A comparative analysis of the groups revealed that progression is more common in men and in younger people ($p < 0.05$). In other parameters presented in Table 1, the groups did not differ from each other.

Parameter	Δ BASRI hip=0 n=39	Δ BASRI hip >0 n=23	p
Sex (m/w), n	15/24	17/6	<0,05*
Duration of the disease months., Me [25; 75 percentile]	22 [7;36]	24 [18,8;24,8]	>0,05
Age, years, Me [25; 75 percentile]	29 [25,5;32,5]	26,5 [23,2;28,7]	<0,05*
BASDAI, Me [25; 75 percentile]	3,6 [2,1;5,2]	3,45 [1,1;5,2]	>0,05
BASFI, Me [25; 75 percentile]	1,5 [0,5;2,8]	0,7 [0,3;2,4]	>0,05
ASDAS (CRP), Me [25; 75 percentile]	2,5 [1,6;3,35]	2,4 [1,25;3,45]	>0,05
ESR, mm/h, Me [25; 75 percentile]	8 [6;22]	10 [5;28,75]	>0,05
CRP, mg/L, Me [25; 75 percentile]	5,3 [1,3;24,5]	5,2 [1,1; 23,4]	>0,05
Peripheral Arthritis, n%	12 (32%)	5 (22%)	>0,05

Conclusion: it has been shown that in some patients with axSpA already in the first years of the disease, radiological signs of HJ destruction are detected. The progression of coxitis was not dependent on the activity of the disease and was more often detected in men than in women.

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AB1074 FEATURES OF COMBINED USE OF BIOMARKERS AND VISUALIZATION METHODS FOR DIAGNOSIS OF HEART DAMAGE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: In rheumatoid arthritis (RA), the endocardium is involved in the inflammatory process, which is caused by immunopathogenetic mechanisms involving CD4 +, T-cells and proinflammatory macrophages. Minor changes in the cardiovascular system can be successfully detected by ultrasound in patients with RA.

Objectives: to improve the quality of non-invasive diagnostics of heart disease in patients with RA.

Methods: 57 patients with RA were under observation: 7 men and 50 women aged from 26 to 70 years; mean age 50.45 ± 10.12 years; activity (according to

DAS28) was low for 3.5%, medium for 86%, and high for 10.5%. Immunological examination included determination of serum IgM-RF, CRP, antibodies to cyclic citrulline peptide (anti-CCP), antibodies to modified vimentin (anti-MCV), antibodies to antigen RA33, levels of angiopoietin-like proteins 3 (ANGPTL3) and 4 (ANGPTL4) types (classical ELISA test), as well as the detection of IgG antibodies to 5'-nucleotidase (5'-NT) and xanthine oxidase (XO) (modified ELISA test). Data from ultrasound, magnetic resonance (MRT) and computer (CT) tomography were used in assessing the state of the heart structures.

Results: The pathology of cardiovascular system was diagnosed in 28 (49.1%) patients with RA. Signs of the heart damage were noted in 33.3% of cases (pericarditis and valvular heart disease were most often detected). In groups of patients with RA with elevated levels of antibodies to 5'-NT and XO (compared with RA patients with normal parameters), there was a significantly more frequent heart damage (for antibodies to 5'-NT: $\chi^2 = 3.8$, $p = 0.047$; for antibodies to XO: $\chi^2 = 3.92$, $p = 0.041$). It was discovered that in all patients with an increased level of antibodies to XO, one of the lesions of the heart valvular apparatus of varying severity was noted. According to ultrasound data (usually confirmed by CT and / or MRT), signs of valvular dysfunction were found in 21 (36.8%) patients with RA. The high frequency of mitral prolapse (28.6%) may be associated with the presence of a chronic inflammatory process that is able to accelerate the development of atherosclerosis and heart disease in RA patients. A tendency to an increase in the prevalence of mitral prolapse in patients with a longer duration of the disease ($p = 0.062$) and with high levels of serum ANGPTL4 ($p = 0.058$) was found.

One of the main factors leading to the development of vascular pathology in RA is the accumulation of reactive oxygen intermediate. Antibodies to XO can affect the biochemical activity of the enzyme in the serum of patients with RA, stimulating the increased formation of O-form XO, which has a pronounced prooxidant effect (especially to lipids). ANGPTL4, acting as a potent inhibitor of endothelial lipoprotein lipase, can suppress the release of non-esterified fatty acids and their transfer to the heart muscle.

Conclusion: To identify subclinical signs of involvement of cardiovascular system in the pathological process in the early asymptomatic stages of RA, it is advisable to use imaging techniques in combination with immunological markers of heart damage, which can be especially useful for screening, diagnostic evaluation and determining cardiovascular risk.

