Results: 338.343 RA hospital admissions were detected in the study period, being 81.468 (24.07%) due to infections. The main clinical-demographic characteristics are shown in table 1:

	Women	Men	Total	1999–2002	2003–2006	2007–2010	2011–2015
N (%)	53 528 (65.7%)	27 939 (34.3%)	81 467 (100)	10 518	15 644	21 280	34 025
Mean Age (SD)	71.38 (13.3)	70.62 (12.47)	71.12 (13.02)	68.39 (12.73)	69.65 (12.93)	71.21 (13.12)	72.60 (12.89)
Dead during admission, n (%)	5139 (9.6)	2957 (10.5)	8096 (9.93)	ND	ND	ND	ND
Mean Charlson Index (SD)	2.05 (1.5)	2.45 (1.8)	2.19 (1.63)	1.90 (1.40)	2.0 (1.51)	2.18 (1.60)	2.37 (1.75)
Average length of stay (SD)	13.86 (16.3)	14.14 (15.5)	13.9 (16.1)	15.94 (18.84)	15.36 (17.23)	14.43 (16.77)	12.42 (13.93)

The annual age-adjusted rate of infections increased during the study period, especially in men (fig 1). The annual trend of infections age-adjusted increased during the study period 5.29%, women 5.08% and men 5.92%. For age groups the annual increase was 3.51% for 20–40 years, 3.2% for 40–60 years, 4.5% for 60–80 years and 9.27% for >80 years.

Conclusions: Rate of infection in RA hospitalised patients in Spain has increased during study period. The patients are progressively elderly and has more comorbidities. However the average hospital stay decrease.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5490

THU0150 IMPACT OF COMORBIDITY BURDEN AND OBESITY ON THE EFFECTIVENESS OF TOCILIZUMAB IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Few real-world studies have evaluated the impact of comorbidity burden or obesity on the effectiveness of tocilizumab (TCZ) for the improvement of rheumatoid arthritis (RA) disease activity.

Objectives: To compare the effectiveness of TCZ in treating RA in patients with high vs low comorbidity burden and in obese vs nonobese patients in US clinical practice.

Methods: Patients in the Corrona RA registry who initiated TCZ and had follow-up visits at 6 and 12 months after initiation were included. To assess the impact of comorbidity burden on TCZ effectiveness, outcomes were stratified by patients with low Charlson Comorbidity Index (CCI=1) vs high (CCI ≥ 2). To assess the impact of obesity, outcomes were stratified by patients with BMI <30 (nonobese) vs ≥30 (obese). The primary outcome was mean change in CDAI at 6 and 12 months. Secondary outcomes were mean change in HAQ, the proportions of patients with change ≥ the minimum clinically important difference (MCID) in CDAI and HAQ and the proportion who achieved low disease activity (LDA; CDAI ≤ 10). Baseline demographics, clinical characteristics, disease activity and treatment history in the comorbidity and BMI cohorts were compared separately using standardised differences; characteristics with |standardised difference| > 0.1 were identified as covariates for inclusion in adjusted comparisons. Outcomes were compared between cohorts using two-sample *t*-tests or χ^2 tests in unadjusted analyses and linear or logistic regression models to adjust for covariates.

Results: Of 770 patients who initiated TCZ and had CCI data available at baseline (93.8% treated with intravenous [IV] TCZ and 6.2% with subcutaneous [SC]

TCZ), 575 (74.7%) had a low CCI and 195 (25.3%) a high CCI. Patients with a high CCI were older (mean [SD] age, 61.5 [12.3] vs 56.9 [13.1] years), were more likely to be obese (52.8% vs 41.7%), had a longer disease duration (mean [SD], 12.8 [9.9] vs 11.6 [8.9] years) and had higher mean (SD) baseline CDAI (25.7 [13.4] vs 23.9 [13.9]) and HAQ (0.71 [0.57] vs 0.57 [0.51]) scores than those with a low CCI.

Of the 805 TCZ initiators with BMI data available at baseline (93.9% treated with IV TCZ and 6.1% with SC TCZ), 449 (55.8%) were not obese and 356 (44.2%) were obese. Obese patients were younger (56.7 [12.0] vs 59.0 [13.7] years), had shorter disease duration (11.4 [8.6] vs 12.6 [9.7] years) and had higher baseline CDAI (25.4 [14.3] vs 23.6 [13.4]) and HAQ (0.65 [0.53] vs 0.57 [0.53]) scores than nonobese patients.

