Conclusion: Among patients with knee or hip OA in our setting, current SES is a significant predictor of functional status, quality of life and disability, while childhood SES – best modeled by maternal education – is a significant predictor of quality of life. More research is needed to elucidate the relationship of SES throughout the life course with outcomes among patients with OA.

REFERENCES:

- [1] Ben-Shlomo Y, Kuh D. *Int J of Epidemiol*. 2002; 31(2): 285–293.
- [2] Luong M-LN, et al. *Aging Health*. 2012;8(4):413–37.
- [3] Baldassari AR, et al. *BMC Musculoskelet Disord*. 2013;14(1).
- [4] Baldassari AR, et al. *Arthritis Care Res*. 2013;65(8):1334–42.
- [5] Gutiérrez JP, et al. *Salud Pública México*. 2015;57(4):298.
- [6] López Alonso SR, et al. *Aten Primaria*. 2009;41(11):613–20.
- [7] Espinoza-Cuervo G, et al. *Reumatología Clínica*. 2014;10(14):201–274.
- [8] González VM, et al. *Arthritis Rheum*. 1995;38(10):1429–46.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.8278

FRI0662

ACTIVATION AND LEUKOCYTE ADHESION IS ASSOCIATED WITH VASCULAR DAMAGE IN PATIENTS WITH RHEUMATOID ARTHRITIS AND PSORIATIC ARTHRITIS

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Background: Patients with inflammatory rheumatic diseases, such as rheumatoid arthritis (RA) or psoriatic arthritis (PsA), have a higher cardiovascular risk than the general population. There are data in other pathologies about the role of leukocyte adhesion on endothelial damage.

Objectives: To evaluate the relationship between leukocyte adhesion and subclinical vascular damage in patients with RA and PsA.

Methods: Observational, cross-sectional exploratory study. Patients with RA and PsA who had at least one previous vascular study were recruited in a tertiary hospital during a period of 3 months. All of them donated a sample of fresh blood. Neutrophils were isolated and perfused on a monolayer of healthy endothelial cells of the umbilical cord vein to evaluate its degree of activation, determining the leukocyte adhesion parameter. The expression of different adhesion molecules was analyzed by flow cytometry. We also gathered demographic (sex, age, BMI), clinical (disease duration, classical CV risk factors) and analytical (CRP, ESR) variables. The previous vascular study consisted of an exploration of the extracranial carotid tree with an Esaote MyLab70XVG ultrasound scanner with a linear probe (7–12MHz) and an automated program for measuring the carotid intima-media thickness (CIMT) using ("Quality Intima media thickness in real-time, QIMT"), the presence of atheroma plaques as per the Mannheim consensus and the measurement of pulse wave velocity (VOP) using the Mobil or graph® device. We consider as pathological the vascular study with the presence of abnormal plaque and/or IMT (> 900µm) and/or VOP (≥ 10m/s). The statistical analysis was performed with the SPSS Statistics 22.0 program.

Results: We included 27 patients, 18 women and 9 men, with a mean age of 58.07 (SD 11.64). Eight patients were diagnosed with RA and 19 with PsA, with mean disease duration of 14 years (SD 7.14). Of these 27 patients, 15 were on biologics, 11 were treated only with DMARDs and one patient was naïve for any immunomodulatory treatment. In addition, 14 (51.9%) were taking NSAIDs and 7 (25.9%) glucocorticoids. Regarding cardiovascular risk factors, 51.9% were exposed to tobacco, 25.9% suffered hypertension, 37% were dyslipidemic, 11% were diabetic and 11% were obese, with an average of 1.41 classic cardiovascular risk factors (SD 1.36) per patient. The previous vascular study had been considered pathological in 44.4% of the patients.

A tendency to greater leukocyte adhesion was observed in those patients with pathological IMT values ($p = 0.059$) and in those patients who presented atheromatous plaque ($p = 0.66$). No significant associations were found in relation to the rest of the adhesion parameters analyzed, nor could subanalysis be performed due to the small sample size.

