Acknowledgements: BIOREG is supported by an unlimited industrial grant

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7053

AB0262

SEARCHING PREDICTORS OF ABACEPT EFFICACY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Biologics have revolutionised the treatment of rheumatoid arthritis (RA). Several types of biologics are used in clinical practice, one of them is the blocker of T cells co-stimulation – abatacept (ABA). The search for predictors of biologics efficacy is an important issue in current rheumatology practice.

Objectives: To identify predictors of ABA efficacy based on the analysis of various serum biomarkers changes.

Methods: 44 RA pts with a history of previous DMARDs and biologics failures and 16 healthy donors as controls were included in the study. The majority of pts were females, RF-positive – 80%, anti-CCP-positive – 79.5%, mean age 49.6 ±13.9 years, median disease duration 21.4³ years, with high RA activity (mean DAS28=5.2±0.8). Enzyme-linked immunoassay was used to measure serum concentrations of biomarkers IL-1β, IL-6, IL-17AF, TNF-α, VEGF-A, IP-10, YKL-40, MMP3 at baseline and after 6 months of ABA therapy. Disease activity was assessed every 3 months using DAS28. ABA were administered IV according to standard schedule.

Results: RA pts had significantly increased levels of IL-6 (2.4 [1.1–6.4] vs 0.7 [0.62–1.0] pg/ml, p=0.0002), YKL-40 (97^{68,4–97,9} vs 64^{52,4–107,5} pg/ml, p=0.03), and IP-10 (21^{12,9–49,8} vs 14^{9,2–15,2} pg/ml, p=0.005) compared to the control group. By the 6-th month ABA significantly reduced the levels of IL-6 up to 1.29 [0.9–2.2] pg/ml, p=0.0006 and IP-10 – to 14^{7,5–28} pg/ml, p=0.007, as well as MMP3 and RF from 30.1^{13–82} to 10 [7.4–55] pg/ml, p=0.0003 and from 218 [9.6–187] to 159 [9.7–155] pg/ml, p=0.02, respectively. There was a significant correlation between the decrease of IL-6 (r=0.5) and IP-10 (r=0.32) levels and decrease of DAS28 scores (p<0.05). A trend to a more pronounced reduction in disease activity was identified in anti-CCP-positive and anti-MCV-positive pts. By EULAR criteria the percentage of no-responders among anti-CCP-negative and anti-MCV-negative was almost two times higher as compared to antibodies-positive pts, i.e., 27.2% vs 16% and 26.7% vs. 14.8%, respectively, although the difference failed to reach statistical significance. However, by 6 months the percentage of pts with high disease activity among anti-MCV-negative pts were significantly higher than among anti-MCV-positive (20% and 0%, p=0.03, respectively). Higher baseline IL-6 (p=0.03) and YKL-40 (p=0.02) levels were registered among non-responders to ABA therapy.

Conclusions: ABA therapy led to a significant reduction in concentrations of pro-inflammatory IL-6 and IP-10 cytokines, as well as of MMP3 and RF. The decrease of IL-6 and IP-10 levels significantly correlated with the decrease of RA activity. There was a trend towards more pronounced reduction of disease activity in anti-CCP-positive and anti-MCV-positive pts. High baseline IL-6 and YKL-40 levels were significantly more frequently registered among non-responders. Therefore, anti-MCV-negativity, high baseline levels of IL-6 and YKL-40 could be used as predictors of insufficient ABA efficacy in this category of pts. A small sample of pts is the major limitation of this study, requiring future studies.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3482

AB0263

TREND IN TUBERCULOSIS INFECTION INCIDENCE IN RHEUMATOID ARTHRITIS IN SPAIN: AN OBSERVATIONAL COHORT STUDY (1999–2015) (TREND-AR STUDY)

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Background: There have been important changes in the management of rheumatoid arthritis (RA) in the last 20 years, due to the incorporation of new drugs. An increase in the incidence of tuberculosis infection (TB) has been observed

because of reactivation of latent TB with the use of new treatments. Adequate prevention measures have been implemented.

Objectives: To analyse the incidence and trend of hospital admissions for TB in patients with RA in Spain during the period between 1999 and 2015.

Methods: This is a retrospective population based study. We analysed a national administrative database that includes a Minimum Basic Data Set (MBDS) of hospital admissions of patients with RA. Period: 1999 to 2015. The TB cases were identified by the presence in primary and secondary diagnosis of ICD 9 codes. The population at risk was estimated through the population census of the National Institute of Statistics, with an estimated prevalence of RA of 0.5%. The crude and adjusted rates of TB were calculated. The trend was analysed using Generalised Linear Models (GLM) using the year variable as the analysis variable.