Patients in all cohorts had improvement from baseline in CDAI at 6 and 12 months, with no significant differences between those with a low vs high CCI or between obese vs nonobese patients (table 1). Secondary outcomes yielded similar results (table 1).

Abstract THU0150 – Table 1. Study Outcomes at 6 and 12 Months in Patient With RA Who Initiated TCZ, Stratified by Comorbidity Burden and Obesity Status

	Comorbidity Burden				Obesity			
	Low* (CCI = 1) (n = 575)	High (CCI ≥ 2) (n = 195)	Unadjusted Difference ^a	Adjusted Difference ^a	Nonobese* (BMI < 30) (n = 449)	Obese (BMI ≥ 30) (n = 356)	Unadjusted Difference ^a	Adjusted Difference ^a
Outcomes at 6 Months^b								
Change in CDAI, mean (SD)	-7.57 (13.65)	-7.72 (13.62)	-0.15 (-2.37, 2.07)	0.72 (-1.52, 3.36)	-7.77 (13.12)	-7.38 (14.05)	0.39 (-1.48, 2.28)	1.29 (-0.41, 2.99)
Change in HAQ, mean (SD)	-0.05 (0.41)	-0.09 (0.43)	-0.04 (-0.11, 0.30)	0.31 (-0.09, 0.10)	-0.06 (0.41)	-0.05 (0.42)	0.03 (-0.06, 0.06)	0.04 (-0.02, 0.09)
Change in CDAI > MCID, % patients ^c	51.1	44.6	0.77 (0.56, 1.07)	0.79 (0.45, 1.40)	51.2	46.6	0.83 (0.63, 1.10)	0.83 (0.60, 1.16)
Change in HAQ > MCID, % patients ^c	30.4	31.8	1.07 (0.75, 1.51)	0.47 (0.23, 0.98)	30.7	30.3	0.86 (0.73, 1.33)	0.86 (0.58, 1.27)
Achievement of LDA, % patients ^d	24.7	21.5	0.84 (0.57, 1.24)	0.85 (0.45, 1.62)	27.0	19.7	0.70 (0.47, 0.93)	0.70 (0.48, 1.01)
Outcomes at 12 Months^b								
Change in CDAI, mean (SD)	-8.42 (14.24)	-7.82 (14.52)	0.59 (-1.74, 2.92)	-1.22 (-4.22, 1.77)	-8.24 (13.99)	-8.09 (15.27)	0.15 (-1.84, 2.14)	1.53 (-0.33, 3.39)
Change in HAQ, mean (SD)	-0.05 (0.40)	-0.11 (0.42)	-0.06 (-0.13, 0.01)	-0.06 (-0.15, 0.03)	-0.07 (0.40)	-0.04 (0.42)	0.03 (-0.02, 0.09)	0.07 (0.01, 0.13)
Change in CDAI > MCID, % patients ^c	52.7	49.7	0.89 (0.64, 1.23)	1.21 (0.60, 2.13)	53.5	49.4	0.85 (0.64, 1.12)	0.72 (0.52, 1.01)
Change in HAQ > MCID, % patients ^c	27.7	29.7	1.11 (0.77, 1.58)	0.86 (0.42, 1.76)	27.8	28.1	1.01 (0.74, 1.38)	0.83 (0.55, 1.24)
Achievement of LDA, % patients ^d	30.4	31.3	0.94 (0.73, 1.48)	1.52 (0.85, 2.71)	32.1	27.5	0.80 (0.59, 1.09)	0.75 (0.53, 1.06)

BMI, body mass index; CCI, Charlson Comorbidity Index; CDAI, Clinical Disease Activity Index; csDMARD, conventional synthetic disease-modifying antirheumatic drug; HAQ, Health Assessment Questionnaire; LDA, low disease activity; MCID, minimum clinically important difference; OR, odds ratio.

* Reference group.
^a The CCI used for this analysis is a modified CCI and is the sum of prior reported comorbid conditions that are captured in Corrona at the time of drug initiation, including myocardial infarction, congestive heart failure, peripheral vascular disease, chronic obstructive pulmonary disease, peptic ulcer disease, diabetes mellitus, leukemia, lymphoma, solid tumor cancer (excluding non-melanoma of the skin) and liver disease. The CCI also includes connective tissue disease, which was coded as 1 to account for rheumatoid arthritis.