Conclusion: Our preliminary data suggest that an increase in leukocyte adhesion on the endothelium is involved in the mechanisms of subclinical

atherosclerosis in patients with RA and PsA. Studies with a larger sample size will allow us to confirm these findings, as well as the factors implicated in their development.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.7755

FRI0663

TREATMENT WITH BIOLOGIC DRUGS OF PREGNANT WOMEN WITH AUTOIMMUNE DISEASE, EXPERIENCE OF A REFERENCE CENTER IN HIGH RISK PREGNANCY AND AUTOIMMUNE DISEASES

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Background: Autoimmune diseases predominantly affect women of child-bearing age. These women must be without clinical activity before conception, which is usually achieved thanks to immunosuppressive drugs. Also, information on new drugs does not include their possible effects on pregnancy because pregnant women are usually excluded from clinical trials.

Objectives: The aim of the study is to evaluate the safety of biological drugs (BD) in pregnant patients with different autoimmune diseases (AD).

Methods: Patients were prospectively followed in a reference Spanish center for high-risk pregnancies and AD. Follow-up was performed by a multidisciplinary team with at least one obstetrician and one expert clinician in autoimmune diseases. Females exposed to BD during the periconceptional period or during pregnancy were included in the study. Obstetric and neonatal outcomes were assessed.

Results: Between 2015 and 2018 we identified 37 exposed pregnancies in 35 women affected by different AD. At the start of pregnancy, 18 patients were taking infliximab, 11 adalimumab, 3 natalizumab, 2 rituximab, 1 etanercept y 1 tocilizumab.

The AD that required BD were Crohn's disease (20 patients, 54.1%), ulcerative colitis (7, 18.9%), rheumatoid arthritis (4, 10.8%), ankylosing spondylitis (3, 8.1%) and multiple sclerosis (3, 8.1%).

Regarding pregnancies, 5 (13.5%) had left the BD just before the pregnancy. Of these, 1 remained stable and 4 (80%) had a flare during pregnancy requiring restart of BD. Of the 32 pregnancies who took the BD during pregnancy, 8 (25%) abandoned the treatment after knowing the pregnancy, meaning that 2 of them flared; 10 (31.5%) continued with the treatment until the end of the second trimester (week 25-26) and 14 (43.7%) continued during the third trimester, 4 of them kept the drug during the entire gestation due to disease activity.

In our study there was a positive correlation between preconceptional abandonment of the BD and the risk of presenting a flare ($p=0.003$), specially in the first and second trimesters ($p=0.024$). However, no relationship was found between BD and infections in the newborn ($p>0.05$), nor between each of the BD with the risk of infections.

Preconceptional treatment reduced the risk of flare (OR 0.545, 95%CI) and the risk of maternal complications (OR 0.5, 95%CI). Indeed, the presence of a flare during pregnancy increased the risk of maternal complications (OR 2.0, 95%CI).

Pregnancies under BD were compared to healthy controls adjusted by age finding no differences in the preterm delivery rate ($p>0.05$), in the induction rate of delivery ($p>0.05$) nor in the cesarean section rate ($p>0.05$).

Conclusion: In our series, the use of preconceptional BD and/or during pregnancy is not associated with an increase of maternal or fetal complications. However, fewer flares were observed. This may imply that BD can be a good tool for the treatment of women of childbearing age since control of the disease resulted in better maternal-fetal outcomes. However, more studies are needed to determine the usefulness and safety of these treatments during pregnancy.

REFERENCES:

- [1] Götestam Skorpen C, et al. The EULAR points to consider for use of anti-rheumatic drugs before pregnancy, and during pregnancy and lactation. *Ann Rheum Dis*. 2016 May;75(5):795–810.
- [2] Alijotas-Reig J, et al. Treatment with immunosuppressive and biologic drugs of pregnant women with systemic rheumatic or autoimmune disease. *Med Clin (Barc)*. 2016 Oct 21;147(8):352–360.
- [3] Bazzani C, et al. Prospectively-followed pregnancies in patients with inflammatory arthritis taking biological drugs: an Italian multicentre study. *Clin Exp Rheumatol*. 2015 Sep-Oct;33(5):688–93.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.5063

FRI0664 DISEASE ACTIVITY IS THE MAJOR DISCRIMINATOR WHEN DEFINING REFRACTORY RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is characterised by the presence of a progressively destructive joint inflammation. Even in times of modern therapeutics, a subgroup of patients continues to be refractory to numerous consecutive therapeutic interventions with regards to control of inflammation and joint damage. To date, there exists no definition for refractory RA.¹

Objectives: To explore different modifications of a definition for refractory RA.

