

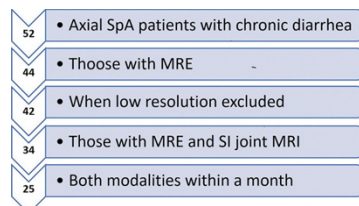
suggest that acute and structural findings of sacroiliitis can be evaluated on MRE. But, it needs to be verified whether it really correlates with sacroiliac MRI.

Objectives: We aimed to determine whether assessment of sacroiliitis on MRE correlates with magnetic resonance imaging (MRI) of sacroiliac (SI) joint.

Methods: MREs used for screening of IBD in Axial SpA patients with chronic diarrhea and routine semi-coronal SI joint MR images were screened for the presence of acute inflammatory lesions and structural changes of the SI joint by the same radiologist in a blinded fashion to time and diagnosis. Firstly, MRE images and then MR images were evaluated on two separate occasions. Only patients with two imaging modalities with a maximum time distance of a month were evaluated.

Results: Forty-four patients with MRE imaging were included. Two MRE studies were excluded because of low resolution. Of those 11 patients (26%) had active inflammatory lesions involving mostly both SI joints and 3 had accompanying chronic structural changes. Ten patients (24%) in the MRE group had chronic structural changes, only. In the remaining 20 (47%) MRE evaluated patients SI joint were not affected. Twenty-five axSpA patients had both MRE and SI joint MRIs performed within a month. In 19 cases, out of 25 with both modalities the finding "no sacroiliitis" overlapped. An additional four patients had acute inflammatory lesions on both investigations. In only two patients either MRE or SI joint MRI had acute inflammatory lesions. In general, chronic structural changes overlapped in both modalities as well; Fourteen out of 25 patients with no changes and eight with chronic changes overlapped in both examinations. Both modalities differ in only three patients; Chronic changes was present in two patients in SI joint MRI and one patient in MRE only.

		MRE (Sacroiliitis)	
		(+)	(-)
SI joint MRI (Sacroiliitis)	(+)	4	1
	(-)	1	19
		MRE (Structural Findings)	
		(+)	(-)
SI joint MRI (Structural Findings)	(+)	8	2
	(-)	1	14



Conclusions: In SpA patients with chronic diarrhea a present MRE may substitute a conventional semi-coronal MRI of the SI joints and may hence decrease diagnostic expenses. Evaluation of MRE for the acute inflammatory and chronic structural changes of the SI joints may also have a place in the diagnostic flow in IBD patients referred by the gastroenterology clinics, as well.

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SAT0634 MUSCULOSKELETAL ULTRASOUND IN PATIENTS WITH CHRONIC INFLAMMATORY RHEUMATISM POST-CHIKUNGUNYA

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Background: Since 2013, Chikungunya fever (CHIK) has become a re-emerging disease, with an important number of cases imported in Europe, mainly from South America. At chronic stage (after third month) it can develop a chronic inflammatory rheumatism (CIR), in some cases indistinguishable from rheumatoid arthritis (RA) or spondyloarthritis (SpA).

Objectives: The aim of this study was to investigate the ultrasound (US) alteration in patients with persistent arthralgia at chronic stage of CHIK.

Methods: Observational study of patients with persistent arthralgias at the chronic stage of CHIK. We designed a protocol of derivation patients from the Tropical Diseases Unit to the Rheumatology Department which included patients had persistent arthritis after 6 weeks who did not respond to steroids, presence of bone erosion or any diagnosis doubt. In the basal rheumatological visit, we made the clinical history, physical examination, blood analysis, X-

ray and US examination. A Mylab Twice equipment (Esaote, Geneva, Italy) was used, with a 5–13 MHz frequency for grey scale and 5–12.5 MHz for Power Doppler (PD). Wrist, metacarpophalangeal (MCP), interphalangeal (IP), knee, ankle and metatarsophalangeal joint were assessed and also enthesitis if symptomatic. Three patterns of post-CHIK CIR were defined: 1) Post-CHIK RA (if meet RA ACR/EULAR 2010 criteria). 2) post-CHIK SpA (if meet ASAS criteria) and 3) post-CHIK undifferentiated arthritis (arthritis without meeting the previous criteria). Post-CHIK musculoskeletal disorders were defined as chronic polyarthralgia without objective physical signs of inflammation (without arthritis, tendinitis or enthesitis).