^b Adjusted for age, duration of RA, race, college educated, smoking status, alcohol consumption, BMI, work status, insurance type, number of prior csDMARDs, current csDMARD use, number of prior biologics used, current prednisone use, CDAI at initiation, HAQ at initiation, patient-reported fatigue at initiation and length of morning stiffness at initiation.

^c The 6-month visit occurred in a window of 4 to 8 months; the 12-month visit occurred in a window of 10 to 14 months.

^d CDAI ≤ 10 at baseline, MCID ≥ 2; CDAI > 10 to ≤ 22 at baseline, MCID = 8; CDAI > 22 at baseline, MCID = 11.

^e MCID = 1.22.

^f LDA, CDAI ≤ 10.

Conclusions: In this real-world analysis, the effectiveness of TCZ for the improvement of RA disease activity was comparable among patients regardless of comorbidity burden or obesity.

Acknowledgements: This study is sponsored by Corrona, LLC. Corrona has been supported through contracted subscriptions in the last 2 years by AbbVie, Amgen, Boehringer Ingelheim, BMS, Celgene, Crescendo, Eli Lilly, Genentech, Gilead, GSK, Horizon Pharma USA, Janssen, Merck, Momenta Pharmaceuticals, Novartis, Pfizer Inc., Roche, UCB and Valeant.

Disclosure of Interest: D. Pappas Grant/research support from: AbbVie, Consultant for: AbbVie, Employee of: Corrona, LLC, C. Etzel Shareholder of: Corrona, LLC, Consultant for: Merck, Employee of: Corrona, LLC, M. Crabtree Employee of: Corrona, LLC, J. Best Shareholder of: Genentech, Inc., Employee of: Genentech, Inc, S. Zlotnick Shareholder of: Genentech, Inc., Employee of: Genentech, Inc, J. Kremer Shareholder of: Corrona, LLC, Consultant for: AbbVie, Amgen, Bristol-Myers Squibb, Eli Lilly and Company, Genentech, GlaxoSmithKline, Pfizer, Regeneron, Sanofi

DOI: 10.1136/annrheumdis-2018-eular.1740

THU0151 ASSESSMENT OF COMPLIANCE OF RHEUMATOID ARTHRITIS PATIENTS IN COGNITIVE DYSFUNCTION

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Background: Compliance decline may result in a decrease of treatment effectiveness in rheumatoid arthritis. RA patients had global cognitive impairment, which was associated with disease activity and immune changes.¹ Cognitive dysfunction may have a negative effect on the results of traditional methods of compliance assessment.

Objectives: Our aim was to develop the method of structured and algorithms interview to assess compliance and cognitive functions in patients with rheumatoid arthritis.

Methods: 240 patients fulfilling EULAR 2010 classification criteria for rheumatoid arthritis were examined. Pain in the joints was assessed using a visual analogue scale, the clock-drawing test was used, the structured and algorithms interview with clear determination of at least 3 levels of patient values was performed.²

Each patient chose the subject of the interview: compliance, pain or side effects of drugs. Subjective values that determine the choice and behaviour of the patient with dichotomy, for example, taking or missing drugs were revealed.

Results: 162 patients chose the theme of the interview concerning of pain, 50 patients chose the theme compliance with drug therapy, 38 patients - side effects of drugs. The criteria of cognitive dysfunction were the following: inability for the patient to determine subjective values influencing the process of decision-making, repeating one value with inability to build a value hierarchy, a limited number of the levels of the value hierarchy. The indirect criterion was the duration of the structured interview as the measure of patient's and interviewer's efforts. Cognitive dysfunction determined by the method of the structured interview was connected with the low score of the clock-drawing test. Compliance decline was noticed in the presence as well as in the absence of cognitive dysfunction. Determining values and their hierarchy may lead to the increase of patients' compliance.