Results: Among all the admissions of patients with AR (338.343), 1209 (0.35%) were due to TB, 665 (55%) in women and 544 (44.9%) in men. The mean age was 63.25 (SD 13.7). The mean of the Charlson index was 1.84 (SD 1.45), in women 1.63 (SD 1.3) and in men 2.09 (SD 1.59) (p<0.001).

There were a total of 94 (7.8%) deaths during admission (6.9% in women, 8.8% in men, p=0.231). The TB age-adjusted rate during the study period was 42.78/100.000 inhabitants RA-year (28.2 in women and 100.74 in men). The TB age-adjusted rate in both sexes remains without significant changes between 1999 and 2015 (IRR 0.225; CI95% 0.985–1.025). During the period 1999–2011 an increase of the incidence is observed, while in the period 2011–2015 it is observed a decrease of the same (fig 1).

Abstract AB0263 – Figure 1

Conclusions: Conclusion: In Spain, in patients with RA, the income rate in relation to tuberculosis increased from 1999 to 2010 and subsequently decreased in the period from 2011 to 2015.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4185

AB0264

TREND IN HOSPITAL ADMISSIONS IN RHEUMATOID ARTHRITIS IN SPAIN: A NATIONAL OBSERVATIONAL COHORT STUDY (1999–2015) (TREND-AR STUDY)

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Background: There have been significant changes in the management of rheumatoid arthritis (RA) during the past 20 years. The potential impact of these strategies on hospitalisation trend is unknown.

Objectives: To analyse the incidence and trend of hospital admissions in patients with RA in Spain from 1999 to 2015.

Methods: This is a population based study. We analysed a national administrative database that includes a Minimum Basic Data Set (MBDS) of hospital admissions of patients with RA during the period 1999–2015.

The admission cases in patients with RA were identified by the presence in primary and secondary diagnosis of the ICD9 codes (714.0–714.9). The population at risk was estimated through the population census of the National Institute of Statistics, with an estimated prevalence for RA of 0.5%, with crudes and adjusted admission rates being calculated. The trend was analysed using Generalised Linear Models (GLM).

Results: There were a total of 3 38 343 hospital admissions in RA patients during the study period, accounting for a total of 1 76 097 patients (1 17 985 women and 58 112 men). The mean age at admission was 68 years (67.8 in women and 68.5

in men), with a linear increase throughout the study period from 65.3 in 1999 until 70.5 in 2015 ($p<0.001$).

The main admission code was for Osteoarticular and connective tissue diseases (20%) followed by Circulatory system diseases (16.8%). There were a total of 18 641 intrahospital deaths (5.5% of all the admissions).

The age-adjusted admission rate was 12.03/100 RA patients*yr (9.12 for women and 1.88 for men). The age-adjusted admission rate increased from 1999 to 2015 (in both genders). An annual increase of admission rate of 3.7% is estimated. When adjusting by age, the largest increase is observed in patients older than 80 years, with an estimated annual increase of 7.5%.

Abstract AB0264 – Figure 1

Conclusions: In Spain, despite the improvement in RA management, there is a global tendency to the increase of admissions during the period of 1999–2015, mainly in >60 year, especially in >80 year.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4220

AB0265 CLINICAL PREDICTOR FACTORS ASSOCIATED WITH SUSTAINED DISEASE ACTIVITY AMONG PATIENTS WITH EARLY RHEUMATOID ARTHRITIS

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Background: In patients with rheumatoid arthritis (RA), low disease activity (DA) overtime is associated with favourable outcomes. However, the progression of the disease is faster during the first years. Therefore, it is desirable to identify patients with a high probability of sustained DA in an early stage.

Objectives: To identify clinical predictor factors at diagnosis associated with sustained DA after 12 months of follow up in patients with early RA.

Methods: Baseline (at diagnosis) and 12 months follow-up data from an early arthritis clinic was analysed. At both visits, demographic, clinical, laboratory and treatment data were collected and clinical DA was assessed using DAS28 and SDAI. For this study, patients with RA according to physician's diagnosis were selected. Sustained DA at 12 months was defined as DAS28 >3.2 and SDAI >11. Univariate and multivariable logistic regression models were employed to identify which factors are associated with sustained DA.

