroid treatment. With further validation in larger samples, shear wave elastography may be useful for detecting subclinical CIM.

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Disclosure of Interests: Abdulrahman M. Alfuraih: None declared, Ai Lyn Tan: None declared, Philip O'Connor: None declared, Paul Emery Grant/ research support from: Pfizer, MSD, AbbVie, Bristol-Myers Squibb, Roche, Consultant for: Pfizer, MSD, AbbVie, Bristol-Myers Squibb, UCB, Roche, Novartis, Gilead, Samsung, Sandoz and Lilly, Richard Wakefield: None declared

DOI: 10.1136/annrheumdis-2019-eular.746

THU0606

PROLIFERATIVE GLOBULAR SYNOVITIS, A CHARACTERISTIC ULTRASONOGRAPHIC PATTERN OF SEROPOSITIVE RHEUMATOID ARTHRITIS

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Background: Rheumatoid Arthritis (RA) and Psoriatic Arthritis (PsA) have a different ultrasound (US) patterns. Synovial changes are characteristic of RA patients and soft tissue changes are more frequently found in PsA. However, no previous studies have analysed if US findings differ between seropositive and seronegative RA patients.

Objectives: To analyse differences in the ultrasound pattern among patients with seropositive and seronegative RA. To assess if proliferative globular synovitis is characteristic of seropositive RA.

Methods: Retrospective Analysis. We collected clinical, epidemiological and ultrasound images of patients with RA who met American College of Rheumatology/European League Against Rheumatism 2010 criteria¹ with bilateral carpal and hand ultrasonography carried out during the last five years. Synovial hypertrophy (SH) and Power Doppler signal (PD) in wrist and hand (1-5 metacarpophalangeal [MCP]) were evaluated. We calculated the SH score (sum of the SH degrees of each joint), PD (sum of the PD degrees of each joint) and the total score (sum of the score of SH and PD) for each patient. We also evaluated the presence of proliferative globular synovitis, defined as big synovial hypertrophy with exophytic growth and a convex upper limit.

Results: 145 RA patients were collected. 80% were women. Mean age was 59.06 (14.8) years and the mean time of disease evolution was

114.6 (112.8) months. 68.3% were RF positive and 74.5% ACPA positive. Overall, 115 of the 145 (79.3%) patients were seropositive for RF/ACPA. 53.1% had radiographic erosions, 73.1% used conventional synthetic Disease-modifying drugs (DMARDs), 29.7% biological therapy, and 57.2% low doses of corticosteroids (<5 mg prednisone). The mean DAS28 was 2.81 (1.14), the number of swollen joints was 3 (3.4), and the C reactive protein (CRP) was 0.99 mg/dl (1.6).

No significant differences between seropositive and seronegative patients in terms of disease activity (swollen joints count [SJC], tender joint count [TJC], CRP, DAS28), treatment (use of corticosteroids, DMARDs, biological), time of evolution or US scores (SH, PD and total scores) were found. Globular synovitis was present in 62% and 13.7% of seropositive and seronegative RA patients, respectively ($p < 0.0001$).

Globally, 75 (51.7%) out of 145 patients had "globular" synovitis by US (Figure 1). 71 out of 75 patients were RF/ACPA positive (94.6%). Only four patients with seronegative RA had this US pattern ($p < 0.0001$). Furthermore, patients with "globular" synovitis had more erosions (72% vs 33%, $p < 0.0001$), higher SJC (3.3 vs 2.5, $p = 0.013$) and higher SH and PD scores ($p = 0.0001$).

Conclusion: The presence of proliferative globular synovitis was significantly associated with the presence of RF/ACPA in patients with RA. This US pattern identified a subgroup of RA patients with poor prognosis: more erosions and greater inflammatory activity both at clinical and ultrasound level.

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Disclosure of Interests: Ana Belén Azuaga-Piñango: None declared, Beatriz Frade-Sosa: None declared, Roberto Gumucio: None declared, Katherine Cajiao: None declared, Stanislava Mandelikova: None declared, Raul Castellanos-Moreira Speakers bureau: MSD, Lilly, Virginia Ruiz: None declared, Raimón Sanmartí Speakers bureau: PFIZER, SANOFI, LILLY, MSD, UCB, NOVARTIS, JANSSEN, Juan D. Cañete: None declared, Julio Ramirez: None declared

DOI: 10.1136/annrheumdis-2019-eular.4817

THU0607

CORRELATION BETWEEN ULTRASOUND AND STANDARD RADIOGRAPHY AND BETWEEN ULTRASOUND AND CLINICAL DATA IN RHEUMATOID ARTHRITIS

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Background: Early diagnosis in Rheumatoid Arthritis (RA) is essential in order to quickly introduce a background treatment to prevent joint destruction. In recent years, ultrasound has become an essential part of the initial assessment of polyarthritis because of its superior sensitivity to clinical examination and standard imaging for the investigation of synovitis, tenosynovitis and erosions.

