

Table. Frequency of articular and enthesal involvement of different anatomical sites in PsA

Upper extremities / Joints / Entheses	Frequency	Lower extremities / Joints / Entheses	Frequency
Infraspinatus	5/912 (0.5%)	Patellar ligament	19/2166 (0.9%)
		-Proximal	25/2166 (1.2%)
		-Distal	
Triceps brachii	21/912 (2.3%)	-Pes anserinus	37/2166 (1.7%)
Medial epicondyle	21/912 (2.3%)	Biceps femoris	7/2280 (0.3%)
Lateral epicondyle	34/912 (3.7%)	Semimembranosus	35/2166 (1.6%)
		Quadriceps femoris	52/2166 (2.4%)
		Tibialis anterior	9/2166 (0.4%)
		Tibialis posterior	13/2166 (0.6%)
		Achille	46/2166 (2.1%)
		Plantar fascia	30/2166 (1.4%)

There was difference between US synovitis detection of upper (57,1%) and lower (42,9%) extremities ($p=0.04$). Total count of US enthesitis of lower extremities (70,4%) was significantly higher than of the upper (29,6%; $p<0.01$).

Conclusion: US synovitis of upper extremities was slightly higher than in lower. US enthesitis of lower extremities is significantly higher. US imaging can be used to diagnose enthesitis and synovitis, especially in patients in whom symptoms may be difficult to discern, and data on location of pathological lesions will be useful.

References:

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AB1092 **ULTRASOUND EXAMINATION OF JOINTS AND PERIARTICULAR TISSUES IN PATIENTS WITH INFLAMMATORY BOWEL DISEASES.**

G. Gainullina¹, E. Kirillova¹, A. Odincova², E. Belousova¹, D. Abdalganieva¹.

¹Kazan State Medical University, Kazan, Russian Federation; ²Republican Clinical Hospital, Kazan, Russian Federation

Background: Joints and enthesal involvement is a common extraintestinal manifestation in inflammatory bowel diseases (IBD) [1]. Recent studies have shown the superiority of ultrasound over clinical findings in the evaluation of joints and periarticular tissues.

Objectives: To assess of joint and enthesal involvement in IBD patients using ultrasound with Power Doppler, their correlation with IBD clinical variables and the difference between Crohn's disease (CD) and ulcerative colitis (UC).

Methods: We prospectively included 38 IBD patients into the study. Disease activity was evaluated in CD by Harvey Bradshaw, in UC - Mayo Index. Peripheral joints and entheses were imaged by ultrasound, using Samsung Accuvix A30 5-13 MHz linear array transducer. Ultrasound examination of 14 peripheral joints (hip, knee, ankle, shoulder, acromioclavicular, elbow, wrist) and 35 entheses was performed. Vascularization on them was assessed with Power Doppler (PD). Enthesal abnormalities were scored with US according to indices GUESS, MASEI and BUSES [2]. Statistical analysis was done by Mann-Whitney test and Spearman criteria by "Statistica" software.

Results: In 38 patients UC was in 22 (58%), CD - in 16 (42%). The mean age of UC patients was 28 (23; 35) years, in CD - 33 (27; 36) years. The mean duration of UC was 24 (10; 48) months; CD - 66 (24; 114) months. The majority of patients had highly active disease: in UC - moderate and severe attacks in 16 pts (72%), in CD out of 16 patients, moderate and severe activity was observed in 9 (56%). Synovitis were found in 19 patients (50%), 8 patients with UC (36%), and 10 patients with CD (62%), synovitis with vascularization was detected in 7 patients (18%), five with CD (13%), two with UC (9%).

Enthesitis (echogenicity reduction and thickening) was detected in 30 patients (79%), 8 (50%) pts with CD and 17 (77%) pts with UC, enthesitis with vascularization (PD) in 13 pts (34%), 5 (31%) pts with CD and 8 (36%) pts with UC. Tenosynovitis was observed in 11 pts (29%), three (19%) with CD and 8 (36%) pts - UC, tenosynovitis with vascularization in two patients (5%), one with UC and one with CD. Structure damage (erosion, enthesophytis) were found in 23 patients (61%), 12 patients (75%) with CD and 11 (50%) patients with UC.