Results: 59 patients were included, 76.3% women, mean age of 46.08±13.65 years. 6 patients (10.2%) were derived to the Rheumatology Department, 5 women and 1 man. In one rheumatoid factor and anti-cyclic citrullinated peptide antibodies were detected. HLA B27 and antinuclear antibodies were negative in all patients. The physical and US data of these patients are shown in the table. 5 of these patients were diagnosed with post-CHIK CIR: 1 post-CHIK RA, 1 non-radiographic axial SpA with peripheral affectation (arthritis and enthesitis) and 3 patients with post-CHIK undifferentiated arthritis. The other patient was diagnosed with post-CHIK musculoskeletal disorder. All 59 patients received NSAIDs and steroids. In addition, post-CHIK CIR received methotrexate (2 patients) and sulfasalazine (1 patient), all with improvement. In the full cohort, only 5.9% of patients had arthralgias prior to CHIK infection, vs. 33.3% in the post-CHIK CIR (p=0.081). 3 patients (5.08%) had a family history of arthritis, all in the post-CHIK CIR.

Patient (n°)	Painful joints (n°)	Swollen joints (n°)	Tendinitis	Enthesitis	Sinovitis PD (n° joints)	Tenosynovitis PD (n°)	Enthesitis PD (n°)	Sacroiliitis magnetic resonance
1	33	3	1	0	1	2	0	positive
2	6	2	0	1	4	0	1	
3	5	0	0	0	0	0	0	
4	6	3	0	0	2	0	0	
5	11	1	1	1	2	2	0	
6	6	8	0	0	8	0	0	

Conclusions: Arthralgias are a frequent symptom even at chronic stage of CHIK. Sometimes it is true arthritis and in others cases edema. For this reason US is very useful in doubtful cases. In our cohort, patients that developed post-CHIK CIR were more frequently women, with a higher percentage of family history of arthritis. To the best of our knowledge, this is the first US study in patients with post-CHIK CIR.

Disclosure of Interest: None declared

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SAT0635 DESCRIPTIVE ANALYSIS OF THE QUANTICAP STUDY: A MULTICENTRIC PROSPECTIVE STUDY FOR THE VALIDATION OF QUANTITATIVE AND QUALITATIVE PARAMETERS OF NAILFOLD CAPILLAROSCOPY

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Background: Nailfold capillaroscopy (NC) is a useful tool to study Raynaud's phenomenon (RP) and other diseases. Different findings and patterns has been described however there is currently no work that validates the qualitative and quantitative NC findings.

Objectives: To describe the morphological and metrological findings of NC in patients with RP and autoimmune diseases.

2-Describe the morphological and metrological findings of CP in patients with RF and several systemic autoimmune diseases. To Describe the morphological and metrological findings of NC in patients with RP and other autoimmune diseases.

Methods: Observational study performed in 10 hospitals by rheumatologists with experience in NC. Patients with diffuse systemic sclerosis (dSSc), limited systemic sclerosis (lSSc), dermatomyositis (DM), polymyositis (PM), systemic lupus erythematosus (SLE) Primary Sjögren's syndrome (PSS), rheumatoid arthritis (RA), primary RP and a control group without RP or rheumatological condition were collected. A video NC 200x magnification were made in all patients. 8 Fingers in each hand were analyzed to find: megacapillary and dilated capillaries, giant capillaries, loss of density (<7/mm), tortuous capillaries, ramifications, haemorrhages, thrombosis and destructure. Also we analyzed the diameter of the afferent and efferent loop, the capillary apex, the capillary diameter and density/mm. The following variables were also collected: sex, age, years of evolution of the disease and RP, history of digital ulcers or medication for

RP, smoking and presence of hypertension or diabetes. To compare qualitative variables, the test was used Chi-square or Fisher's test. To compare quantitative vs qualitative variables Student's T test was used. Significance was considered for those values with $p < 0.05$.

