Background: Interstitial Lung Disease (ILD) is a severe extraarticular manifestation of rheumatoid arthritis (RA). In this line, several radiological patterns of RA-ILD have been described: i) usual interstitial pneumonia (UIP), ii) nonspecific interstitial pneumonia (NSIP), iii) obliterating bronchiolitis, iv) organized pneumonia and mixed patterns. Abatacept (ABA) could be an effective and safe option for patients with RA-ILD, although the response in the different radiological patterns is not well defined.

Objectives: Our aim was to assess the response to ABA in different radiological patterns of ILD.

Methods: Observational retrospective multicenter study of RA-ILD treated with ABA. ILD was diagnosed by HRCT and classified by radiological patterns in 3 different subgroups of RA-ILD: a) UIP, b) NSIP and c) "other". ABA was used sc. or iv. at standard dose. We assessed: a) Dyspnoea (MMRC scale; significant variation ≥ 1); b) Respiratory function tests (significant changes $\geq 10\%$ in FVC and DLCO); c) HRCT imaging; d) DAS28 e) prednisone dose.

Variables were collected at months 0, 3, 6, 12 months and subsequently every 12 months until a maximum of 60 months.

Results: We included 263 patients: 106 UIP, 84 NSIP and 73 others (150 women / 113 men), mean age 64.64 $\pm$ 10 years. Total patients positive for RF or CCPA were 235 (89.4%) and 233 (88.6%), respectively. In 26 out of 263 patients, the development of ILD was closely related to the administration of sDMARDs (MTX n = 11 and LFN n = 1) or bDMARDs (ETN n = 5, ADA n = 4, CZP n = 2 and IFX n = 3). Patient characteristics are shown in table 1. Figure 1 shows the evolution of the cases with available data after a mean follow-up of 22.7 $\pm$ 19.7 months. Mean DLCO and FVC remained stable in the 3 groups without statistically significant changes, and all the groups showed a statistically significant reduction in DAS28 and prednisone dose.

Conclusion: ABA could be a good choice of treatment in patients with RA-ILD independently of the radiological pattern of ILD.

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	UIP (n=106)	NSIP (n=84)	OTHERS (73)
Sex (F/M)	59/47	49/35	42/31
Age (years)	66.8 $\pm$ 10.0	63.2 $\pm$ 9.8	65.0 $\pm$ 9.9
RF/CCPA + (%)	94.4/92.3	84.5/91.5	87.7/86.1
Smoking or past smoking (%)	48.1%	53.6%	61.6%
Follow-up (months)	20.37 $\pm$ 17.85	21.57 $\pm$ 18.2	27.25 $\pm$ 22.4
DAS28 at baseline	4.48 $\pm$ 1.50	4.42 $\pm$ 1.47	4.65 $\pm$ 1.47
DAS28 at last visit	2.99 $\pm$ 1.27	3.14 $\pm$ 1.29	3.21 $\pm$ 1.47
Prednisone at baseline, median (IQR) (mg)	7.5 (5-10)	10 (5-10)	7.5 (5-10)
Prednisone at the end of study, median (IQR) (mg)	5 (2.5-5)	5 (2.5-10)	5 (2.5-7.5)
DLCO at baseline (%)	62.78 $\pm$ 18.80	65.01 $\pm$ 21.14	71.76 $\pm$ 21.14
DLCO at the end of study (%)	62.04 $\pm$ 18.86	66.06 $\pm$ 18.70	70.07 $\pm$ 22.19
FVC at baseline (%)	82.60 $\pm$ 21.39	89.47 $\pm$ 19.39	89.89 $\pm$ 21.14
FVC at the end of study (%)	81.40 $\pm$ 20.73	87.86 $\pm$ 22.65	89.44 $\pm$ 17.5

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ULTRASOUND IN THE ASSESSMENT OF JOINT DAMAGE IN RHEUMATOID ARTHRITIS: A SYSTEMATIC LITERATURE REVIEW BY THE OMERACT ULTRASOUND WORKING GROUP

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Background: The detection of damage in patients with rheumatoid arthritis (RA) is crucial for monitoring of therapy targets as well as for early diagnosis. Conventional radiography (CR) is commonly used to detect structural damage, in the form of bone erosions or loss of hyaline cartilage. Over the last years, musculoskeletal ultrasound (MSUS) was shown to be a sensitive and reliable method to detect erosion and cartilage loss as well as damage to soft tissue structures.

Objectives: To identify and synthesize the evidence for the use and measurement properties of MSUS in assessing structural damage in patients with RA.

Methods: A systematic literature search (SLR) of the PubMed, Embase and Cochrane Library was performed. Original articles were included that were published in English until 01/01/2019, reporting MSUS of bone erosion, cartilage loss or damage and tendon damage, and the measurement properties of MSUS according to the OMERACT Filter 2.1.

Results: Of the 1.266 identified articles 79 were finally included, most of which reported on cross-sectional studies. The majority of the studies used the OMERACT definitions for ultrasonographic pathology. Among these, erosions were assessed in 72 (91.1%), cartilage damage in 12 (15.2%), tendons in 4 (5.1%) studies and enthesophytes in a single (1.3%) study. Erosions were rated by binary grading in 56 (77.8%) studies and by semiquantitative scoring in 27 (37.5%) studies. Global or sum scores were calculated in only 9 (12.5%) studies. Among 23 studies assessing erosions both by US and CR, only 1/23 (4.3%) study found a higher sensitivity of CR as compared to MSUS. Among studies assessing tendons, 3 (75%) used a semiquantitative score and one scored tendon rupture as being present or absent. Cartilage damage was graded in binary fashion, quantitatively by measuring cartilage thickness or semi-quantitatively. Hand joints were the most frequently evaluated joints (58, 73.4%). The overwhelming majority of studies assessed structural damage bilaterally (68, 86.1%), with 5 (6.3%) studies assessing only the dominant hand, 5 (6.3%) studies evaluating the clinically more affected side and 1 (1.3%) study assessing only the right hand. Validity, reliability and responsiveness were assessed in only 8 (10.1%), 10 (12.7%) and 4 (5.1%) studies respectively. Feasibility was not considered in any of the studies.

Conclusion: While the results of this SLR suggest that US is a sensitive and feasible tool to detect damage in RA, they also highlight the need for further research and validation. Findings of this SLR will inform the next steps of the Working Group in developing an ultrasound score for assessing structural damage in patients with RA.

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