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	AR	Control	Value-P
Age - Mean	58.54	55.14	0.064
Systemic Arterial Hypertension	31.42	20.00	0.274
Diabetes Mellitus (DM)	5.71	11.42	0.238
Dyslipidemia (DLP)	25.71	20.00	0.569
Total Cholesterol	196.11	183.54	0.134
Low Density Lipoprotein (LDL)	115.05	108.08	0.348
High-Density Lipoprotein Cholesterol (HDL)	57.94	52.57	0.109
Smoking	5.71	2.08	0.380

Table 1. Group characteristics

Figure 1. USD abnormalities

IMT - intima-media thickness; AP atherosclerotic plaques

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.2523

FRI0061

THE ADVERSE OBSTETRIC OUTCOMES WHEN RHEUMATOID ARTHRITIS IS CONTROLLED DURING PREGNANCY: IS THE DISEASE ITSELF A PROBLEM? DATA FROM A CASE-CONTROL COHORT OF 190 PREGNANCIES AT A MULTI-NATIONALITY SPECIALIZED CENTER IN QATAR

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Background: Rheumatoid arthritis is implicated in causing adverse pregnancy outcomes including high rates of prematurity and low birth weight. But little is known about the impact of the disease when it's controlled as most of the information is extracted from retrospective data.

Objectives: To examine the adverse obstetric outcomes after controlling disease during pregnancy. We also took into account many confounders that might affect the outcome.

Methods: This is an ongoing Case-Control Prospective Cohort. It is implemented in a tertiary center where cases are recruited from a single specialized pregnancy and rheumatic disease clinic to ensure standardized management. These cases were fulfilling the ACR 2010 classification criteria for rheumatoid arthritis. Disease activity was measured using CDAI once before pregnancy and once in each trimester. We excluded subjects with chronic morbidities or twin pregnancy. Data were collected in pre-specified data sheets. Routine blood tests in addition to C-reactive protein were obtained. Cases were recruited at different disease activity stages, but treatment was escalated to reach remission as possible by the third trimester. Data were analyzed using SPSS software for descriptive and comparative analyses.

Results: Since 2017 we have recruited 215 subjects. A total of 190 completed pregnancies were analyzed in this report (114 controls and 76 cases). Five subjects were excluded as their disease was not controlled by 27 weeks of gestation. Baseline characteristics of age, baseline BMI and anemia were similar. Exposure to passive smoking was significantly higher in the control group. There was no statistical difference in the incidence of gestational diabetes,

pre-eclampsia and infections. Rates of abortions and cesarean sections were significantly higher in the cases group. The incidence of PROM & low birth weight was not statistically different. Three cases of IUFD were reported among controls versus none in the cases (Table 1). Prematurity rate was numerically higher in the control group but did not reach a statistical difference. Congenital anomalies and NICU admission rates were comparable between the groups. But the incidence of neonatal morbidities was significantly higher in the control group (p. value 0.006), but the majority of morbidities were due to jaundice that resolved with phototherapy. We have evaluated the incidence of group B streptococcal Agalactae as a possible contributor to morbidities but it was similar between the groups. All cases were on DMARDs during pregnancy. Hydroxychloroquine was the most commonly used (55%) followed by sulfasalazine (40%). Steroid was used for variable duration in pregnancy in 23 cases. In most of them, it was tapered and stopped by the end of pregnancy. Biologics were used in 15 cases with few adverse outcomes including: abortion (1 case), PROM (1), maternal UTI (1), repeated URT infection (1) and neonatal bronchiolitis (1).

