MRI-defined synovitis (grade 0-3) in the DIP, PIP, MCP and CMC-1 joints of the dominant hand and the severity of GS synovitis (grade 0-3) and PD activity (grade 0-3) in the same joints of the hands bilaterally. Spearman's rho was calculated for correlations between sum scores of all joints for FOI, MRI and ultrasound and sensitivity, specificity, negative predictive value (NPV), positive predictive value (PPV) and area under the curve (AUC) for FOI using MRI and ultrasound as reference.

Results: Despite frequent MRI and ultrasound findings in the CMC-1 joint, no FOI enhancement was detected in the thumb base, and CMC-1 was excluded from the analyses. FOI had poor to fair correlations with MRI and GS synovitis and PD activity. The strongest correlation with MRI was found for PVM in the PIP joints with Spearman's rho of 0.32, while the DIP joints had consistently the weakest correlations ranging from 0 to 0.14 (Figure 1). None of the FOI phases or PVM demonstrated both good sensitivity and specificity, and AUC remained low with both MRI and GS synovitis as a reference (table 1). The NPVs of FOI were consistently higher when GS synovitis was used as reference rather than MRI, due to higher frequency of low degree MRI-defined synovitis. However, when changing cut-off for MRI synovitis as reference from grade 1 to grade 2 the diagnostic performance of FOI increased to the level of GS synovitis. The diagnostic performance for FOI was similar with both GS synovitis and PD activity as reference.

Table 1. Diagnostic performance of FOI measuring synovitis in hand OA using MRI and GS synovitis as reference

FOI	Reference	Sensitivity	Specificity	PPV	NPV	AUC
PVM	MRI	0.48	0.72	0.61	0.61	0.61
Phase 1		0.02	0.99	0.61	0.53	0.50
Phase 2		0.58	0.62	0.58	0.62	0.60
Phase 3		0.24	0.90	0.67	0.57	0.57
PVM	GS	0.59	0.64	0.17	0.93	0.62
Phase 1		0.02	0.99	0.28	0.89	0.51
Phase 2		0.69	0.56	0.17	0.94	0.63
Phase 3		0.23	0.86	0.17	0.90	0.56

FOI; Fluorescence optical imaging, PVM; Prima Vista Mode, GS; Grey scale, PVM; Prima Vista Mode, PPV; Positive Predictive Value, NPV; Negative Predictive Value, AUC; Area under the curve

Conclusion: FOI sum scores showed poor to fair correlations with MRI- and ultrasound-detected synovitis in persons with hand OA. These findings might be explained by the low-grade inflammation with minor vascularization in the majority of inflamed joints. None of the FOI phases or PVM demonstrated both good sensitivity and specificity and the method was not able to detect CMC-1 synovitis.

Disclosure of Interests:

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IN PSORIATIC ARTHRITIS PATIENTS CONSIDERED IN REMISSION BY THEIR RHEUMATOLOGIST, CAN DISCORDANCE IN DISEASE ACTIVITY ASSESSMENT BETWEEN PATIENT AND RHEUMATOLOGIST BE EXPLAINED BY RESIDUAL INFLAMMATION AS MEASURED BY ULTRASONOGRAPHIC EXAMINATION?

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Background: Psoriatic arthritis (PsA) is a heterogeneous disease and its assessment is sometimes difficult. Perception of disease activity by patient and physician is frequently discordant in patients in clinical remission. Ultrasound (US) is an imaging technique, which can detect inflammation in PsA.

Objectives: The aim of our study was to assess whether persistence of disease activity evaluated by the patient, considered in remission by his rheumatologist, was associated with inflammation measured by US.

Methods: We performed a transversal monocentric study. PsA patients were included if they met the CASPAR criteria and were considered in remission by their rheumatologist. Demographic data, characteristics of the disease and treatments were collected. Discordance was defined by a difference between patient's and rheumatologist's global assessment $\geq 30/100$ on a Visual Analogic Scale. An US examination was performed on 50 joints, 28 tendons and 14 entheses by an independent investigator. Synovial or tendon sheath hypertrophy and PD signal were evaluated on a semi-quantitative scale, B Mode and PD signal abnormalities on entheses were searched, according to the EULAR-OMERACT scoring system. US remission was defined by no power Doppler (PD) signal on joints, tendons and entheses and minimal US activity by maximum one PD signal on the same sites. Univariate and multivariate analyses were performed to evaluate factors associated with US abnormalities.

Results: Sixty-two PsA patients were included. 40.3% were women, the mean (SD) age was 55 (14) years, 42% were in US remission and 71% in minimal US activity (Table 1), 19.4% had ≥ 1 PD synovitis and 88.7% had a B mode synovitis, 95.2% had a B mode abnormality on entheses and 51.6% had ≥ 1 PD signal on entheses. Thirty nine percent had a discordant disease activity assessment with their rheumatologist. In univariate analysis, discordance was not associated with US remission (OR=1.71 (95%CI 0.61-4.83), $p=0.224$) or US minimal disease activity (OR=0.99 (95%CI 0.32-3.05), $p=0.602$). In multivariate analysis, US remission was independently associated with female gender (OR=3.94 (95%CI 1.20-12.9), $p=0.024$) and younger age (OR=0.95 (95%CI 0.91-0.99), $p=0.027$). Minimal US activity was associated with history of enthesitis lesion (OR=11.26 (95%CI 1.34-94.93), $p=0.026$) and age (OR=0.95 (95%CI 0.90-1), $p=0.044$).

Table 1. Ultrasound characteristics of the 62 PsA patients.

	N (%)
Ultrasound remission	26 (41.9)
Ultrasound minimal disease activity	44 (71)
Patients with ≥ 1 grey scale synovitis	55 (88.7)
Patients with ≥ 1 Power Doppler synovitis	12 (19.4)
Patients with ≥ 1 grey scale tenosynovitis	15 (24.2)
Patients with ≥ 1 Power Doppler tenosynovitis	1 (1.6)
Patients with ≥ 1 grey scale enthesitis lesion (thickness, hypo echogenicity, calcification, enthesophyte, erosion, bursitis)	59 (95.2)
Patients with ≥ 1 Power Doppler enthesitis	32 (51.6)

Conclusion: Our study showed persistent inflammation evaluated by US in PsA patients considered in remission by their rheumatologist. However, prevalence of residual inflammation evaluated by US was not higher in patients with self-assessment of their disease discordant from their rheumatologist.

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