honoraria from Pfizer outside this work, Giorgio Carlino Consultant for: G Carlino had has received consultancy fees from Pfizer, Janssen, AbbVie, MSD, BMS., Romano Bucci Consultant for: R Bucci has received consultancy fees and/or speaker honoraria from Pfizer, Sanofi, MSD, BMS, Speakers bureau: R Bucci has received consultancy fees and/or speaker honoraria from Pfizer, Sanofi, MSD, BMS, Angelo Semeraro Speakers bureau: A Semeraro has received speaker honoraria from Sanofi, Roche, AbbVie, BMS, MSD, Novartis, Antonio Marsico: None declared, Daniela Mazzotta: None declared, Paola Chiara Francesca Falappone Consultant for: PC Falappone had received consultancy fees and/or speaker honoraria from Amgen, Abbott, MSD, BMS, outside this work, Speakers bureau: PC Falappone had received consultancy fees and/or speaker honoraria from Amgen, Abbott, MSD, BMS, outside this work, Florenzo Iannone Consultant for: F Iannone has received consultancy fees and/or speaker honoraria from Pfizer, AbbVie, MSD, BMS, Novartis, Lilly, UCB outside this work, Speakers bureau: F Iannone has received consultancy fees and/or speaker honoraria from Pfizer, AbbVie, MSD, BMS, Novartis, Lilly, UCB outside this work

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AB0291B

A COMPARISON OF THE JOINTS ULTRASONOGRAPHY IN THE PATIENTS WITH RHEUMATOID ARTHRITIS TREATED BY BIOLOGICAL AGENTS AND THE CORRESPONDING SYNOVIAL HISTOLOGICAL FINDINGS

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Background: In the treatment of Rheumatoid arthritis (RA), early diagnosis and early treatment with tight control have become increasingly important with the advent of biological therapy. Ultrasonography (US) of the various joints enables the real-time evaluation of synovial hypertrophy, effusion and bone erosion, Power Doppler (PD) ultrasound is able to identify both subclinical synovitis and early erosive disease.

Objectives: The objectives of this study were to investigate whether the image of US at the operated joint reflect synovium histological findings or clinical indicators, and to compare the results in the patient treated by non-biological agent (NonBio) and biological agent (Bio)

Methods: RA related orthopaedic surgery was performed at 1287 joints including 17 shoulders, 160 knees, 96 elbows, 378 wrists, 364 fingers, 38 ankles and 234 toes during the period between January 2011 and December 2018 at our rheumatic center. Preoperatively, ultrasound evaluations were performed and grade of PD signal was determined at the part with the highest signal. PD signal consists 4 grades from grade 0 to 3. The operations were performed within one week after the ultrasound evaluations. Rooney score of the synovium histology, DAS28-ESR (4), MMP-3, CRP were investigated. Rooney score represents the histologic features in the synovium of RA. It includes 6 features i.e. synovio-cytes hyperplasia, fibrosis, proliferating blood vessels, perivascular infiltrates of lymphocytes, focal aggregates of lymphocytes, diffuse infiltrates of lymphocytes. They were scored separately on a scale of 1-10. The treatments that the patients received included: biological agents (Bio) (n=389 30%), etanercept (ETN) (n= 102), tocilizumab (TCZ) (n=105), infliximab (IFX) (n=29), adalimumab (ADA) (n=28), certlizumab pegol (CZP) (n=12), golimumab (GLM) (n=56), and abatacept (ABT) (n=55), tofacitinib (TOF) (n=2).

Results: PD signal (0.97±0.88), DAS28 (3.23±1.13), CRP(0.5±1.25 mg/dL), MMP-3 (119.0±119.0 ng/mL) and Rooney score (23.5±7.7) in the patients treated with Bio were significantly lower than those (1.39±0.95, 3.66±1.07, 0.78±1.37 mg/dL, 146.3±150.0ng/dL, 28.5±9.26) in the patients treated with NonBio. Rooney score fibrosis (9.57±1.44) in patients treated with Bio was significantly higher than those (8.64±2.48) in patients treated by NonBio. Rooney score, synovio-cyte hyperplasia (1.16±1.26) and three items of lymphocyte (1.59±2.91, 1.68±2.54, 1.11±2.20) in patients treated with Bio were lower than those (1.72±1.30, 3.79±3.56, 3.73±3.53, 2.40±2.98) in patients treated with NonBio. TCZ, ADA, ABT and IFX had some significant differences for Rooney score and Rooney item score between the patients treated with NonBio.