Results: In total, 566 patients were included. Out of these, 75.8% were women, 74.7% Caucasian, 77.7% RF + and 65.9% ACPA+. Mean (SD) age was 54¹⁷ years and mean symptoms duration was 16¹⁵ weeks. Regarding treatment, 89.8% patients received methotrexate as first line treatment and 81.1% received glucocorticoids. At baseline, 88.8% had moderate-high DA according to DAS28 (>3.2) and 77.6% with SDAI (>11). After one year of follow-up, 34% (DAS28) and 30.9% (SDAI) remained with moderate-high DA. Univariable logistic regression analysis results are shown in table 1. Sustained DA was significantly associated with baseline index and its individual components, HAQ, and GCs used for both indexes definitions, with smoking and MTX use for DAS28 definition and RF + for SDAI definition. In the multivariable analysis, sustained DA at 12 months remained significantly associated only with baseline DAS28 (OR 1.34; $p<0.05$) for DAS28 definition and with RF (OR 2.6; $p=0.02$), HAQ (OR 1.06; $p<0.01$) and use of glucocorticoids (OR 2.1; $p<0.05$) for SDAI definition.

Abstract AB0265 – Table 1. Univariable logistic regression analysis results

Baseline characteristics	DAS28		SDAI	
	OR	P value	OR	P Value
Age	1.00	0.6	0.03	1.02
Sex (women)	1.64	0.06	0.599	1.14
Tabaco	0.66	0.1	1.12	0.690
Nonsmokers (ref)	0.58	0.05	1.08	0.804
Past smokers				
Smokers				
RF (+)	1.61	0.09	0.444	0.007
ACPA (+)	0.685	0.1	0.691	0.14
DAS28	1.5	<0.001		
SDAI			1.00	0.008
HAQ	1.05	0.001	1.07	<0.001
ESR	1.01	0.001	1.01	<0.001
PCR	1	0.804	1.0	0.91
Pain	1.02	<0.001	1.01	<0.001
Patients Global Assessment	1.01	<0.01	1.01	0.002
Evaluator Global	1.02	<0.001	1.02	<0.001
Assessment				
Swollen Joint count 28	1.07	<0.001	1.07	<0.001
Tender Joint Count 28	1.07	<0.01	1.06	<0.001
Methotrexate use	8.2	<0.05	2.4	0.02
Glucocorticoids use	1.8	<0.05	2.7	<0.001

Conclusions: One out of three patients with RA maintains DA 12 months after diagnosis. The predictors for this status depend on the index employed: DAS28 at baseline is the best predictor for sustained disease activity when using DAS28-definition. Conversely, positive RF, impaired functionality and the need of glucocorticoids at baseline are associated with the SDAI-definition.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3543

AB0266 ESTIMATION OF CEREBROVASCULAR REACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a chronic autoimmune disease with high cardiovascular risk. Arterial hypertension (AH) is the most common comorbid condition in RA and one of the main risk factors for stroke. Chronic immune inflammation, characteristic of RA, also has a damaging effect on the vascular wall and can lead to a marked decrease in the compensatory possibilities of the cardiovascular system. It has been shown that the violation of cerebrovascular reactivity (CVR) significantly increases the risk of developing acute cerebral ischemia

Objectives: The goal is to study the condition of the CVR in RA patients, depending on the level of blood pressure (BP)

Methods: the study involved 70 patients with RA at the age of 59,2±7,3 years with the duration of RA 13±8,9 years were examined. The DAS28 index was 3.87 ±1.33. Depending on the level of blood pressure, two groups were isolated: group 1 (n=56) – patients with hypertension and group 2 (n=14) – with normal blood pressure. CVR was assessed by means of transcranial dopplerography of middle cerebral arteries (MCA) using hyperoxic (inhalation of 100% oxygen, phase of vasoconstriction) and hypercapnic (inhalation of 4% of a mixture of carbon dioxide with air, phase of vasodilation) of samples.

Results: The result showed that 15 (27%) patients of the I group and 3 (21%) – the II group had an adequate decrease in the linear velocities of the blood flow (LVBF) in the MCA. An insufficient reduction in hypervascular hypertension was found in 28⁵⁰% and 8 (57%) patients, a paradoxical increase in the LVBF (perverse reaction) in 12 (21,4%) and 4 (28,5%) patients, respectively. In a hypercapnia trial, only about a third of patients registered an adequate increase in LVBF for hypercapnia. A decrease in the response occurred in 27 (48%) and 9 (61%) patients, excessive increase in LVBF (hyperergic reaction) – in 15 (26%) and 2 (14%) patients, respectively

Conclusions: There was a violation of the CVR on metabolic (hyperoxic and hypercapnic) stimuli based on the results of transcranial dopplerography of most RA patients, regardless of the level of blood pressure

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