There were no significant differences in ultrasound signs of joint and entheses damage between patients with UC and CD.

We found an association between the clinical characteristics of IBD and the ultrasound signs of entheses damage: duration of the disease has a direct moderate

correlation with the number of enthesitis (SR = 0.36; $p = 0.026$) and GUESS (SR = 0.37; $p = 0.022$).

There was no statistically significant relationship between the severity of the attack and damage to the joints and entheses.

Conclusion: The severity of joint and periarticular tissues damage is significantly correlated with the duration of the index disease and are independent of IBD activity.

References:

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AB1093 **INTEROBSERVER AGREEMENT IN MAGNETIC RESONANCE OF SACROILIAC JOINTS ABOUT ACTIVE SACROILIITIS**

A. C. Genç¹, F. Turkoglu Genç¹, A. B. Kara², Z. Ozturk³, D. Karatas³, Ü. Erkorkmaz⁴, Y. Gunduz², E. Gönüllü³. ¹Sakarya University, Internal Medicine, Sakarya, Turkey; ²Sakarya University, Radiology, Sakarya, Turkey; ³Sakarya University, Internal Medicine Rheumatology, Sakarya, Turkey; ⁴Sakarya University, Biostatistics, Sakarya, Turkey

Background: Axial spondyloarthritis has characteristic clinical features such as enthesitis, sacroiliitis and spondylitis, and extra-articular manifestations(1). Magnetic resonance imaging (MRI) of sacroiliac (SI) joints is used to detect early sacroiliitis(2). Health institutions in our country carry out some of the radiology reporting services by outsourcing for reasons such as high cost and insufficient number of radiologists(3).

Objectives: We decided to evaluate the interobserver agreement in active MRI findings of SI between radiologist of outsourcing radiology services and local/expert radiologist in musculoskeletal diseases.

Methods: Between the years of 2015 and 2019, 8100 sacroiliac MRIs were taken at our center. The MRI of 1150 patients who were reported as active or chronic sacroiliitis from these sacroiliac MRIs or whose MRI was considered by the primary physician in favor of sacroiliitis was included in the study. Concordance between Evaluation and Service Procurement was examined using Kappa (k) coefficients. Mc Nemar test was used to compare the evaluation result between two observers. A p-value <0.05 was considered significant. Analyses were performed using commercial software (IBM SPSS Statistics, Version 23.0. Armonk, NY: IBM Corp.)

Results: Of the 1150 patients examined in the study, 526 (45.7%) were male and 624 (54.3%) were female. The general average age is 37.20 ± 11.65 and the average age of men and women is 34.98 ± 11.19 and 39.07 ± 11.71 respectively. A statistically significant difference was found between the expert radiologists and outsourcing radiologist reports. In other words, a high level of compatibility was not found among the evaluators ($p < 0.001$). When the consistency between expert radiologist and outsourced radiologist reports was examined, it was observed that there was a medium level of concordance ($k = 0.589$).

Conclusion: The diagnosis of a spondyloarthropathy may be delayed for some reasons. In addition to the insidious course of the disease, being contented with an outsourced radiologist report may delay diagnosis. If the patient's clinic and MRI report are not consistent, the patient should not be removed from follow-up.

References:

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	OUTSOURCING RADIOLOGIST REPORTS		TOTAL	p
	NOT ACTIVE SACROILIITIS	ACTIVE SACROILIITIS		
EXPERT RADIOLOGIST REPORTS	NOT ACTIVE SACROILIITIS	508	178	686
	ACTIVE SACROILIITIS	59	405	464
TOTAL		567	583	1150

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AB1094 **SCAR IMAGING ECHOCARDIOGRAPHY WITH ULTRASOUND MULTI-PULSE SCHEME [eSCAR] FOR THE DETECTION OF MYOCARDIAL FIBROSIS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: PRELIMINARY RESULTS.**

