

Objectives: In RA patients in longstanding clinical and radiographic remission, achieved by a DAS28-driven T2T strategy, to investigate if US signs of inflammation differed between RA patients, treated with csDMARD or bDMARD (+/- csDMARD).

Methods: Eighty-seven patients with RA in longstanding clinical (continuous DAS28 < 2.6 for the preceding year) and radiographic (no progression for at least 1 year) remission, were included in the study. US of elbows, wrists, MCP2-5, knees, ankles and MTP2-5 were performed using a GE LOGIQE9 US unit. Each joint was scored for grey-scale synovitis (GSS) and synovial color Doppler activity (CDA) by a 0-3 semi-quantitative score. Ultrasound remission was defined in two ways: either no (GSS=0 and CDA=0) or minimal (GSS≤1 and CDA=0) inflammation in any of the 24 assessed joints.

Results: Clinical characteristics and US findings are shown in the table. All 87 patients fulfilled DAS28 remission criteria at entry and CDAI remission was fulfilled in 76% and 79% in the csDMARD and bDMARD group, respectively. Complete absence of any signs of US inflammation (GSS=0 and CDA=0) was seen in 0% and 14% in the csDMARD and bDMARD groups, respectively (p=0.01), while minimal US inflammation (GSS≤1 and CDA=0) was seen in 33% and 40% (NS). CDA in at least one joint was seen in the majority of patients in both groups, 58% and 57% respectively.

Table 1

	csDMARD (n=45)	bDMARD (n=42)	
Females	28 (62%)	28 (67%)	NS
Age (years)	64 (31-82)	57 (25-82)	NS
Disease duration	6 (1-44)	12 (0-54)	p<0.01
IgM-RF/anti-CCP positive	25 (56%)/25 (56%)	28 (67%)/33 (79%)	NS/p<0.05
Erosive disease	23 (51%)	34 (81%)	<0.01
Tender joint count	0 (0-1)	0 (0-1)	NS
Swollen joint count	0 (0-2)	0 (0-2)	NS
C-reactive protein (mg/L)	4 (1-13)	5 (4-26)	p<0.01
DAS28	1.7 (1.1-2.4)	2.0 (1.6-2.5)	p<0.01
CDAI	1.4 (0-5.3)	1.8 (0-7.7)	NS
GSS-score (0-72)	4 (1-18)	6 (0-18)	NS
CDA-score (0-72)	0 (0-12)	0 (0-7)	NS
US minimal inflammation (GSS≤1 & CDA=0)	15 (33%)	17 (40%)	NS
US no inflammation (GSS=0 & CDA=0)	0 (0%)	6 (14%)	p=0.01

Values are given as numbers (percentages) and median (range). Fisher's exact or Mann-Whitney test used for comparisons.

Conclusions: The majority of RA patients, in this cohort of patients in longstanding clinical and radiographic remission obtained through a DAS28 driven T2T strategy, had signs of inflammation as assessed by US, irrespective of receiving biologic treatment or not. For patients in clinical remission, the consequences of sustained US inflammation still have to be investigated.

References:

- [1] Brown AK et al.: Arthritis Rheum 2006;54(12):3761-73.
- [2] Saleem B et al.: Arthritis Rheum 2009;60(7):1915-22.
- [3] Gandjibakhch F et al.: J Rheumatol 2011;38(9):2039-44.

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FRI0629 MAGNETIC RESONANCE IMAGING (MRI) INFLAMMATION OF THE FEET DEMONSTRATES SUBCLINICAL INFLAMMATORY DISEASE IN CUTANEOUS PSORIASIS PATIENTS WITHOUT CLINICAL ARTHRITIS

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Background: Up to 40% of patients with cutaneous psoriasis may develop psoriatic arthritis (PsA). Early detection of PsA by advanced imaging techniques results in better response to therapy. There are very few studies evaluating the MRI appearance in feet of patients with psoriasis and PsA.

Objectives: This study sought to evaluate inflammation at the small joints of feet in a subset of psoriasis patients without clinical arthritis, using an office-based extremity MRI (eMRI) as compared to the findings in overt PsA patients.

Methods: Patients with psoriasis were recruited from Dermatology and Rheumatology clinics of a tertiary care institution in southern India were divided into those without arthritis (PsO) and PsA groups. All consenting patients underwent non-contrast eMRI of the right foot. Demographic and physical examination details were recorded. PsO patients completed the early arthritis in psoriasis (EARP) questionnaire. Two trained readers scored the MRI inflammation (synovitis, tenosynovitis, osteitis) using a modification of the PsAMRI scores (PsAMRIS).

¹ Inter-reader agreement was assessed in a random subset of 42 cases using intra-class correlation coefficient (ICC). Proportion of patients with any sign of MRI inflammation was noted. Mann-Whitney U test was used to compare inflammation scores of PsO with PsA patients. Clinical variables were compared with inflammation scores for any association.