Table 1. Birth Outcomes

Birth Outcome	Cases (n)	Controls (n)	Pvalue
Abortion	9	1	0.001
IUFD	0	3	0.18
PROM	1	8	0.09
Cesarean	20	17	0.02
LBW	6	8	0.68
Premature	8	25	0.74

Conclusion: From this ongoing cohort we conclude that controlled RA during pregnancy carries low risk of adverse obstetric outcomes in spite the regular use of DMARDs. Although these results are reassuring, further regression models are required after recruiting more subjects.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.6073

FRI0062

THE USE OF A COMORBIDITY INDEX FOR PREDICTING CLINICAL RESPONSE IN RHEUMATOID ARTHRITIS PATIENTS RECEIVING THEIR FIRST BIOLOGICAL AGENT

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Background: Several studies in Rheumatoid arthritis (RA) have suggested that a greater number of comorbidities is associated with worse functional status and disease activity measures. However, it is useful to use a composite comorbidity index, such as Rheumatic Disease Comorbidity Index (RDCI) that is validated for the use in patients with rheumatic diseases, to better understand the overall role of comorbidities in treatment outcomes.

Objectives: To evaluate the impact of comorbidities on 12-month clinical response in a cohort of patients with RA treated with a first-line biologic disease-modifying antirheumatic drug (bDMARD), by using the RDCI.

Methods: Observational retrospective study was performed including consecutive patients with the diagnosis of RA followed at our Rheumatology Department. The prevalence of comorbidities was computed, and patients were stratified according to RDCI for evaluating its role in clinical response disease activity at baseline and follow up (6 and 12 months). Correlations between variables were studied using Spearman correlation analysis, comparison between groups was performed using Kruskal-Wallis and Chi-square. A multivariate logistic regression model was developed to examine the role of RDCI along with other baseline factors as potential predictor of achieving remission, low disease activity (LDA), and EULAR good/moderate response. Statistical analyses were performed using SPSS statistical software, version 23.0.

Results: A total of 251 patients were included: 83.7% (n=210) females, mean age of 58 (± 11.10) years old, with a median disease duration of 16.11 years [10.79 - 23.04]. The majority exhibited a very high or high disease activity at

baseline (median DAS28 3V 5.48 [4.70 – 6.19]) and 90% (n=226) of them were concomitantly using corticosteroids and/or other disease-modifying anti-rheumatic drugs (129 with methotrexate (MTX), 96 with leflunomide and 35 with sulfasalazine). The most frequently reported comorbidities were cardiovascular disorders (37.5%), osteoporosis (7.6%) and depression (6.8%). The median RDCI score was 1.0 [0.0 – 2.0] and the majority of patients (63.6%) carried at least one comorbidity. When comparing baseline demographic and clinical characteristics of the 4 subgroups, stratified according to RDCI score (RDCI=0, 1, 2, or ≥ 3), we found statistically significant differences in age, age at diagnosis, sex and the prescribed anti-TNF agent ($p < 0.05$). There was a progressive increase in the mean age as the RDCI score increased between the subgroups.

RDCI strongly correlates with the number of comorbidities (NC) ($r = 0.764$, $p < 0.01$). NC was weakly correlated with patient and physician global assessment of disease activity (pVAS and phVAS) ($r = 0.183$, $p < 0.01$ and $r = 0.196$, $p = 0.019$, respectively), DAS28 3V ($r = 0.192$, $p = 0.046$) and HAQ-DI ($r = 0.301$, $p < 0.01$) at 6 months. Moreover, RDCI poorly correlated with CRP ($r = 0.192$, $p = 0.01$), pVAS ($r = 0.183$, $p = 0.02$) and HAQ-DI ($r = 0.202$, $p < 0.01$). Weaker correlations were also found at 12 months: NC with pVAS ($r = 0.196$, $p = 0.02$), DAS28 3V ($r = 0.216$, $p = 0.01$) and HAQ-DI ($r = 0.187$, $p = 0.04$); RDCI with phVAS ($r = 0.196$, $p = 0.04$).