Conclusion: The activity of RA synovitis at operated site was suppressed in patients treated with Bio. There were some differences in clinical data, histological score, PD signal and DAS28 among Bio.

Disclosure of Interests: None declared

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AB0291C

REMISSION IN RHEUMATOID ARTHRITIS: CONSIDERING NEW CUT-POINTS OF COMPOSITE DISEASE ACTIVITY INDICES ACCORDING TO THE ABSENCE OF SYNOVITIS BY ULTRASONOGRAPHY

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Background: Achieving the state of remission in RA according to currently available criteria does not entirely prevent patient from radiological progression. On the contrary, the presence of subclinical synovitis by means of ultrasonography (US) correlates with radiological progression.

Objectives: To establish cut-off values of composite disease activity indices (DAS28-CRP, DAS28-ESR, CDAI and SDAI) that adjust better to remission according to the absence of synovitis by US.

Methods: Observational, cross-sectional study that included 126 patients with diagnosis of RA who were in remission or low disease activity (DAS-ESR ≤3.2). For each patient we calculated the DAS28-ESR, DAS28-CRP, CDAI, SDAI. For US assessment we used the 12 joint simplified score. We considered the state of remission by US if synovial hypertrophy (SH) ≤1 and power Doppler (PD) signal= 0 in all joints. The cut-off values of the disease activity indices to define remission according to the proposed US definition of remission were determined by ROC curves.

Results: Patients had a median (ICR) DAS28-ESR of 2.32 (0.60), DAS28-CRP= 1.89 (0.55), CDAI= 3.56 (3.0) and SDAI= 3.0 (4.7). The sensitivity, specificity, positive and negative predictive value of each of the selected cut-off points for the DAS28-CRP, DAS28-ESR, CDAI and SDAI for the definition of remission are shown in the Table.

Conclusion: In this study we describe new cut points of the different composite disease activity indices for the definition of remission. These cut points improve the accuracy of the definition of remission. However, they differ scarcely from the reference values making its impact uncertain in the long term management of patients with RA. Longitudinal studies are, therefore, warranted in order to elucidate the performance of these new cut points.

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Cut-off values	Sensitivity% (IC95%)	Specificity% (IC95%)	PPV% (IC95%)	NPV% (IC95%)
Taking as reference SH definition of remission.				
DAS28-ESR	81 (70-88)	50 (37-63)	68 (58-77)	66 (51-78)
≤2.6	65 (54-75)	63 (56-73)	70 (58-80)	58 (45-69)
≤2.5				
DAS28-CRP	86 (76-92)	26 (16-39)	61 (51-70)	58 (39-76)
≤2.6	57 (45-68)	55 (41-68)	63 (51-74)	48 (36-61)
≤2.0				
CDAI	61 (50-72)	74 (61-84)	76 (64-85)	59 (47-70)
≤2.8	60 (48-70)	74 (61-84)	75 (63-85)	58 (46-69)
≤2.1				
SDAI	52 (40-63)	72 (59-82)	71 (58-82)	53 (42-64)
≤3.3	52 (41-64)	80 (68-89)	78 (64-88)	55 (44-66)
≤3.0				
Taking as reference the PD definition of remission.				
DAS28-ESR	71 (61-80)	43 (28-59)	76 (66-84)	37 (25-52)
≤2.6	58 (48-68)	60 (44-74)	79 (68-87)	36 (25-48)
≤2.5				
DAS28-CRP	80 (71-87)	17 (8-33)	72 (62-79)	25 (18-45)
≤2.2	64 (53-73)	56 (40-71)	79 (68-87)	38 (26-52)
≤1.96				
CDAI	55 (44-64)	47 (38-56)	85 (73-92)	38 (28-50)
≤2.8	53 (43-63)	74 (58-86)	84 (73-92)	38 (27-50)
≤2.15				
SDAI	46 (36-56)	71 (55-84)	81 (68-89)	34 (24-48)
≤3.3	46 (36-57)	82 (67-92)	87 (74-94)	33 (28-49)
≤3.0				