Methods: Here we defined the base case of refractory RA as patients who had experienced ≥ 3 treatment courses (with at least one biological failure) over a minimum of 18 months since first treatment initiation (to avoid counting treatment courses that were given for a too short period), and the lack of reaching the treatment goal of low disease activity or remission (defined by a Clinical Disease Activity Index, CDAI, >10). We then modified our working definition based on these four variables (disease duration: 12/18/24 months; disease activity: moderate/high; number of treatment courses: $\geq 3/\geq 4$; different biologic agents: $\geq 1/\geq 2$).

Last clinical visit ≥ 6 months ago + Disease duration ≥ 18 months n=664	Moderate disease activity (CDAI >10) n=129	≥ 3 failed treatment courses n=82	≥ 1 failed biologic agent n=68
		≥ 4 failed treatment courses n=64	≥ 2 failed biologic agents n=58
	High disease activity (CDAI ≥ 22) n=31	≥ 3 failed treatment courses n=21	≥ 1 failed biologic agent n=17
		≥ 4 failed treatment courses n=15	≥ 2 failed biologic agents n=13
	Low disease activity (CDAI ≤ 10) n=535	≥ 3 failed treatment courses n=15	≥ 1 failed biologic agent n=10
		≥ 4 failed treatment courses n=10	≥ 2 failed biologic agents n=7

Results: From our clinic's ongoing longitudinal data set we identified 68 refractory patients out of 688 RA outpatients. There was virtually no difference based on modifying disease duration, so we kept our working definition of a minimum disease duration of at least 18 months (n=464; 12 months: n=466; 24 months: n=453). Changing the disease activity component of the definition had a great impact on the identified refractory RA population, by requiring high instead of moderate disease activity (MDA: CDAI >10 , n=129 vs. HDA: CDAI ≥ 22 , n=31). In both, the MDA and the HDA group of patients, we could observe $\geq 60\%$ of patients, who already experienced at least three treatment courses (MDA, n=82/129; HDA, n=21/31). Above a half in each group qualified as refractory also with the criterion of an addition fourth failed treatment course (MDA, n=64/129; HDA, n=15/31). When further stratifying patients based on the number of failed different biologic DMARDs, we could observe that regardless of the level of disease activity and number of failed treatment courses, most patients experienced at least one or even a second biologic agent (table).

Conclusion: The level of disease activity is the major discriminator when defining a population of refractory RA. The duration of treatment does not significantly impact the identification of refractory RA. The number of failed treatment courses and insufficient responses to biologic DMARDs further helps characterizing patients with refractory RA. Considerations of the impact of these different characteristics of refractory disease may well inform future criteria for refractory RA.

REFERENCES:

- [1] Winthrop KL, Strand V, van der Heijde D, Mease P, Crow M, Weinblatt M, et al. The unmet need in rheumatology: Reports from the targeted therapies meeting 2017. *Clin Immunol*. 2017.

Disclosure of Interests: Manuel Becede: None declared, Josef S. Smolen Grant/research support from: AbbVie, Eli Lilly, Janssen, MSD, Pfizer Inc, Roche, Consultant for: AbbVie, Amgen, AstraZeneca, Astro, Celgene, Celtrion, Eli Lilly, GlaxoSmithKline, ILTOO, Janssen, Medimmune, MSD, Novartis-Sandoz, Pfizer Inc, Roche, Samsung, Sanofi, UCB, Speakers bureau: AbbVie, Amgen, AstraZeneca, Astro, Celgene, Celtrion, Eli Lilly, GlaxoSmithKline, ILTOO, Janssen, Medimmune, MSD, Novartis-Sandoz, Pfizer Inc, Roche, Samsung, Sanofi, UCB, Daniel Aletaha Grant/research support from: AbbVie, Bristol-Myers Squibb, and MSD, Consultant for: AbbVie, Bristol-Myers Squibb, Eli Lilly, Janssen, Medac, Merck, MSD, Pfizer Inc, Roche, and UCB, Speakers bureau: AbbVie, Bristol-Myers Squibb, Eli Lilly, Janssen, Medac, Merck, MSD, Pfizer Inc, Roche, and UCB