A. Giollo¹, G. Vinco², G. Orsolini¹, G. Cioffi¹, G. Adami¹, A. Fassio¹, L. Idolazzi¹, D. Gatti¹, F. L. Ribichini², M. Rossini¹, O. Viapiana¹. ¹University of Verona, Rheumatology Section, Department of Medicine, Verona, Italy; ²University of Verona, Cardiology Unit, Department of Medicine, Verona, Italy

Background: Myocardial fibrosis is a severe complication of immune-mediated diseases, occurring in up to 30% of systemic lupus erythematosus (SLE) patients. Cardiovascular magnetic resonance imaging allows myocardial scar detection in SLE patients, but it is costly, time consuming, and unfit for patients with renal disease. Scar imaging echocardiography with ultrasound multi-pulse scheme (eSCAR) is a novel and promising technique that proved to be effective in detecting ischemic myocardial scars in patients with coronary artery disease (CAD).

Objectives: To evaluate if the eSCAR technique is feasible and to better characterize SLE patients with cardiac involvement by eSCAR.

Methods: We recruited consecutive patients with SLE classified according to the 2019 EULAR/ACR recommendations. Patients with diabetes mellitus, obesity, prior cardiovascular (CV) disease or anti-phospholipid (aPL) syndrome were excluded. Eligible participants underwent a thorough clinical assessment and a full echocardiography examination, including the eSCAR technique. Data on clinical variables were collected; disease activity was estimated by the SLE Disease Activity Index (SLEDAI) score. Lupus flare was defined as new/worse clinical signs and symptoms and/or lab measurements and a change/increase in treatment. Patients were compared according to the presence or absence of eSCAR. In this preliminary report, only descriptive analyses are provided. Continuous data are reported as median [25th; 75th percentile].

Results: We enrolled fifteen patients diagnosed with SLE (age 45 years [36; 47], disease duration 14 years [12; 20]), 13 (87%) were females. Median SLEDAI was 5 [2; 8]. The most frequent disease involvement included arthritis (73%), skin and mucous membranes (60%), lupus nephritis (47%) and cytopenias (47%). Patients had received treatment for lupus with 5 drugs [5; 8]. Cumulative prednisone dosage was 25 g [20; 44], whilst the current daily dosage of prednisone was 4 mg [0.0; 5.0]. Hypertension was present in 4 (27%) and hypercholesterolemia in 2 (13%) subjects; 4 patients (27%) were current or past smokers. The eSCAR technique was feasible in all participants with no adverse effects. Myocardial scars were detected in 2 patients (eSCAR-positive 13%; figure and table); eSCAR positive patients were females and had no history of cardiovascular involvement (including pericarditis); they had at least one relapse within the prior 12 months before enrollment; at least one cardiovascular risk factor was found in both patients (one was a smoker and the other one had hypertension); none received prior treatment with cyclophosphamide or rituximab; they had no renal involvement; arthritis and cytopenia were the prominent features of disease; anti-dsDNA titer was higher than eSCAR-negative patients.

Conclusion: Echocardiography allowed detection of myocardial scars in patients with SLE. Our preliminary data show that eSCAR is feasible and well tolerated in a SLE population. Further data from this ongoing study will help investigate whether eSCAR might improve risk stratification, by identifying myocardial involvement in SLE patients with a more active disease.

Table

	eSCAR positive Patient 1	eSCAR positive Patient 2	eSCAR negative SLE patients (n=13)
Age, years	32	45	45
Sex	Female	Female	11 F / 2 M
ESR mm/h	29	7	15
CRP mg/L	3	0.6	2
Anti-dsDNA (IF)	Positive	Positive	Positive 7 (47)
Anti-dsDNA (CLIA)	105	149	34 [7; 66]
C3 (mg/L)	61	80	85 [70; 94]
C4 (mg/L)	4	13	10 [9; 16]
P-Cr (mg/dL)	0.6	0.8	0.7 [0.6; 0.7]
aPL	Positive	Negative	7 (47)
Disease duration, years	15	28	14 [12; 15]
SLEDAI	12	0	5 [2; 8]
Lupus flare in the past 12 months	yes	yes	5 (33)
Cumulative prednisone dosage (g)	60	61	24 [19; 32]
Previous use of cyclophosphamide	No	No	3 (20)
Previous use of rituximab	No	No	1 (1)

