stiffness (n=11) an increase of ^{18}F -FDG uptake in shoulders was observed. Twenty-three patients of thirty-two patients (71.8%) with ^{18}F -FDG uptake in hips had pelvic girdle pain. The remaining localizations of ^{18}F -FDG uptake in PET/CT scans did not show significant correlations with clinical symptoms.

Clinical manifestation/location of FDG uptake	F-FDG uptake		
	Positive, n/N (%)	Negative, n/N (%)	P
Shoulder girdle pain (n=40)/			
Shoulder	27/45 (60.0)	13/30 (43.3)	0.16
Sternoclavicular joints	22/33 (66.7)	18/42 (42.9)	0.04
Cervical interspinous bursae	6/9 (66.7)	34/66 (51.5)	0.49
Neck pain (n=12)/			
Shoulder	8/45 (17.8)	4/30 (13.3)	0.61
Cervical interspinous bursae	2/9 (22.2)	10/66 (15.5)	0.63
Morning stiffness (n=11)/			
Shoulder	11/45 (24.4)	0/30 (0.0)	0.002
Sternoclavicular joints	7/33 (21.2)	4/42 (9.5)	0.20
Cervical interspinous bursae	3/9 (33.3)	8/66 (12.1)	0.12
Pelvic girdle pain (n=42)/			
Hips	23/32 (71.8)	19/43 (44.2)	0.02
Lumbar interspinous bursae	18/29 (62.1)	24/46 (52.2)	0.40
Subtrochanteric bursae	11/20 (55.0)	31/55 (56.4)	0.92
Ischial tuberosities	10/19 (52.6)	32/56 (57.1)	0.73
Pubic symphysis	3/4 (75.0)	39/71 (54.9)	0.63
Inflammatory low back pain (n=20)/			
Hips	10/32 (31.3)	10/43 (23.3)	0.44
Lumbar interspinous bursae	10/29 (34.5)	10/46 (21.7)	0.22
Ischial tuberosities	3/19 (15.8)	17/56 (30.4)	0.26
Subtrochanteric bursae	7/20 (35.0)	13/55 (23.6)	0.33
Pubic symphysis	3/4 (75.0)	17/71 (23.9)	0.06
Diffuse lower limb pain (n=35)/			
Knees	16/33 (48.5)	19/42 (45.2)	0.78
Subtrochanteric bursae	8/20 (40.0)	27/55 (49.1)	0.49
Ischial tuberosities	9/19 (47.4)	26/56 (46.4)	0.94
Hips	15/32 (46.9)	20/43 (46.5)	0.98

Conclusions: In patients with PMR, the presence of shoulder girdle pain seems to correlate with F- ^{18}F FDG uptake in sternoclavicular joints, morning stiffness with ^{18}F -FDG uptake in shoulders and pelvic girdle pain with ^{18}F FDG uptake in hips. No other significant correlations were found between any other symptom and ^{18}F -FDG uptake.

Disclosure of Interest: None declared

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SAT0650

MUSCULOSKELETAL ULTRASOUND IN FIRST DEGREE RELATIVES OF RHEUMATOID ARTHRITIS PATIENTS

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Background: Preclinical phase of rheumatoid arthritis (RA) is characterised by a state of autoimmunity and inflammation. MSUS is known for its ability to detect subclinical synovitis, but changes in first degree relatives (FDR) are not yet defined.

Objectives: To investigate the presence of abnormal MSUS findings in FDR of RA who are free of clinical disease.

Methods: Study included 20 RA patients, and 25 of their FDR without evidence of arthritis. All were subjected to full history taking with special emphasis on joint symptoms, and joint examination. Measurements of ESR, CRP, RF and anti-CCP were performed in all and MSUS scan using the 7 joint ultrasonography (US7) score¹