DOI: 10.1136/annrheumdis-2019-eular.5746

FRI0665 THE ROLE OF CLINICAL JOINT INFLAMMATION AND ACUTE PHASE RESPONSE ON STRUCTURAL PROGRESSION OF PATIENTS WITH PSORIATIC ARTHRITIS

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Background: Psoriatic arthritis (PsA) belongs to the group of the spondyloarthropathies. It is associated with psoriasis and typically seronegative for autoantibodies. PsA disease activity can be measured using the Disease Activity in Psoriatic Arthritis (DAPSA) score which is based on both clinical (e.g., swollen joint count, SJC) and systemic (e.g., C-reactive protein, CRP) markers of inflammation. [1] However, the impact of clinical and systemic inflammation on structural progression is unclear.

Objectives: To determine the contribution of clinical and systemic inflammation on structural progression of patients with PsA.

Methods: In a secondary data analysis, we analyzed patient data from the IMPACT 2 trial of infliximab (INF) vs. placebo (PLC) in patients with established PsA (disease duration in years: INF: 7.5 ± 7.8 , PLC: 8.4 ± 7.2). Concomitant methotrexate treatment was allowed but not mandatory in both treatment arms. [2] We obtained modified Sharp-van-der-Heijde scores from X-rays performed at baseline and after one year to compute radiographic progression. We further extracted levels of SJC and CRP and calculated time-averaged SJC (taSJC) and CRP (taCRP) values to reflect the clinical and systemic inflammation, respectively. In a multivariable binary logistic regression model, we assessed the impact of taSJC, taCRP, and their interaction, on structural progression. Next, we divided patients into different subgroups depending on their taSJC and taCRP levels into active (+) or inactive (-). We tested whether radiographic progression was different in taSJC+ vs. taSJC- and taCRP+ vs. taCRP- using the Mann-Whitney U test.

Results: 200 patients were enrolled in the IMPACT 2 trial (100 INF, 100 PLC). 151 patients were included in the analyses (76 PLC, 75 INF). Due to drop out or missing data, the remaining 49 patients were not considered for further analyses. Patients in the INF arm showed no radiographic progression (-1.16 ± 3.96), while patients in the PLC arm showed little progression (0.74 ± 2.98). We therefore focused on the 76 PLC patients. Despite the small overall progression, taSJC, taCRP, and their interaction were associated with radiographic progression (OR for taSJC: 1.24, CI 95%: 1.04-1.47, p=0.016; OR for taCRP: 6.08, CI 95%: 1.12-33.03, p=0.036; interaction term: p=0.097). Radiographic progression was higher in taSJC+ patients compared to taSJC- patients (1.05 ± 3.21 and 0.56 ± 2.30 , respectively; p=0.016), as well as numerically higher without statistical significance in taCRP+ vs. taCRP- patients (1.14 ± 3.23 and 0.05 ± 2.37 , respectively; p=0.532). Also, despite the limited power of subgroup analyses, there was evidence that SJC activity plays a role in CRP-patients (p=0.076), whereas CRP activity seems to be of less importance SJC- patients (p=0.643).

Conclusion: In patients with PsA, both clinical and systemic inflammation have impact on structural progression; in patients without systemic inflammation, clinical joint activity may still be considered as a risk factor for progression.

REFERENCES:

- [1] Schoels M, Aletaha D, Funovits J, et al. Application of the DAREA/DAPSA score for assessment of disease activity in psoriatic arthritis. *Ann Rheum Dis* 2010;69:1441-7. Doi: 10.1136/ard.2009.122259
- [2] Antoni C, Krueger GG, de Vlam K, et al. Infliximab improves signs and symptoms of psoriatic arthritis: results of the IMPACT 2 trial. *Ann Rheum Dis* 2005;64:1150-7. Doi: 10.1136/ard.2004.032268