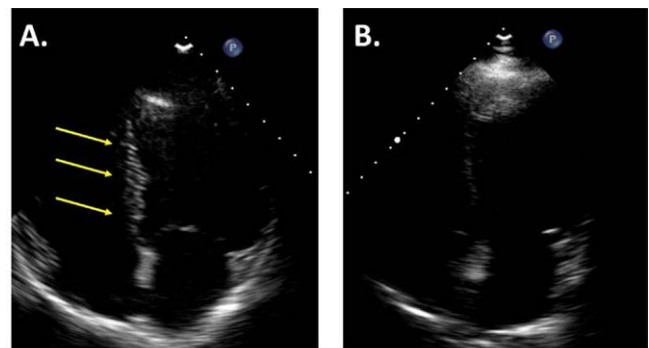


Figure. A. Myocardial fibrosis in the interventricular septum (eSCAR-positive patient). B. no myocardial fibrosis (eSCAR-negative patient)

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AB1095 **DIAGNOSTIC PERFORMANCE OF THE AORTIC WALL THICKENING DETERMINED BY ROUTINE CT-SCAN FOR THE DIAGNOSIS OF AORTITIS OVER 50 YEARS OF AGE.**

G. Grouteau¹, F. Lafourcade¹, H. Fayolle¹, C. Ricard¹, L. Balardy¹, P. Delobel¹, A. Constantin¹, O. Beyne Rauzy¹, L. Alric¹, P. Payoux¹, A. Hitzel¹, M. Faruch¹, L. Sailler¹. ¹University Hospital De Toulouse, Toulouse, France

Background: Making the diagnosis of aortitis may be challenging in the “real life”. ¹⁸F-FDG PET/CT (PET) has emerged as the gold standard to diagnose aortitis but it is expensive and not always quickly available. Injected CT-scan (CT) can also be used to diagnose aortitis, which is suspected when there is an extended circumferential, non-atherosclerotic increase of the aortic wall thickness (AWT). However, data are lacking on the diagnostic performances of AWT to diagnose aortitis.

Objectives: To describe the diagnostic performance of AWT measured by CT to diagnose aortitis in patients over 50 years of age.

Methods: We performed a monocentric retrospective study between 2013 and 2018 including 1) all patients over 50 years of age who had performed a PET for inflammation or fever of unknown origin or for suspicion of classical giant cell arteritis (GCA), aortitis or large vessel vasculitis (LVV); 2) with an injected CT-scan performed in the 30 days before or after PET; 3) not diagnosed to have cancer or infection 4) exposed to corticosteroids for less than 3 days at the time of CT and PET. The gold standard for aortitis was PET positivity according to the 2018 European consensus grading criteria (1). AWT was measured at different aortic segments (ascending aorta, descending thoracic aorta and suprarenal abdominal aorta) by a single radiologist unaware of the result of PET and of the previous interpretation of CT-scan.

Results: Eighty-nine patients were included (female: 47%; mean age 68.8 (50-93) years; GCA: n=28). Twenty patients had aortitis according to the PET result (GCA: n=16).

Mean maximal aortic wall thickening was: 3.25 mm (median: 3.3; range: 2-4.6) in the aortitis group and 2.2 mm (median: 2.1; range: 1-3.8) in the negative PET group (p < 0.001).

The best ROC curve AUC (85%) was obtained considering the maximal AWT on the thoracic and suprarenal abdominal aorta only. The AUC of the ROC curve at the ascending thoracic aorta was poor (75%) (Figure).

The Youden's index of the ROC curve was 2.6 mm with a sensitivity of 85 % and specificity of 71 % (Table) for aortitis diagnosis. An AWT ≤ 2.0 mm exclude the diagnosis of aortitis. The 3 mm threshold had a PPV of only 52% and an AWT ≥ 4 mm was fully specific.

Conclusion: Aortitis diagnosis using a routine injected CT-scan interpreted by a single radiologist may be certain when showing an AWT ≥ 4 and excluded for an AWT ≤ 2.0. The threshold of 3 mm seems not sufficiently specific to diagnose aortitis without a confirmatory PET.