Disclosure of Interests: None declared

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AB1075

PRESENCE POWER DOPPLER ULTRASOUND AS A PREDICTOR OF RADIOGRAPHIC DAMAGE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory disease that leads to destructive changes and dysfunction of the joints. Ultrasound (US) is used in current practice as an early diagnostic method for detecting structural damage to articular surfaces. US changes in early RA are considered as one of the ways of predicting disease outcomes.

Objectives: to detect power doppler (PD) contribution in evaluation of radiographic RA progression in long term.

Methods: 85 RA pts, mean age 53,0 [44,0; 61,0] yrs, mean disease duration 8 [4; 24] months were treated by Treat-To-Target concept. After first year of therapy management was following real clinical practice rules until the termination of the study (4 years FUP). The wrist, MCP2 and MCP3, PIP2, PIP3, MTP2 and MTP5 joints of the clinically dominant side were examined by US (GS and PD). Clinical, laboratory parameters and US examination was performed at baseline, at Mo 3, 6, 9 and 12. The X-ray was conducted before treatment and in the end of the study. Structural damage progression was evaluated by change in the Sharp van der Heijde score (Δ SHS) between baseline and 4 year.

We categorized pts into 5 groups according to the occurrence of positive PD: 1) without PD throughout the observational period [the negative (N)], 2) positive PD limited to the period from the baseline to Mo 3 [the therapeutic response (R)], 3) positive PD limited to the period from the baseline to Mo 6-9 [the therapeutic late-response (LR)], 4) intermittent occurrence of PD in the observational period [the intermittently positive (IP)] and 5) with persistent positive PD throughout the observational period [the persistently positive (PP)].

Results: 80% of pts had PD synovitis at baseline. PD-synovitis dropped from 2 [1,0; 6,0] to 0 [0,0; 2,0] scores at Mo 12. RA progression by 4 years FUP was identified in 13% of pts. The X-ray erosion score at 4 years FUP in these groups – N, R, LR, IP and PP – were dependent by PD from baseline to Mo 12 (mean level 1 [0; 2], 2 [0; 4], 3 [0; 5], 1 [0; 2] and 4,5 [1; 10] respectively), but statistically significant differences were found between N and PP groups.

Cox multivariate analysis identified that presence PD-synovitis at baseline was associated with risk of radiographic progression at 4 years (HR 3,68 95% CI 1,03 – 13,15, $p = 0,045$).

Conclusion: Thus, PD-synovitis has a prognostic value for increasing destructive radiographic changes.

References: no

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AB1076

COLOR DOPPLER HIGH- FREQUENCY ULTRASOUND OF DIGITAL ARTERIES IN PATIENTS WITH SYSTEMIC SCLEROSIS

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Background: Systemic sclerosis (SSc) can lead to vascular complications such as digital ulcers or pitting scars (DU/PS). These changes develop in most patients with SSc and exacerbate their condition. However, there are no methods for dynamic assessment of the vascular involvement. The dynamics of capillaroscopic changes is very slow.

Objectives: The aim of the study was to compare blood flow parameters of digital arteries in SSc patients and healthy individuals and to compare with nailfold capillaroscopy and clinical signs of ischemia (DU/PS).

Methods: 32 SSc patients, mean age 49,5 [42,0; 59,0] yrs and 26 'healthy', mean age 43,5 [33,0; 57,0], were included. Groups of patients differed by gender and age. The exclusion criterion was the presence of obliterating vascular disease of the upper extremities. An Esaote MyLab Twice US system with 22 MHz linear probe was used. A total of SSc patients and controls underwent Color Doppler ultrasonography (CDUS) of 376 (256+208) digital arteries to compare blood flow velocity, resistive indices (RIs) and presence of occlusion. Nailfold capillaroscopy, clinical and laboratory data were also evaluated.

Results: In digital arteries, pulsatility index (PI), peak systolic velocity (PSV) and end-diastolic velocity (EDV) were significantly lower and RI higher in SSc patients compared with controls (PSV: 13,28 [9,88; 16,7] vs 17,45 [12,65; 22,5] cm/s, $p=0,008$; EDV: 2,68 [1,78; 4,05] vs 6,37 [4,75; 8,5] cm/s, $p=0,000$; RI: 0,78 [0,69; 0,81] vs 0,68 [0,59; 0,74], $p=0,005$; PI: 1,73 [1,32; 2,19] vs 1,22 [0,99; 1,55], $p=0,002$).

