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High Prevalence of US Determined Subclinical Synovitis in Early Psoriatic Arthritis Correlates Better with The SJC Rather than TJC: Results from The Leeds Sparro Cohort

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Abstract

Background: Ultrasound (US) is known to be more sensitive than clinical examination in detecting synovitis in psoriatic arthritis (PsA). However, some studies found disparity between the US and clinical findings

Objectives: To assess the prevalence of synovial involvement in early PsA using clinical and sonographic assessments.

Methods: A total of 49 subjects with early PsA (CASPAR criteria) recruited in the Leeds Spondyloarthropathy Register for Research and Observation (SpARRO) study, a prospective longitudinal observational cohort, was assessed. The mean disease duration is 1.6 ± 0.5 years; F:M ratio is 1.3; median SJC76 is 2 (1–2), median TJC78 is 6 (3–17); 90% of subjects had current skin psoriasis. Baseline US scan was performed on 1274 joints including bilateral wrists, MCP2–3, PIP2–3, elbows, knees, ankles & MTP 1–5. Grey Scale (GS) and Power Doppler (PD) were scored on a 0–3 semi-quantitative scale for each joint. Joints were considered clinically active if tender or swollen, and sonographically active if $GS \geq 2$ and/or $PD \geq 1$. We compared US active (yes/no) against tender (yes/no) and swollen (yes/no). The majority of the patients (88%) were DMARD naive

Results: US identified a higher proportion of subclinical synovitis among swollen rather than tender joints in subjects with early PsA. The agreement between clinical examination (tender & swollen) and US findings was high (73 & 87%) respectively. The most common sites for subclinical synovitis were MTP joints. In contrast, wrist tenderness and MTP2 swelling were the highest overestimated joints among the physical examination.

Conclusions: The prevalence of subclinical synovitis is high in early PsA. Joint swelling is more likely to correlate with PD or GS in PsA when compared to joint tenderness. As opposed to RA, where clinical tenderness correlates with subclinical synovitis, the tender joint count may not be a reliable clinical measure to assess synovitis in PsA. Possible reasons for the over-estimation of TJC in clinical examination may be the concomitant occurrence of fibromyalgia. Larger studies are needed to confirm our results.

Disclosure of Interest None declared

Table 1. Agreement between tender or swollen and US synovitis by joint type

	Tender					Swollen				
	PEA	Sp0	Sp1	US>CE	CE>US	PEA	Sp0	Sp1	US>CE	CE>US
	%	%	%	%	%	%	%	%	%	%
Elbow	93	96	22	2	5	97	98	0	3	0
Wrist	60	69	46	2	38	96	98	75	0	4
MCP2	83	90	26	2	15	92	96	50	2	6
MCP3	82	89	31	1	17	92	96	60	1	7
PIP2	77	87	0	1	22	89	95	0	1	9
PIP3	72	84	7	2	26	85	92	0	3	12
Knee	69	82	12	7	24	85	91	40	3	12

	Tender					Swollen				
	PEA	Sp0	Sp1	US>CE	CE>US	PEA	Sp0	Sp1	US>CE	CE>US
	%	%	%	%	%	%	%	%	%	%
Ankle	82	90	0	2	16	93	96	36	0	7
MTP1	52	65	23	28	20	67	0	33	80	11
MTP2	64	75	41	22	13	63	4	33	77	14
MTP3	76	85	37	13	11	97	98	77	0	3
MTP4	65	77	29	14	20	81	86	39	14	5
MTP5	78	87	21	5	18	92	96	43	5	3
Total	73	83	23	8	19	87	73	37	15	7

- *PEA = percentage exact agreement; CE = clinical examination; Sp0 = agreement specific to a score of 0; Sp1 = agreement specific to a score of 1.