Results: Between May 2014 to December 2016 images of 406 patients were collected: 24 dSSc, 41 ISSc, 19 DM, 14 PM, 40 SLE, 39 PSS, 37 RA, 44 PRP and 145 controls. C 84.5% were women, the age of the sample were 51.32 ± 15.21 years. 28.9% had a history of smoking and 21.1% and 5.5% of hypertension or diabetes, respectively. Excluding the cases of dSSc, ISSc, PRP and the 145 controls, the presence of RP was observed in 18/152 (11.84%). The afferent, efferent, apical diameter And capillary was 26.01 ± 19.01 ; $31.93 \pm 24.51 \mu\text{m}$; $37.95 \pm 36.67 \mu\text{m}$ and $82.68 \pm 58.10 \mu\text{m}$ respectively. The most frequent qualitative finding were tortuosities. The control group showed no difference in the presence of hypertension or diabetes except in patients with PM. We also observed more women in SLE and PSS patients vs control group and greater presence of digital ulcers in ISSc, dSSc, SLE and DM. Only the ISSc presented differences in the presence of tortuosities with respect to the control group.

Conclusions: Except in the ISSc no differences were observed in the presence of tortuosities with the rest of groups and its presence may not be relevant in different diseases.

Disclosure of Interest: None declared

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SAT0636 ULTRASONOGRAPHY DEFINITIONS FOR SYNOVITIS GRADING IN CHILDREN: THE OMERACT PEDIATRIC ULTRASOUND TASK FORCE

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Background: Ultrasound (US) was found to have face and content validity for detecting synovitis in juvenile idiopathic arthritis (JIA) with higher sensitivity than clinical examination. In order to test validity and improve the applicability of US in JIA, the OMERACT US pediatric subtask force recently published preliminary definitions for the sonographic features of synovitis in children.

Grade	B-mode (GS)				color power/Doppler (PD)			
	GS		PD		GS		PD	
0	No signs of synovial effusion or synovial hypertrophy (ie. no joint recess enlargement/capsular distension).				Absence of color/power Doppler signal within synovial hypertrophy with or without detection of normal physiological Doppler signals.			
1	Synovial effusion and/or synovial hypertrophy that leads to a mild change of the joint recess appearance (ie. mild joint recess enlargement/capsular distension).				Detection of up to 3 single Doppler signals within the area of synovial hypertrophy with or without normal physiological Doppler signals.			
2	Synovial effusion and/or synovial hypertrophy that leads to a moderate change of the joint recess appearance (ie. moderate joint recess enlargement/capsular distension).				Detection of more than 3 single Doppler signals but less than 30% of the area of synovial hypertrophy with or without normal physiological Doppler signals.			
3	Synovial effusion and/or synovial hypertrophy that leads to a severe change of the joint recess appearance (ie. severe joint recess enlargement/capsular distension).				Detection of Doppler signals at more than 30% of the area of synovial hypertrophy with or without normal physiological Doppler signals.			
Intra-observer								
Inter-observer								
Grade	Percentage agreement		kappa Cohen		Percentage agreement		kappa PABAK	
	GS	PD	GS	PD	GS	PD	GS	PD
0	100	94	1.0	0.83	100	100	1.0	1.0
1	80	83	0.5	0.5	60	50	0.47	0.33
2	89	83	0.7	0.67	50	71	0.5	0.62
3	81	92	0.92	0.8	86	71	0.81	0.71

Figure 1. Synovitis grading definitions in children and inter- and intra-observer reliability in B-mode (GS) and color power/Doppler (PD).

Objectives: Aim of this study was to confirm and improve B-mode and color power/Doppler (PD) US definitions for synovial components and grading in children, by using an image and patient based exercise.