Results: Mean age in FDR 33.1±13.4 years, and in RA was 39.50±13.43 years with a mean disease duration of 11.95±8.36 years. All RA (100%) had symmetrical, polyarthralgia and/or arthritis, mostly involving small joints of hands and feet. 8/25 FDR (32%) had arthralgia that included different joints. While 17/25 FDR (68%) were asymptomatic. None of FDR had arthritis as it was an exclusion criteria. MSUS findings were detected in 16/20 (80%) RA and in 10/25 (40%) FDR. Of whom 3/10 FDR (12%) had arthralgia and 7/10 (28%) were asymptomatic. Synovitis was the commonest MSUS finding in RA (n=16, 80%), and in their FDR (n=10, 40%). Tenosynovitis was present in 5 (25%) RA and only one (4%) FDR. Erosions were detected in 9 (45%) of RA and one (4%) FDR in the 2nd MCP. In RA the wrist was most common joint to be involved on MSUS (n=14, 70%), followed by 2nd MCP and 2nd MTP joints in 11 (55%), 5th MTP joint in 8 (40%), 3rd MCP joint in 6 (30%), 2nd PIP joint in 4 (20%), with least involvement in the 3rd PIP joint in 3 (15%) of RA. In FDR the wrist was also the most commonly involved joint on MSUS and 2nd MTP joint in 6 (24%), followed by 2nd MCP joint in only 1 (4%). Whereas, the 3rd MCP, 2nd and 3rd PIPs and 5th MTP joints were spared.

US7 score in RA and FDR are shown in table 1. US7 erosion score correlated significantly with disease duration in RA. Anti-CCP significantly correlated with all parameters of US7 and RF with the tenosynovitis GS (grey scale) score. While, in FDR there was no statistical significant correlation between US7 score with any of the inflammatory or seromarkers.

Abstract SAT0650 – Table 1. US7 Joint score in RA and FDR

US7 score	RA (n=20)	FDR (n=25)	P
Synovitis GS	5.15±4.26	0.64±1.04	<0.001*
Synovitis PD	2.05±2.54	0.24±0.83	0.003*
Tenosynovitis GS	0.35±0.75	0.04±0.20	0.040*
Tenosynovitis PD	0.30±0.80	0.0±0.0	0.048*
Erosions	1.60±3.10	0.04±0.20	0.001*
Total score	9.45±7.21	0.96±2.01	<0.001*

Shown values are mean ±SD. p: p values for Mann Whitney test for comparing between the two groups*. Statistically significant at p<0.05

Conclusions: This study confirms the presence of inflammatory synovial changes in FDR of RA who are free of clinical disease. This strengthens the concept of FDR as pre-RA. US7 score is a useful screening tool to identify subclinical synovitis in at-risk individuals. While in RA, US7 score is significantly correlated to disease duration and autoantibodies. More long term studies on FDR are needed for establishing the predictive value of abnormal MSUS findings for the development of persistent arthritis.

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SAT0651

CAROTID ULTRASOUND IN PATIENTS WITH ARTHRITIS: ¿IN WHICH PATIENTS DOES IT RE-STRATIFY CV RISK?

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Objectives: To explore in which patients with inflammatory rheumatic disease, the findings in a carotid ultrasound result in a change in cardiovascular (CV) risk stratification as compared to the CV risk measured with the SCORE index.

Methods: Longitudinal prospective study in patients included in a program geared at CV risk factor screening followed by optimisation of their treatment. Patients with rheumatoid arthritis (RA), spondyloarthritis (SpA) and psoriatic arthritis (PsA) were included in the program. In a nurse-led single-visit, the existence and adequate control of classic CV risk factors were recorded. SCORE index was calculated and then modified according to EULAR recommendations. CV risks was stratified according to European guidelines. A carotid ultrasound was performed in patients with a low, intermediate or high-risk stratification in order to assess intimal-media thickness (IMT) and plaques. If plaques were detected, CV risk was re-stratified to very high risk.

From this program, patients who had completed the baseline evaluation and the carotid ultrasound were selected. The characteristics of patients with findings in carotid ultrasound that allowed re-stratification to those without these findings were compared.

Results: A total of 181 patients have completed the baseline work-up, including the carotid ultrasound. 122 (67%) of the patients were women with a mean age of 55 (±11) years of age. Included patients had RA (n=96, 53%), SpA (n=37, 20%) or PsA (n=48, 27%).

A diagnosis of DM was performed in 19 (10%), hypertension in 78 (43%) and hypercholesterolemia in 92 (51%); 38 (21%) were active smokers and 63 (35%) were obese (BMI >30). Mean SCORE index (modified according to EULAR recommendations) was 2.4 (±1.7). Risk stratification before ultrasound was 145 (80%) patients with intermediate risk and 36 (20%) with high risk.