Results: A total of 83 patients (30 PsA and 53 PsO) with 75% males and mean age of 42.2±11.6 years were included. ICC for all three variables between the readers was very good (>0.8). There was no statistical difference between the

median eMRI inflammatory scores in PsA and PsO patients (p=0.493). Evidence of inflammation was present in 64% and 67% patients in the PsO and PsA groups, respectively (Table 1). Higher NAPS1 scores were associated with presence of MRI inflammation (p=0.022).

Table 1. PsAMRIS variables for MRI inflammation of foot in PsO and PsA subgroups

Variable	PsO (n=53)	PsA (n=30)
Synovitis	34 (64%)	19 (63%)
Osteitis	2 (4%)	2 (7%)
Flexor tenosynovitis	9 (17%)	8 (27%)
Inflammation	34 (64%)	20 (67%)

Conclusions: This study corroborates a high proportion of psoriasis patients with subclinical disease of the small joints of foot. Patients with nail involvement had a higher risk of subclinical disease. The cohort is being assessed longitudinally to determine the clinical utility of MRI feet in predicting subsequent development of PsA in patients with psoriasis.

References:

- [1] Glinatsi D, Bird P, et al. Validation of the OMERACT psoriatic arthritis magnetic resonance imaging score (PSAMRIS) for the hand and foot in a randomized placebo-controlled trial. *J Rheumatol* 2015;42:2473-9.

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FRI0630 CAN WHOLE BODY MRI AT BASELINE IDENTIFY DEFINITE INFLAMMATORY ARTHRITIS PATTERNS IN UNDIFFERENTIATED ARTHRITIS?

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Background: When diagnosing inflammatory arthritis (IA) early, focal joint imaging may not reflect the overall inflammatory burden/distribution. Whole body MRI (WBMRI) offers the potential to feasibly scan most joints in a single session.

Objectives: The aims were (i) to describe the WBMRI pattern of disease in early IA (ii) to identify patterns associated with subsequent definite IA.

Methods: Patients were recruited with early inflammatory joint symptoms and/or signs of IA. Clinical data included age, gender, symptom duration, CRP, HLA-B27, RF, CCP Ab and tender/swollen joint counts. Using 3T WBMRI, T2-weighted fat suppressed spine/SIJ images pre contrast and 3D VIBE Dixon images of peripheral joints and entheses post IV contrast were acquired. Images were consensus scored for inflammation/erosion at the spine, SIJ, GHJ, SCJ, wrist, MCP, PIP, hip, knee, ankle, mid/hind foot, MTP and IP joints plus shoulder, ASIS, greater trochanter, knee, Achilles and plantar fascia entheses. Subjects were clinically classified at baseline and 1 year as undifferentiated arthritis (UA), CCP+RA, CCP-RA or Spondyloarthropathy (SpA). Clinicians were unaware of the MRI findings.

Results: 39 patients (23 female) were recruited; mean age 43 years, median symptom duration 18 months (7, 24), TJC 5 (2,11), SJC 1 (0,3) and CRP 2 (2,2). At baseline, 14 were classified as definite disease (RA or SpA) and 25 (14 female) as UA with mean age 40 years, median symptom duration 16.5 months (9.8, 24.3), TJC 3 (1,8), SJC 0 (0,1), CRP 2 (2,2) and 3 (12%) were HLA-B27 positive. The distribution of WBMRI findings in the classified (i.e. definite IA) group was predominantly small joint and tendon-based in the CCP+ RA group, large joint based with 50% having SIJ disease in the CCP- group and similar findings in the SpA group. In the non-classified group (i.e. pUA and rUA), the distribution in pUA was both axial and peripheral, involving joints and entheses, with 25% having SIJ disease. In comparison, findings in the rUA group were similarly distributed but less frequent with no cases of SIJ disease. After 1 year of clinical/laboratory follow-up, 8 were identified as pUA, 6 rUA, 7 CCP+RA, 6 CCP-RA and 12 as SpA. Table 1 shows WBMRI disease distribution by 1 year diagnostic category. The inclusion of affected WBMRI sites in the diagnostic work-up would have appropriately classified 6 further cases of definite SpA, 3 from the pUA and 3 from the CCP-RA groups.

Site of Disease Activity at Baseline on MRI

	Clinical Diagnostic category at 1 year				
	pUA (n=8)	rUA (n=6)	CCP+ RA (n=7)	CCP- RA	SpA (n=12)
Axial	1 (13%)	1 (17%)	0 (0%)	1 (17%)	0 (0%)
SIJ	2 (25%)	0 (0%)	0 (0%)	3 (50%)	4 (33%)
Large Joints	3 (38%)	4 (67%)	4 (57%)	6 (100%)	6 (50%)
Small Joints	6 (75%)	2 (33%)	7 (100%)	5 (83%)	6 (100%)
Tendons	3 (38%)	1 (17%)	5 (71%)	5 (83%)	4 (33%)
Entheses	6 (75%)	3 (50%)	4 (57%)	5 (83%)	8 (67%)

Key: pUA = Persistent UA, rUA = Resolved UA, RA = Rheumatoid arthritis, SpA = Spondyloarthropathy.