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Absence of Clinical and Ultrasound Activity of Hand and Foot: Is That Possible?: Experience in an Argentinian Rheumatoid Arthritis Cohort

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Session Title: Imaging of Rheumatic Diseases Poster I: Ultrasound, Optical Imaging and Capillaroscopy

Session Time: 9:00AM-11:00AM

Background/Purpose: Currently, one of the main goals of rheumatoid arthritis (RA) treatment is to attain remission. Stricter criteria as CDAI, SDAI ACR/ EULAR Boolean have been proposed. Patients with RA, who achieve clinical remission may have residual joint inflammation, which can be detected by ultrasonography (US). However the degree of agreement that stricter criteria present with US findings in patients in remission is not well known, especially on feet assessment. The aim of this study was to assess subclinical synovitis by US and to evaluate the degree of agreement between the remission status as measured by different strict criteria and the absence of activity using US of hands and toes.

Methods: US examination was performed consecutively on 100 patients with RA fulfilling 2010 ACR EULAR criteria that were in clinical remission (DAS 28-ESR<2.6) for at least 6 months. We evaluated if strict criteria were met (CDAI, SDAI, Boolean, Boolean without VAS general health patient). A rheumatologist specialized in musculoskeletal US, blinded to clinical activity, performed a systematic evaluation on grayscale and power Doppler technique with multifrequency linear transducer (10-18MHz) in longitudinal and transverse sections. The radiocarpal joint, second and third metacarpophalangeal, second and third proximal interphalangeal in both hands and second to fifth metatarsophalangeal joints were assessed bilaterally. Absence of activity was defined as absence of exudative synovitis grade II and III, and power Doppler grade II and III in all the evaluated joints.

Results: 100 US were performed in 1.800 joints of 100 patients. 80% were women (n = 80) and the mean age was 52.7 standar desviation (SD) 12. There were no differences in age, sex, disease duration, treatment, or rheumatois factor andanti-citrullinated protein antibodies positivity between patients with ultrasound activity and without it. The mean DAS28-ESR was 2 SD 0,47, 22%

were receiving biologic therapy, the mean disease duration was 8.5 IQR 5-14 years and the mean duration of remission was 11.3 months SD 6. Table 1 shows the remission status in the evaluated patients. Table 2 shows the degree of agreement among different criteria and the absence of activity assessed by ultrasound of hands and feet.

Table 1

	Ultrasound with activity in hands n (%)	Ultrasound with activity in foot n (%)	Ultrasound without activity in hands n (%)	Ultrasound without activity in foot n (%)
Remission by <i>Boolean</i> n:45	26 (58)	8 (18)	19 (42)	37 (82)
Remission by <i>Boolean</i> without VAS n:71	30 (42)	18 (25)	41 (58)	53 (75)
Remission by SDAI n:70	34 (48)	19 (27)	36 (52)	51 (73)
Remission by CDAI n: 62	51 (82)	17 (27)	11 (18)	45 (72)

Table 2

Remission criteria	Agreement	CI 95
<i>Boolean</i> ACR/EULAR	k- 0,1	-0,3-0,09
<i>Boolean</i> without VAS	k 0,4	0,22-0,53
SDAI	k 0,27	0,11-0,42
CDAI	k -0,07	-0,21-0,07

Conclusion: Residual joint inflammation was detected by US in patients in clinical remission on both hands and feet. There was no agreement between the remission status measured by the strict criteria and the absence of activity assessed by US of hands and feet in this study population. Only acceptable agreement was found in hands, with the Boolean criteria that excludes VAS.

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