Carotid ultrasound imaging showed plaques in 43 patients (bilaterally in 14). In these, risk was re-stratified as very high risk. Overall, 11 patients showed a thickening of IMT; all presented plaques as well. Final risk stratification after including

the carotid ultrasound findings showed 110 patients with intermediate risk, 28 with high risk and 43 with a very high risk.

In table 1, the characteristics of the 43 patients whose carotid ultrasound findings resulted in a risk re-stratification vs the 138 with no risk modification.

	Risk modification due to pathologic carotid ultrasound (n=43)	No risk modification due to pathologic carotid ultrasound (n=138)
Sex (Woman)	32 (74%)	90 (65%)
Age (years)	58.1 (±9)	53.5 (±12)*
Disease	28 (65%)	68 (49%)
RA (n=96)	6 (14%)	31 (22%)
SpA (n=37)	9 (21%)	39 (28%)
PsA (n=48)		
DM	4 (9%)	15 (11%)
High blood pressure	24 (56%)	54 (39%)
Hypercholesterolemia	30 (70%)	59 (43%)*
Smoker	12 (28%)	26 (19%)
Obesity	31 (72%)	87 (63%)
Modified SCORE	2.7 (±1.6)	2.3 (±1.7)

*p<0.05 between group comparison

Conclusions: Patients with risk modification due to carotid ultrasound findings were older and were more frequently hypercholesterolemic. Performing a carotid ultrasound in these patients seems to offer especially relevant information.

Disclosure of Interest: None declared

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SAT0652

STUDY OF NAIL UNIT WITH ULTRASONOGRAPHY IN SEVERAL RHEUMATOLOGICAL CONDITIONS: A CROSS SECTIONAL STUDY OF DISTAL INTERPHALANGEAL JOINT AND NAIL

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Background: The ultrasonography (US) is a feasible technique when you refer to the peripheral small joints and also to the nail.¹ DIP joints are not only affected by inflammatory disease and a more frequent condition is osteoarthritis (OA). The bone and synovial changes due to this condition are very similar to the ones of PSA especially regarding osteoproliferative lesions.

Objectives: The aim of our study was exploring through imaging the changes of nail and entheses of extensor tendon of the finger in inflammatory and degenerative conditions in order to find structural differences of nail and DIP.

Methods: This is an observational study on PSO, PSA, RA or OA patients. A control group of 50 healthy volunteers was used for comparison. Diagnosis was based on clinical or scientific criteria, such as CASPAR or EULAR/ACR were applicable. The study sample included 203 individual. The ultrasonographers were blind to clinical data and diagnosis of the patient. The ultrasound examination was done with a GE Logiq S8. The structural alterations of the plate were evaluated using a semiquantitative score for the magnitude of the alteration. The score provides values from 0 (no alteration) to 3 (severely altered). A semiquantitative approach was also used for evaluation of the power Doppler signal.

Results: The study sample was composed by 51 patients affected by PsA, 31 affected by PSO group, 37 subjects with RA, 34 with OA and 50 HC. The analysis of nail bed PDUS revealed an unusual trend for patients affected by OA who showed a prevalence of lesions of every grade but a lower rate of normal cases. The evaluation of the PDUS of the entheses revealed that patients affected by PsA have an increased rate of PDUS signal at the entheses of the extensor tendon. Considering nail plate HC showed a strong difference (p value<0.001) vs all groups except for patients affected by RA. Regarding nail bed thickness HC showed difference only if compared with PSA or OA group. P values are reported in table 1.

		PSO	PSA	RA	OA	HC
Nail plate Thickness	PSO	//	0.99	0.021	0.99	<0.001
	PSA	0.99	//	0.002	0.99	<0.001
	RA	0.021	0.002	//	0.06	0.06
	OA	0.99	0.99	0.06	//	<0.001
	HC	<0.001	<0.001	0.06	<0.001	//
Nail bed Thickness	PSO	//	0.99	0.003	<0.001	0.15
	PSA	0.99	//	<0.001	<0.001	0.002
	RA	0.003	<0.001	//	0.69	0.12
	OA	<0.001	<0.001	0.69	//	0.012
	HC	0.15	0.002	0.12	0.012	//

Conclusions: The data support the concept that nail entheses unit is in some way involved in different pathological conditions. No exclusive feature belongs only to one or another disease, but the data provided suggested that peculiar lesions might be found only in certain disease and in certain structures, like the entheses.

