cases with RA (60% vs. 100%, $p=0.029$), in 2 with PsA (20% vs. 100%, $p<0.01$), 3 cases in healthy volunteers (30% vs. 100%, $p<0.01$).

Conclusions: The results of the present study indicate that US is a very sensitive and specific technique for detecting calcifications in patients with crystal-related arthropathy. The US findings were detected a trend of association between CC and RA. However, more studies, involving a larger number of pts, are required.

REFERENCES:

- [1] Sabchysyn V, et al. Concurrence of the rheumatoid arthritis and calcium pyrophosphate deposition disease: a case collection and review of the literature. *Sem Arthr Rheum* 2017 Nov. <http://dx.doi.org/10.2016/j.semarthrit.2017.11.009>
- [2] Gersing A, et al. Evaluation of chondrocalcinosis and associated knee joint degeneration using MRI imaging: data from osteoarthritis initiative. *Eur Radiol* 2017 Jun;27(6):2497–2506. doi:10.1007/s00330-016-4608-8
- [3] Filippou G, et al. Extend and distribution of CPP deposition in patients affected by calcium pyrophosphate dihydrate deposition disease: an ultrasonographic study. *Ann Rheum Dis* 2013;72(11):1836–9. <http://dx.doi.org/10.1136/annrheumdis-2012-202748>

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FRI0591

WHOLE-BODY MRI DEMONSTRATES REDUCTION OF INFLAMMATION IN PERIPHERAL JOINTS AND ENTHESES DURING TNF-INHIBITOR TREATMENT IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS, BUT ALSO AGE-DEPENDENT PERSISTENT INFLAMMATION IN JOINTS PRONE TO OSTEOARTHRITIS

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Background: Patients with predominantly axial spondyloarthritis (axSpA) may also have inflammation of peripheral joints and entheses. Using a whole-body MRI (WBMRI) approach, peripheral joints and entheses can be assessed objectively and followed during treatment.

Objectives: To describe the localization and extent of inflammation of peripheral joints and entheses by WBMRI in patients with axSpA initiating TNF-inhibitor therapy, and to assess treatment-induced changes.

Methods: Fifty-three patients that fulfilled the ASAS criteria for axSpA were included. MRI of SIJs and spine and WBMRI of peripheral joints and entheses were performed at baseline and 4/16/52 weeks after starting TNF inhibitor treatment. 75 peripheral joints and 30 peripheral entheses were scored in chronological order by an experienced musculoskeletal radiologist (IE). Osteitis, synovitis and enthesal soft tissue inflammation were scored separately [0(none)/1(mild)/2 (moderate/severe)]. A WBMRI peripheral joint and entheses index (WBMRI index) was derived by summing scores of all peripheral lesions.

Results: Median age (IQR/range) was 35 years. (28–44/22–73); median symptom duration was 5 years. (3–13/0–31); 53% were male. Baseline median WBMRI index ($n=53$) was 7.4–14; 0–40 after 52 weeks ($n=46$) 4 (2–9; 0–26). WBMRI index decreased mean 0.6 at week 4 ($p=0.17$, paired t-test), 2.3 at week 16 ($p<0.001$) and 3.2 at week 52 ($p<0.001$). Thirty-seven patients (70%) had a relatively low baseline WBMRI index (≤ 10) with minor change over time, while patients with higher baseline scores tended to change more (figure 1A). The most frequently involved sites ($\geq 15\%$ of patients) were typical for SpA (sternoclavicular joint/plantar fascia) or osteoarthritis (carpometacarpal-1/metatarsophalangeal-1 synovitis). In univariate analysis, WBMRI index at week 52 was associated with age (2.5 higher per 10 years increase in age, $p<0.001$) and male sex (3.6 lower in men, $p=0.021$), but not with body-mass index, HLA-B27, C-reactive protein or ASDAS at week 52. In multivariate regression with age and sex as covariates, only age was significantly associated with WBMRI index (2.3 per 10 years increase in age, $p<0.001$) whereas sex was not ($p=0.24$).

In univariate analysis, higher age was not significantly associated with change in WBMRI index, but when adjusted for baseline WBMRI index, higher age was associated with a less prominent reduction in WBMRI index (+0.9 per 10 years increase in age).

A Individual patient trajectories

B Most frequently involved sites ($\geq 15\%$ of patients) for 46 patients with available data at baseline and 52 weeks of follow-up

	Baseline	52 weeks
JOINTS:		
Wrist synovitis	23	20
CMC1 synovitis	17	7
Ankle synovitis	11	7
MTP1 synovitis	15	10
MTP2-5 synovitis	9	5
Sternoclavicular synovitis	13	10
Sternoclavicular osteitis	16	11
Manubriosternal osteitis	7	5
Acromioclavicular synovitis	14	13
Shoulder synovitis	8	5
Knee synovitis	7	3
ENTHESES:		
Plantar fascia osteitis	7	4
Plantar fascia soft tissue infl.	6	2
Tuberculum humeri osteitis	8	8
Pubic symphysis osteitis	8	2
Greater trochanter soft tissue infl.	17	12

Conclusions: Inflammation of peripheral joints and entheses decreased over time in a cohort of patients with predominantly axSpA. Most patients had WBMRI index above zero during follow-up, and this was related to age and involved sites prone to osteoarthritis. Thus, the WBMRI Index may capture both disease activity related to axSpA and age-related degenerative changes.

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FRI0592

SCORING MRI INFLAMMATION AND STRUCTURAL LESIONS IN SACROILIAC JOINTS OF PATIENTS WITH AXIAL SPONDYLOARTHRITIS: IS INTER-READER RELIABILITY DEPENDENT ON THE NUMBER OF MRI SLICES?

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Background: The SPARCC sacroiliac joint (SIJ) scoring system assesses 6 semicoronal MRI slices for inflammation and 5 slices for structural lesions in patients with axial spondyloarthritis (axSpA).^{1,2} However, the cartilaginous SIJ compartment may show 1–2 additional slices anteriorly or posteriorly, depending on body size and scan orientation/tilt.

Objectives: To investigate inter-reader reliability of an “all slices” approach versus the standard SPARCC scoring of 6/5 slices.

Methods: Fifty-three patients with axSpA were treated with TNF inhibitor and had MRIs obtained at weeks 0/4/16/52. An experienced (UW) and two newly trained (GK, SK) blinded readers independently scored 199 SIJ MRI scans in chronological order. The cartilaginous SIJ compartment was scored slice by slice by the SPARCC 6/5 slices approach and by all available cartilaginous slices. Initially, the most anterior and posterior slices covering the cartilaginous compartment and the transitional slice were identified. The transitional slice was defined as the most anterior cartilaginous slice with the first portion of the ligamentous compartment, clearly visible on the left and/or right side. We scored SIJ inflammation, fat metaplasia, erosion and backfill, and a combined erosion and backfill score was created. Inter-reader reliability for reader pairs SK-UW/GK-UW/SK-GK was assessed using percent agreement (for individual scores) and intra-class correlation coefficients for sum scores.

Results: Pairwise percent agreement was 67%/63%/79% for identification of anterior slice, 47%/56%/44% for posterior slice and 69%/68%/72% for transitional slice. Using the “all slices” approach, readers UW/SK/GK scored mean 7.2/7.7/7.0 slices per MRI scan.

“6/5 slices” and “all slices” correlated closely with each other for status scores at baseline/status scores at week 52, and change scores at week 52; BME 0.983/0.985/0.983; fat metaplasia 0.994/0.982/0.953; erosion 0.981/0.974/0.957; backfill 0.993/0.983/0.978; combined erosion and backfill 0.983/0.971/0.919.