Methods: The definitions were confirmed and modified in a multi-step process. In the 1st step, definitions were developed in multi-round Delphi web based consensus process were $\geq 80\%$ of participants would need to reach $\geq 80\%$ of agreement on a Likert scale from 1-5 (1 strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly agree). In the 2nd step, in a face to face meeting, a subgroup of these experts revised the definitions for final wording and performed intra- and inter-observer reliability exercise study in JIA patients as the final 3rd phase of the process. The definitions were tested in four joints (wrist, 2nd MCP, knee and ankle) of JIA patients divided in four age groups following standardized image acquisition and machine setting protocol. Statistics program R (version 3.3.0) was used for the statistical analyses. For intra-rater agreement Cohen kappa and for inter-rater agreement prevalence and bias adjusted kappa (PABAK) were calculated if needed.

Results: Reliability exercise included 20 JIA patients (distributed in equal numbers by age groups), 14 observers, 4 joints/observer, 3 observers/joint, 360 intra- and 360 inter-observer tests. A 0-3 semi-quantitative B-mode and color power/Doppler US definitions for synovial components and grading, were agreed (presented in Figure 1).

Conclusions: The proposed synovitis grading for children showed to be reliable why the next step should be to test sensitivity to change in order to possibly be used as an outcome tool in JIA.

Disclosure of Interest: None declared

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SAT0637 ULTRASOUND ASSESSMENT OF SKIN THICKNESS IN SYSTEMIC SCLEROSIS PATIENTS: CORRELATION WITH CLINICAL FEATURES

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Background: Although modified Rodnan skin score (mRSS) is the most widely used measure for assessment of skin involvement in Systemic Sclerosis (SSc), ultrasound (US) of skin thickness seems to be a promising complementary tool. (1)

Objectives: To compare skin thickness measured by US of a defined anatomical point between SSc patients and age and sex matched controls. To compare, among patients, US measurements of skin thickness with local and total mRSS and other specific clinical variables.

Methods: Forty-eight SSc patients and 45 age and sex matched controls were evaluated in a cross-sectional study at our Rheumatology Unit. SSc patients had a mean age of 56.98 ± 12.73 years and mean disease duration of 9.77 ± 6.12 years; 42 patients had limited cutaneous disease. Regarding US assessment, skin thickness was arbitrarily defined as thickness of epidermis, dermis and subcutaneous tissue, in millimetres, measured at the 2nd finger of both hands of each subject on the dorsal aspect of the proximal phalange. Examination was performed with a 15 MHz linear probe of a General Electric LOGIQ S8 US. For comparison between groups, mean skin thickness (mST) of combined right and left side was used. Patients' local and total mRSS were also assessed. Hand mobility in SSc (HAMIS) was calculated to evaluate functional disability and SSc Severity Scale (SScSS) to estimate activity and damage. Additional data was also collected from patients' clinical charts. Statistical analysis included Mann-Whitney U-test, Kruskal-Wallis and Spearman correlation coefficient test. Statistical significance was defined as P value < 0.05 .

Results: SSc patients showed higher mST (3.17 mm [2.56 to 3.58]) (median [interquartile range]) compared with controls (1.89 mm [1.55 to 2.08]) ($p < 0.001$). Among SSc group, skin thickness measured by US of both 2nd fingers of each patient strongly correlated with local mRSS assessed by palpation (Spearman's $\rho = 0.698$, $p < 0.001$ and $\rho = 0.645$, $p < 0.001$ for right and left sides, respectively). US mST was also correlated with total mRSS ($\rho = 0.568$, $p < 0.001$), HAMIS ($\rho = 0.520$, $p < 0.001$) and SScSS ($\rho = 0.524$, $p < 0.001$). A higher mST was found in patients clinically classified with oedematous phase ($p < 0.001$) and in diffuse cutaneous subtype ($p = 0.039$). A mild association was observed for patients with digital ulcers ($p = 0.05$). Age, gender, disease duration and the presence of calcinosis were not associated with US mST ($p > 0.05$).

Conclusions: US measurements of skin thickness of 2nd fingers were significantly higher in SSc patients compared with age and sex matched controls. US mST strongly correlated with local and total mRSS and was significantly higher in the presence of oedema, digital ulcers and in patients with diffuse subset. US mST also reflected functional disability and damage.

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Disclosure of Interest: None declared

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