The US of the nail should be considered as one of the possible and promising approach in the study of these structures.

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SAT0653

RELATIONSHIP BETWEEN CARDIAC VALVULAR CALCIFICATION, CAROTID ATHEROSCLEROSIS, AND CORONARY CALCIFICATION IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: The prevalence and relationship of VC with arterial atherosclerosis in patients with rheumatoid arthritis (RA) is under-investigated.

Objectives: investigate the prevalence of VC in patients with RA and its relationship with carotid atherosclerosis (CA) and coronary artery calcification (CAC).

Methods: Study population was consisted of 128 adult patients (65.6% women, age 55^{43;61} years) with RA according to ACR/EULAR criteria (disease duration 6^{5;18} month) with moderate/high RA activity (DAS28 5.3 [5.0; 6.1]). Arterial hypertension (AH) was found in 64%, ischaemic heart disease (IHD) – in 14%, dyslipidemia – in 54.7%, smoking – in 20.3%, diabetes mellitus type 2 – in 7%, myocardial infarction – in 1.6%, stroke – in 1.6%. Cardiac VC was evaluated by transthoracic echocardiography; CAC scoring was done with 32-row scanner by standard Agatston method; CA was evaluated with duplex ultrasound.

Results: Patients were divided on 3 groups depending on valve condition: normal (34.3%); leaves thickening (30.5%); VC (35.25%). The VC group consisted of isolated mitral VC – in 11%, isolated aortic VC – in 51%, calcification of both valve – in 38%. Mitral regurgitation (3 degree) was detected in 0.8% patient, mitral stenosis (mild) – 0.8%, aortic regurgitation (1 degree) – in 25%, aortic stenosis (mild) – in 0.8%. Age, BMI, SBP and frequency of AH, IHD, CA, CAC significant increased from 1 to 3 group (p<0.05). There was no significant difference in the sex, lipid levels, Rg-stage, RA duration and level of parameters of RA activity (DAS28, CRP, ESR) between investigated groups.

	Normal valve (n=44)	Thickening (n=39)	Calcification (n=45)
Age	39.5 ^{29;51}	56.5 [51.5;62]	60 ^{57;67} *
BMI	23.4 [21.4;28.6]	26.3 [23.7;29.3]	27.2 ^{25;31} *
SBP	120 ^{100;130}	120 ^{110;134}	130 ^{120;140} *
AH	19 (43.2)	23 (59)	40 (88.9) *
IHD	1 (2.3)	6 (15.4)	11 (24.4) *
CA	12 (27.3)	30 (77)	39 (86.7) *
CAC	8 (18.2)	16 (41)	32 (71.1) *

Note: Data are expressed as median [25 percentile;75 percentile] for continuous variables and as a number (%) for the categorical variables. * Difference for trend (p<0.05)

Conclusions: Among RA patients, more than half have a modified valve structure and in 1/3 of them VC. The presence of VC is correlated with traditional cardiovascular risk factors, but not with lipid levels, activity and severity of RA. The probability of CA and CAC presence is significantly increased when there is VC.

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SAT0654

ASSOCIATION OF PREDNISONE AND ANTIMALARIALS AND ECHOCARDIOGRAPHIC FINDINGS IN ASYMPTOMATIC CARDIOVASCULAR PATIENTS WITH SLE

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Background: Systemic lupus erythematosus (SLE) is an autoimmune inflammatory disease that presents with increase of cardiovascular risk. Echocardiogram can detect morphofunctional cardiac changes and predict clinical outcomes in patients with SLE¹.

Objectives: To evaluate echocardiographic morphofunctional parameters in women with SLE, using conventional echocardiogram and to relate the echocardiographic findings to disease-related factors and therapeutics.

Methods: We have selected 51 women with SLE, without cardiovascular symptoms, under regular medical follow-up. Patients who had limitations to do echocardiography, smokers, and those with a creatinine level higher than 1.5 mg/dL were