

THE PRESENCE AND INTENSITY OF POWER DOPPLER SIGNAL ARE NOT MODIFIED BY TIME OF ASSESSMENT: DATA FROM PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Power Doppler (PD) ultrasound is a sensitive and reliable method for the assessment of inflammatory activity in rheumatoid arthritis (RA). Many variables, however, were described to modulate the intensity of the PD signal including, but not limited to, the equipment, the operator and room temperature. It is also well recognized that patients suffer more pain and stiffness early in the morning and that these symptoms usually improve during the afternoon.

Objective: To compare the number of joints with PD signal and the intensity of PD signal in patients with diagnosis of RA (as per the 1987 ACR criteria) assessed both, in the morning and in the afternoon.

Patients and Methods: We evaluated 20 patients. The intensity of the PD signal was assessed in 28 joints and graded 0 to 3, where 0 is the absence of synovial flow, 1 represents ≤ 3 isolated signals, 2 represents > 3 isolated signals or confluent signal in less than half of the synovial area and 3 marked signal in more than half of the synovial area. A 28 index for PD signal was obtained by the sum of the PD signal scores of the individual joints. Total number of joints with PD signal and the 28 joints index obtained during the morning and the afternoon were compared using the Mann-Whitney U test

Results: Patients were predominantly females (81%) and they had a mean (SD) age of 46.2 (11.1) years and a mean (SD) disease duration of 125.4 (119.0) months. The Table below depicts total number of joints with PD signal and the 28 joints PD index obtained during the morning and during the afternoon.

Time of examination	Morning	Afternoon	Value of U	p value
Joints with PD signal Median (IQ range)	5 (9)	5 (8)	220	0.99
28 joints PD index Median (IQ range)	6 (18)	6 (16)	213	0.85

Conclusion: In this study, we were not able to find differences neither in the number of joints with PD signal, nor in the 28 joints PD index regarding the time of assessment. This finding should be considered as a practical consideration when performing ultrasound PD examination in patients with RA.