The 12-month DAS28 remission rate was 37.8% (n=95); 6.7% (n=17) achieved EULAR good response and 54.4% (n=137) a moderate EULAR response. RDCI was not an independent predictor of DAS remission (OR 0.794, 95% CI 0.561-1.125, $p = 0.194$) nor it was of EULAR good/moderate response (OR 0.720, 95% CI 0.430-1.206, $p = 0.212$).

Conclusion: Although our data point to a weak association between morbidities, assessed by the RDCI, and response to a first bDMARD, it is important to consider this simple and useful tool in future prospective and broader studies, since information bias regarding comorbidities may have been responsible for our results.

Disclosure of Interests: Salomé Garcia: None declared, Bruno Miguel Fernandes: None declared, Georgina Terroso: None declared, Miguel Bernardes Speakers bureau: Abbvie, Amgen, Biogen, Eli-Lilly, Glaxo-Smith-Kline, Pfizer, Janssen, Novartis, Lúcia Costa: None declared

DOI: 10.1136/annrheumdis-2020-eular.2836

FRI0063

LEVEL OF N-TERMINAL FRAGMENT OF BRAIN NATRIURETIC PEPTIDE PROGENITOR AND ATHEROSCLEROTIC DAMAGE OF BRACHIOCEPHALIC ARTERIES IN PATIENTS WITH EARLY AND LONG-STANDING ACTIVE RHEUMATOID ARTHRITIS

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Background: The high prognostic significance of the N-terminal fragment of the B-type natriuretic peptide (NT-proBNP) concentration in the development of cardiovascular diseases (CVD) was identified for rheumatoid arthritis (RA) patients (pts) and general population.

Objectives: To investigate the significance of NT-proBNP levels in pts with early untreated and long-standing RA with high disease activity; to identify potential relationship of NT-proBNP levels with atherosclerotic lesion of the brachiocephalic arteries (BCA), traditional risk factors and inflammatory markers.

Methods: A total of 227 RA pts (76% females, 24% males, 55 [46;61] years old, moderate to high activity (DAS28-5.3[4.6;6.3], SDAI-27[22;35]), positive for ACCP (73%)/RF (87%),) were enrolled in the study: 136 pts with early RA (disease duration ≤ 12 months) and 91 pts with long-standing RA (> 12 months). All early RA pts were not treated with glucocorticoids and disease-modifying anti-rheumatic drugs (DMARDs). Long-standing RA pts already developed the lack of efficacy/resistance and/or intolerance of DMARDs. Lack of efficacy of 3 or more DMARDs was established in 46% of pts, intolerance to previous DMARDs therapy - in 54% pts. 73% were receiving methotrexate, 21% - leflunomide, 7% - sulfasalazine, 46% glucocorticoids. Pts with early and long-standing RA were comparable in terms of age, sex, body mass index and RA activity rates (DAS28, SDAI, erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels). High incidence of traditional risk factors was found in early and long-standing RA pts: the incidence rate of arterial hypertension (58%vs68%), overweight (58%vs61%), smoking (27%vs17%), DM type 2 (4%vs7%) were not significantly different. Pts with congestive heart failure were not include in the study. The control group consisted of 20 healthy donors, matched to pts by age and sex. Serum levels of NT-proBNP (pg/mL) were measured using electrochemiluminescence test Elecsys proBNP II (Roche Diagnostics, Switzerland). NT-proBNP levels > 125.0 pg/mL were considered as elevated. The

BCA intima-media thickness (IMT) was assessed by duplex ultrasound scanning. Atherosclerotic lesion of BCA was documented in the presence of plaque (IMT ≥ 1.2 mm).