Conclusions: The method of the structured and algorithms interview with the assessment of the hierarchy of values is used to assess compliance and cognitive functions in patients with rheumatoid arthritis as well as to reveal the ways to increase compliance.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4696

THU0152 SERUM PRESEPSIN AS A NOVEL BIOMARKER FOR BACTERIAL INFECTION IN RHEUMATOID ARTHRITIS PATIENTS TREATED WITH TOCILIZUMAB

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Background: Tocilizumab (TCZ), an inhibitor of interleukin-6 (IL-6), has been widely used to treat rheumatic diseases such as rheumatoid arthritis (RA) and juvenile idiopathic arthritis. Recently, TCZ was approved for use in patients with giant cell aortitis and Takayasu aortitis. However, TCZ treatment sometimes obscures changes in the conventional biomarkers for infection such as serum levels of C-reactive protein (CRP) and procalcitonin (PCT). Presepsin (P-SEP), a subtype of soluble CD14, has been recently identified as a biomarker for sepsis. In addition, we have reported the usefulness of P-SEP for the diagnosis of bacterial infection in RA patients because it is less affected by the disease activity.

Objectives: To examine the usefulness of P-SEP in RA patients complicated with bacterial infections during TCZ treatment.

Methods: In this study, 49 RA patients with bacterial infections (i+RA), 76 RA patients without bacterial infections (RA) and 23 healthy controls (HC) were enrolled. The presence of infection was strictly diagnosed by bacteriological examinations, typical clinical characteristics such as fever (38.0°C) and/or CRP elevation and/or increased white blood cell count, and improvements of these manifestations with antibiotics. Serum P-SEP levels were measured by an immunoassay. The CRP and PCT levels were measured simultaneously.

Results: The median serum P-SEP levels were 186.0 [interquartile range (IQR), 134.0-236.0], 691.0 [IQR, 345.5-842.0], 154.5 [IQR, 145.8-165.5] l,

and 161.0 [IQR, 146.5-166.0] pg/mL for TCZ (n=25), i+TCZ (pre-antibacterial treatment; n=7), i+TCZ (post-antibacterial treatment; n=7) and the HC group, respectively. The P-SEP levels of the i+TCZ group were significantly elevated compared with those of the TCZ group (p<0.001). The i+TCZ group displayed elevated P-SEP levels despite normal CRP and PCT levels. After antibacterial treatment, P-SEP levels of the i+TCZ group were significantly decreased (p=0.016).

Conclusions: These results suggest that serum P-SEP levels are less affected by TCZ treatment compared with other conventional inflammatory biomarkers such as CRP and PCT. Moreover, P-SEP levels are useful for the assessment of bacterial infections in RA patients treated with TCZ.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3914

THU0153 THE EFFECT OF 5-YEARS B-DMARDS TREATMENT ON DIFFERENT 10-YEARS CARDIOVASCULAR RISK SCORES APPLIED IN RHEUMATOID ARTHRITIS PATIENTS

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Background: Patients with rheumatoid arthritis (RA) have an excess risk of cardiovascular (CV) disease.

Objectives: We aimed to assess whether 5 years treatment with biologic DMARDs can impact on the 10 year CV risk assessed with different scores.

Methods: In this monocentric study we retrospectively evaluated data available at 2012 and 2017 to calculate the CV scores according to the Italian CV risk score Cuore project,¹ QRISK2-2017 score² and the score proposed by Solomon DH et al.³ Moreover, RA characteristics were registered and correlated to the risk scores at baseline and after 60 months of treatment with RA approved biologic agents. Any CV event was registered.

Results: 110 patients with RA treated for the first time with a bDMARDs, and no prior CV events were included (mean age 52±11.3 years; 80% women; median disease duration 36 months). During the evaluated period 47 (42%) patients switched to a different bDMARD, 10 (9%) patients stopped the treatment for side effects and 3 (2.7%) patients with high CV risk scores at baseline presented a CV event within 4 years (2 myocardial infarction and 1 stroke). At baseline we observed a mean CV risk of 3.69 (95% confidence interval [CI], 2.70-4.68) assessed as moderate by the Cuore project, 10.64 (95%CI 8.48-12.8) and 10.43 (95%CI 8.61-12.24) considered as high risk according to the QRISK2-2017 and Solomon's scores, respectively. After 5 years we recorded a significant increase in CV risk assessed by the Cuore project and the QRISK2-2017 score [4.20 (95% CI 3.23-5.18) and 13.12 (95%CI 10.72-15.53), respectively; p<0.001 vs