Objectives: To evaluate concordance between clinical examination, standard radiography and joint ultrasonography in a heterogeneous group of patients with RA.

Methods: 40 patients were included in a prospective, transverse and monocentric study conducted in the radiology department of Farhat Hached University Hospital in Sousse over a period of 03 months whatever the level of activity of the disease, the duration of evolution or the treatment received. For each patient, 24 joints were evaluated for a total of 960 joints. Synovitis was scored using clinical examination, B-mode ultrasound, and pulsed Doppler. Concordance between joint swelling assessed by clinical examination, synovial thickening assessed by E-B and inflammation assessed by PD was evaluated by calculating the Kappa coefficient (k). A comparison between the reliability of ultrasound versus standard imaging was evaluated for the detection of bone erosions. The onset of RA, stage, and ultrasound score were assessed by Spearman coefficient.

Results: 960 joints were studied. The mean age was 54.6 years. The sex ratio was 0.29. The mean duration of illness was 3.4 months. Clinical examination revealed 207 active synovitis versus Ultrasonography: 474 active synovitis. The concordance between clinical examination and ultrasound was very low at the metacarpophalangeal (MCP) (<0.1), low at

the proximal interphalangeal (PIP) (0.26) and moderate at wrist (0, 56), ultrasound detected more erosions than standard radiography (56% versus 17%), and a statistically significant correlation was observed between the onset of RA, its stage, and the ultrasound score.

Conclusion: Evaluation of a heterogeneous group demonstrated that ultrasound completes clinical examination information, particularly at the PIP and MCP levels, and detects erosions earlier than standard imaging.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.5195

THU0608

CAPILLAROSCOPIC DIFFERENCES IN PRIMARY BILIARY CHOLANGITIS WITH OR WITHOUT SCLERODERMA AND RAYNAUD'S PHENOMENON, A PRELIMINARY STUDY

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Background: A high proportion of capillaroscopic alterations have been reported in patients with Primary Biliary Cholangitis (PBC) (1). Association with an abnormal capillaroscopic pattern has been described in patients with PBC and Raynaud's phenomenon (RP), possibility for anticentromere antibodies (ACA) and overlap with another systemic autoimmune disease, the most frequent being Systemic Sclerosis (SSc) (association with a prevalence up to 17% of PBC patients called Reynolds Syndrome) (2). However, studies are scarce and not very detailed in terms of the differential capillaroscopic findings between patients with PBC with/without SSc and with/without RP.

Objectives: To analyze the differences between clinical, serological and capillary morphological alterations observed in three different groups of patients with PBC: patients with PBC alone (PBC-A), patients with PBC and RP (PBC-RP) and patients with Reynolds Syndrome (PBC-RS).

Methods: Periungual capillaroscopy was performed on 12 patients with PBC-A, 10 with CBP-RP and 13 with PBC-RS, who received follow-up in our systemic diseases and hepatology monographic outpatients. Capillaroscopy was made with USB Digital Microscope Dino-Lite[®] epiluminiscence video. The capillaroscopic alterations were according to a semiquantitative method. All patients were given a detailed clinical evaluation. Variables related to clinical, serological and capillaroscopic parameters were collected. A comparative study was done.

Results: Of the 36 patients analyzed, 32 (88.9%) were women, with no sex differences between the three groups. The median age at PBC diagnosis was 50 + -12.8 years in PBC-A group, 60.5 + -15 years in PBC-RP and 62 years in PBC-RS, showing significant difference between the first group and the other two (p 0.039). 14 patients had other systemic diseases: 1 hemolytic anemia, 1 SLE, 2 Psoriasis, 1 PTI and 9 Sicca. The only clinical parameter with significant difference between the three groups was association with Sicca: 3 (25%) PBC-A, 5 (50%) PBC-RP and 12 (85.7%) PBC-RS, p 0.002. Twenty five (73.5%) patients had positive AMA, with no differences between groups. All 11 patients who had ACA were from the PBC-RS group. Statistically significant differences observed between the capillaroscopy parameters were the presence of capillary dilatations [5 (41.7%) PBC-A, 5 (50%) PBC-RP, 11 (84.6%) PBC-RS, p 0.03] and pathological hemorrhages [1 (8.3%) in PBC-A, 2 (22.2%) PBC-RP, 11 (78.6%) PBC-RS, p <0.001] as well as the presence of a different capillaroscopic pattern (p <0.001): normal or nonspecific in 9 (75%) of PBC-A, 4 (44.4%) PBC-RP and 2 (15.4%) PBC-RS; connective tissue disease suggestive pattern in 3 (25%) of PBC-A, 5 (55.6%) of PBC-RP and 1 (7.7%) of PBC-RS; sclerodermiform pattern in 10 (76.9%) PBC-RS, and none of the other two groups. We did not find significant differences in the presence of simple tortuosities, complex tortuosities, branched capillaries or capillary loss. No capillaroscopic parameters correlated with other systemic diseases.