Results: The NT-proBNP levels were significantly higher in RA pts than in the control group (median 92.1 (48.2-164.7) pg/mL vs 55.3 (36.6-67.3) pg/mL, $p < 0.05$). Pts with early RA had higher NT-proBNP levels (118.9 (60.2-201.3) pg/ml) than pts with long-standing RA (73.4 (43.0-114.3) pg/ml, $p < 0.001$). Elevated NT-proBNP concentrations were found in 71 (52%) early RA pts vs 21 (23%) pts with long-standing RA ($p < 0.01$). Atherosclerotic lesion of the BCA was detected in 73 (54%) pts with early RA and in 37 (41%) pts with long-standing RA ($p > 0.05$). The NT-proBNP levels correlated with age ($r = 0.51$, $p < 0.001$), CRP (0.23, $p = 0.001$) and IMT of BCA ($r = 0.46$, $p = 0.03$) in RA pts. Aforementioned correlations were significantly remained for both groups of RA pts. Association between IMT of BCA and CRP concentrations was not found.

Conclusion: NT-pro-BNP levels are higher in pts with active RA than in control subjects. Early untreated RA pts had a higher NT-proBNP levels than pts with disease duration > 12 months and resistance or intolerance of DMARDs. The increased concentration NT-pro-BNP (> 125 pg/ml) were found in half of pts with early untreated RA and every fourth pts with long-standing active RA. NT-proBNP concentration correlated with CRP level in pts with active RA. Correlation between NT-pro-BNP concentrations and IMT of BCA may be indicative of possible impact of this biomarker on atherosclerotic damage of BCA in pts with early and long-standing active RA.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.5172

FRI0064

SAFETY OF LOW DOSE METHOTREXATE (MTX) AND TUBERCULOSIS (TB)

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Background: Increased awareness of the importance of MTX in rheumatic disease is leading to more MTX use in patients from TB-endemic areas. Current management guidelines for rheumatic disease address TB in the context of biologics but not MTX use.

Objectives: To systematically review the published literature on TB rates with MTX ≤ 30 mg per week.

Methods: We searched CINAHL, Embase, Global, MEDLINE and World of Science databases (Jan 1990 to May 2018) for terms including 'methotrexate' and 'tuberculosis'. We also searched citations from review articles. Titles, abstracts or full manuscripts of the 4707 reports identified were screened independently by 2 reviewers to identify studies reporting TB in patients taking MTX. Study quality was assessed using the McGill Mixed Methods Appraisal Tool (MMAT). Data was extracted on TB incidence (new TB diagnosis vs reactivation of latent TB), and outcomes (pulmonary, dissemination, death) and safety of isoniazid, INH. Descriptive summaries are presented on studies providing outcomes in patients taking MTX ≤ 30 mg per week.

Results: After removing duplicates and studies not meeting criteria or providing sufficient information, 31 studies were included (8 cohort, 7 case-control, 1 clinical trial, 15 case reports/case series). Only 27% of articles reported data from low to moderate human development index countries. Studies were of moderate quality. Seven case control studies were heterogeneous but most demonstrated a modest increased risk of TB with MTX (Table). Five cohort studies reported TB incidence rates in rheumatic disease (treated with MTX +/- biologics) ranging from 102-367.9/100,000 patient-years. These rates were generally higher than comparator general population rates. Two cohort studies of MTX in RA (without biologic) reported cumulative TB incidence in Maldives (12 TB cases in 44 RA patients, 27%) and in China (9/114, 7.9%). Other cohort studies generated rates of overt infection (143/100,000 patient years in Spain, higher if co-prescribed with corticosteroids and other immunosuppressants in South Africa), and latent TB rates detection (16/922 RA screened, 1.7%, in Canada). When reported, rates of extra-pulmonary TB were higher than comparator general population rates. One clinical trial (China), 2 cohorts (Japan, USA) and 2 case-series (Belgium, USA) evaluated safety of INH and MTX. Isoniazid-related hepatotoxicity and neutropenia were generally more common when taken with MTX, but were usually reversible.

Conclusion: Despite a paucity of high-quality data, this review confirms that TB screening and clinical surveillance are needed in patients from TB-endemic areas who are prescribed MTX, particularly with co-administration of corticosteroids or other immunosuppressants. Isoniazid, if monitored, appears safe and prevents TB reactivation.