We did not find any correlation between two methods. Also, we did not reveal any correlation between DU/PS, clinical, laboratory data and CDUS, but we found relationship between DU/PS and avascular areas or capillaroscopic findings ($r=0,37$, $p=0,045$ and $r=0,40$, $p=0,03$ correspondingly).

Conclusion: Blood flow is significantly decreased in digital arteries in SSc, but clinical features of vasculopathy depend on microcirculatory disorders. It is important to continue research to find methods for dynamic evaluation of microcirculatory changes.

References: no

Disclosure of Interests: None declared

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AB1077

VALIDATION OF A SIMPLIFIED SPANISH TOOL FOR SEMI-AUTOMATIC QUANTIFICATION OF SACROILIAC INFLAMMATION BY MAGNETIC RESONANCE IN SPONDYLOARTHRITIS (S- SCAISS).

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Background: With the objective to improve quantification of sacroiliitis maintaining a practical perspective, our group developed SCAISS, a semi-automated method to measure bone marrow edema (BME) in MR images from sacroiliac (SI) joints, combining semi-axial and semi-coronal slices [1]. The 2009 ASAS definition of active sacroiliitis was based on standard semi-coronal slices only, perpendicular semi-axial slices being considered but optional [2]. We hypothesized a simplified SCAISS (s- SCAISS) method using only semi-coronal slices.

Objectives: To analyze the validity and reliability and feasibility of a simplified Spanish tool for semi-automatic quantification of sacroiliac inflammation by magnetic resonance in spondyloarthritis (s- SCAISS) using a semi-coronal scan instead of combining semi-axial and semi-coronal slices.

Methods: The s- SCAISS was designed as an image-processing software. We performed the following analysis: (1) three readers evaluated SI images of 23

patients with axial SpA and various levels of BME severity with the s-SCAISS and SCAISS, and two non-automated methods, SPARCC and Berlin; (2) 20 readers evaluated 12 patients images, also with the three methods. Convergent validity, reliability and feasibility were estimated.

Results: The interobserver reliability (ICC and 95% CI) in the three observers' study was: s-SCAISS = 0.69 (0.490–0.845); SCAISS= 0.770 (0.580–0.889); Berlin = 0.725 (0.537–0.860); and SPARCC = 0.824 (0.671–0.916). In the 20 observers' study, ICC was: s- SCAISS = 0.66 (0.478–0.863); SCAISS = 0.801 (0.653–0.927); Berlin = 0.702 (0.518–0.882); and SPARCC = 0.790 (0.623–0.923). Spearman correlation coefficient between s- SCAISS _BERLIN was $r=0.712$ and s- SCAISS _SPARCC was $r=0.779$ and s- SCAISS _SCAISS was $r=0.90$. Similar results showed SCAISS BERLIN and SCAISS _SPARCC ($r=0.729$ and 0.840), respectively.

Conclusion: The simplified SCAISS (s-SCAISS) using only semi-coronal slice permits a valid, reliable, and fast calculation of overall BME lesion at the SI joint.

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AB1078

USE OF MYOSITIS SPECIFIC AUTOANTIBODIES TEST ACROSS A LARGE NHS HOSPITAL TRUST

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Background: The immunology laboratory at Barts Health supports a large clinical myopathy service, providing blood tests for myositis-specific autoantibodies (MSA) by a commercial line immunoblot panel for Jo1, PL7, PL12, SRP, Mi2, Ku, PM-Scl and Scl-70.

As Idiopathic Inflammatory Myositis (IIM) disease subtype definitions have evolved from the 1975 Bohan & Peter criteria, the discovery of new antibodies has proven useful in the hands of neuromuscular clinicians whose patients have a high pre-test probability of disease. Ready availability of the test has led to increased demand from:

1. Respiratory physicians with patients with severe Interstitial Lung Disease (ILD) which can be a symptom of some IIMs.
2. The connective tissue disease (CTD) screening section of the laboratory in which many patients are screened for antinuclear antibodies (ANA), which occasionally produces a pattern that may be associated with an MSA.

Objectives:

1. Determine the frequency of MSA requests from different departments.
2. To investigate the possibility of rejecting requests for MSAs at the laboratory in the absence of an elevated creatine kinase (CK), a hallmark of muscle damage associated with myositis (1).

Methods: MSA were measured by a commercial line blot (Bluediver) which included Jo-1, PL-7, PL-12, Mi-2, Ku, SRP-54 and PM-Scl-100. Demographics and results for all MSA requested between September 2017 and November 2019 were pulled from laboratory records, together with CK results (if performed). CK was interpreted as low, normal or elevated according to reference ranges of 25-200 U/L (female) or 40-320 U/L (male).