Conclusion: This preliminary study shows an evolutionary trend in some clinical (age at PBC diagnosis, sicca association) and capillaroscopic parameters (capillary dilatation, hemorrhages, general capillaroscopic pattern) in patients with PBC-A, PBC-RP and PBC-RS, which may suggest three different phenotypic expressions of the same pathogenic process.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.3538

THU0609

ULTRASOUND AS A USEFUL TOOL IN THE DIAGNOSIS OF RHEUMATOID ARTHRITIS IN PATIENTS WITH UNDIFFERENTIATED ARTHRITIS

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Background: Nowadays, rheumatologists face challenges in finding an effective method to classify and treat patients with undifferentiated arthritis (UA). There is a need for new tools that could ensure accurate characterization of inflammatory processes in these patients.

Objectives: To investigate if a characterization of UA patients using US may help to fulfill the 2010 ACR/EULAR RA classification criteria in a real-life cohort.

Methods: We conducted a cross sectional study in two rheumatology care clinics. Patients not fulfilling the 2010 ACR/EULAR RA criteria were included. On the examination day, all patients underwent a physical examination, radiographs and US. The 7-joint US score (US 7) was adopted to scan all patients. US was performed according to EULAR criteria and interpreted by OMERACT definitions. Greyscale and power Doppler synovitis and tenosynovitis were scored. Bone erosions were also evaluated during the US examination.

Results: A total of 204 patients were included. The diagnosis was modified from UA to RA in 86 (42.1%) patients. The greater proportion of synovitis detected by US was the main parameter that allowed changing the diagnosis from UA to RA, and modified the final score of the 2010 ACR/EULAR classification criteria, from a mean (±SD) of 4.6 (0.5), by clinical examination, to 6.5 (0.6) by US. The changes in the score of the 2010 ACR/EULAR classification criteria were from score 4 to score 6 in 6 (7%) patients; from 4 to 7 in 24 (27.9%) patients; from 5 to 6 in 42 (48.8%) patients; from 5 to 7 in 5 (5.8%) patients and from 5 to 8 in 5 (5.8%) patients.

In addition to synovitis, a wide range of tenosynovitis and bone erosions were detected by US. Synovitis was more frequently detected in 2ndMCPj followed by 2ndMTPj and 5thMTPj. The tendons of the wrist, 2nd and 3rd finger were the most affected. In relation to bone erosions, 2ndMCPj and 5thMTPj were the joints with more proportion of anatomical damage.

Conclusion: US demonstrated to be useful to help accurately classify as RA, patients previously diagnosed with UA.

Disclosure of Interests: Marwin Gutierrez: None declared, Chiara Bertolazzi: None declared, Edwin Castillo: None declared, Denise Clavijo Cornejo: None declared, Luis Carlos Rodríguez Delgado: None declared, Jaime Mendoza Torres: None declared, Carlos Pineda: None declared, Pedro Santos-Moreno Grant/research support from: Dr Santos has received research grants from Janssen, Abbvie and UCB, Speakers bureau: Dr Santos has received speaker fees from Sanofi, Lilly, Bristol, Pfizer, Abbvie, Janssen and UCB

DOI: 10.1136/annrheumdis-2019-eular.6115

THU0610

ANALYSIS OF ANTINUCLEAR ANTIBODY POSITIVITY AND THEIR MAJOR KARYOTYPES IN PATIENTS WITH AUTOIMMUNE DISEASES AND HEALTHY SUBJECTS

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Background: Autoantibodies, especially antinuclear antibodies (ANA), play an important role in the diagnosis and differential diagnosis of autoimmune disease (AID), disease monitoring, efficacy observation and pathogenesis research.

Objectives: Our aim was to investigate the rate of ANA positivity and their major karyotypes in different AIDs and healthy controls.

Methods: The distribution and positive rate of Antinuclear antibody (ANA) karyotypes detected by indirect immunofluorescence in 3704 patients with AID and 1073 healthy subjects were retrospectively analyzed.

Results: The positive rate of ANA in different AID groups was 90.7% (1845/2034) in SLE, 54% (525/973) in RA, 86.4% (267/309) in SS,