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

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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 anticomplement 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 outpatient. 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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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.

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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,

90.3% (140/155) in pSS, 92.3% (36/39) in MCTD, 93.4% (128/137) in PBC and 49.1% (28/57) in the AIH group. The positive rate of ANA in the health subjects was 11.5% (123/1073), see Figure 1. Totally, the positive rate of ANA in the AID group was 80.1% (2967/3704). The karyotypes were detected as homogeneous type (15.8% (586/3704)), nuclear particle type (49.7% (1840/3704)), cytoplasmic particle type (5.3% (196/3704)), mixed type (2.8% (91/3704)) which was mainly composed of nuclear membrane/cytoplasmic granules, more common in PBC. See Table 1. The karyotype of ANA in the health group was mainly homozygous (7.0% (75/1073)).

Group	n	ANA karyotypes							ANA negativity
		Homogeneous	particle	centromere	nucleolar	cytoplasmic granular	nuclear membrane	mixed	
SLE	2034	337 (16.6)*	1328 (65.3)	23 (1.1)	28 (1.4)	86 (4.2)	9 (0.4)	23 (1.1)	190 (9.3)
RA	973	186 (19.1)	255 (26.2)	16 (1.6)	10 (1.0)	49 (5.0)	1 (0.1)	0 (0.0)	8 (0.8)
SS	309	34 (11.0)	181 (58.6)	13 (4.2)	8 (2.6)	15 (4.9)	3 (1.0)	10 (3.2)	3 (1.0)
PSS	155	22 (14.2)	27 (17.4)	28 (18.1)	42 (27.1)	8 (5.2)	2 (1.3)	9 (5.8)	2 (1.3)
MCTD	39	3 (7.7)	30 (76.9)	1 (2.6)	0 (0.0)	2 (5.1)	0 (0.0)	0 (0.0)	0 (0.0)
PBC	137	1 (0.7)	6 (4.4)	17 (12.4)	2 (1.5)	36 (26.3)	15 (10.9)	46 (33.6)	5 (3.6)
AIH	57	3 (5.3)	13 (22.8)	7 (12.3)	0 (0.0)	0 (0.0)	0 (0.0)	3 (5.3)	2 (3.5)
AID	3704	586 (15.8)	1840 (49.7)	105 (2.8)	90 (2.4)	196 (5.3)	30 (0.8)	91 (2.5)	30 (0.8)
Healthy subjects	1073	14 (1.3)	75 (7.0)	3 (0.3)	10 (0.9)	23 (2.2)	1 (0.1)	2 (0.2)	3 (0.3)

Note: The mixed type contains more than two karyotypes, and other types include spindle, centrosome, Golgi, cytoplasmic fiber, etc.* refers to number (percentage).

Figure 1 ANA positive rate in difference AID patients and healthy subjects

Conclusion: There are differences in ANA positive rates among patients with different AIDs. Some mixed karyotype analyses may provide important evidence for the diagnosis of PBC and AIH. Healthy subjects can have partial ANA positivity which is predominantly homogenous.

Disclosure of Interests: None declared

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THU0611

SERUM HIGHLY-SENSITIVE CARDIAC TROPONIN-I AND ANTI-BETA2-GLYCOPROTEIN-1 IGA ANTIBODIES AT BASELINE PREDICT CORONARY PLAQUE PROGRESSION IN RHEUMATOID ARTHRITIS

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Background: We recently reported that serum levels of highly-sensitive cardiac troponin-I (hs-cTnI)- a specific structural myocardial biomarker-associated with occult coronary plaque presence, burden and long-term cardiovascular events in patients with rheumatoid arthritis (RA). We further demonstrated that presence of IgA antibodies against beta2-glycoprotein-1 (a-b2GPI-IgA, an apolipoprotein readily expressed in human atherosclerotic plaque) associated with baseline coronary artery calcium (CAC) scores and independently predicted CAC progression in patients with RA.

Objectives: We here explored whether baseline evaluation of both hs-cTnI and a-b2GPI-IgA better predicts CAC progression than either of them in isolation.

Methods: Ninety five participants with a baseline plaque evaluation by coronary computed tomography angiography (CCTA) underwent follow-up assessment within 6.9±0.3 years. Coronary artery calcium (CAC) was quantified by the Agatston method. Hs-cTnI and a-b2GPI IgA Ab were assessed on the day of baseline CCTA; the latter were reconfirmed 12 weeks later, if positive. CAC change was evaluated with the MESA

method as the natural logarithm plus 25 difference [(ln CAC_(follow-up)+ 25) - (ln CAC_(baseline)+ 25)]. Generalized linear models evaluated the effect of hs-cTnI, a-b2GPI-IgA and their interaction on CAC change. Models were adjusted for age, hypertension, waist-to height ratio (obesity indicator), cumulative inflammatory burden (time-averaged C-Reactive protein), total prednisone dose and duration of statin exposure from baseline to follow-up scan.

Results: Baseline hs-cTnI was higher in a-b2GPI-IgA positive compared to negative patients [median (IQR) of 1.9 (1.6-2.6) vs. 1.4 (1.3-1.7) respectively, p=0.043]. Hs-cTnI alone did not independently predict CAC change (β=0.214, p=0.132) in the multivariable model whereas a-b2GPI-IgA presence did (β=0.454, p=0.003). There was a significant interaction between hs-cTnI and a-b2GPI-IgA on CAC progression (Wald Chi-square=4.19, p=0.041); high hs-cTnI (>1.5pg/ml) predicted significantly greater CAC change in a-b2GPI-IgA positive patients but not in negative ones [estimated marginal mean difference (IQR)=0.36 (0.12-0.59), p=0.003] and figure 1].

Conclusion: Baseline hs-cTnI in isolation is not predictive of CAC progression in patients with RA; however, in the context of a-b2GPI-IgA presence, high hs-cTnI independently predicts significant increase in coronary atherosclerosis burden.

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THU0612

KNEE JOINT PAIN IN AN ELDERLY, HEALTHY POPULATION IS ASSOCIATED WITH INFLAMMATORY ARTICULAR AND ENTHESEAL CHANGES DETECTED BY ULTRASOUND

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Background: Knee pain is highly prevalent in elderly and influences quality of life. Pathogenesis of knee pain in such population is commonly related to osteoarthritis (OA). It is yet unclear however, which pathological lesions in the knee contribute most to symptomatic disease.

Objectives: To define the articular and enthesal inflammatory and structural lesions that contribute to knee pain in an elderly healthy population using Power Doppler ultrasound (PDUS).

Methods: All subjects (≥65 years) were part of the prospective long-term population-based Bruneck Study (1) and received a clinical and ultrasound investigation of both knees. Ultrasound was performed by an independent investigator unaware of clinical symptoms. Knee entheses (quadriceps insertion, proximal and distal patella insertion) and joint cavity were assessed. Demographic variables were recorded in all individuals. Pain sensation during knee palpation was collected and participants were asked to complete a standardized pain questionnaire for knee joints (Knee injury and osteoarthritis outcome score [KOOS], question P1-P9) (2). Joint changes (synovial hypertrophy, power doppler (PD) signal, joint effusion, baker cysts, osteophytes) were assessed using a GE Logic E