while ii) poor baseline function as reflected by a higher health assessment questionnaire (HAQ) score was predictive of CVE with an AHR of 5.2 (95% CI 1.2-23). Conclusion: ERA patients treated by a T2T strategy did not develop excess CVE compared to CV risk factor-matched controls over 5 years. A longer disease remission duration was protective while a higher baseline HAQ was associated with a higher CVE risk.

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OP0104
DIFFERENCES IN LOW-DENSITY LIPOPROTEIN (LDL) PARTICLE COMPOSITION AND OXIDATION MAY UNDERLIE THE PARADOXICAL ASSOCIATION OF LOW LDL WITH HIGHER CORONARY ATHEROSCLEROSIS BURDEN IN RHEUMATOID ARTHRITIS

G. Karpouzas1,2, S. Ormseth1, E. Hernandez2, M. Budoff1. Harbor-UCLA Medical Center, Rheumatology, Torrance, United States of America; The Lundquist Institute, Rheumatology, Torrance, United States of America; The Lundquist Institute, Cardiology, Torrance, United States of America

Background: The association between cholesterol and cardiovascular disease (CVD) risk is attenuated in Rheumatoid arthritis (RA). In fact, RA patients in the lowest low-density lipoprotein (LDL) group (<70mg/dl) may experience unexpectedly high CVD risk.

Objectives: We here explored whether patients with LDL<70mg/dl (Group 1) had higher coronary atherosclerosis burden compared to other LDL groups (Group 2: 70mg/dl<LDL<130 and Group 3: LDL>130), as a reason for this risk. We further evaluated whether low LDL in group 1 associated with differences in inflammation, LDL particle composition or oxidation.

Methods: One hundred fifty RA patients without symptoms or history of CVD underwent coronary atherosclerosis evaluation with computed tomography angiography. Coronary artery calcium (CAC), number of segments with plaque (segment involvement score), stenotic severity (segment stenosis score); and extensive (>4 segments with plaque) or obstructive disease (>50% stenosis) were assessed. Lipoprotein classes and subclasses were directly measured.

Results: Group 1 patients had higher coronary plaque burden (Figure 1A) and 2.8 times greater risk of extensive or obstructive disease (adjusted OR 2.82 [95% CI 1.12-7.17], P = 0.031) compared to LDL>70 groups. Among statin naïve patients, those with LDL<70 also had higher oxLDL (log-transformed adjusted mean 2.55 [95% CI 2.34-2.77] versus 2.27 [95% CI 2.19-2.36], P = 0.018 for LDL>70). Notably, Group 1 patients also had higher anti-oxLDL IgG and anti-ApoB100 IgG icl levels compared to other groups (Figure 1B). LDL subclass relative content in the LDL particle differed across groups (Figure 1C). Apo(a) was higher in LDL particles in Group 1 (adjusted mean 16.04% [95% CI 11.75-20.33], versus 10.48% [95% CI 8.20-12.75] in Group 2, P = 0.026 and 7.41% [95% CI 0.77-14.04] in Group 3, P = 0.033). Notably, LDL particle content strongly associated with oxLDL (r = 0.83, P < 0.0001). This association was stronger for Group 1 compared to others (P = 0.005, Figure 1D).

Conclusion: RA patients with LDL<70mg/dl had higher coronary atherosclerosis burden. Low circulating LDL in that group may reflect higher oxidation; this was mostly linked to the larger LDL particle content of LDL and its significantly higher oxidation potential in that group. OxLDL immune recognition was linked to higher IgG anti-oxLDL Ab and anti-ApoB100 ICL levels in the LDL<70 group, which further associated with higher IL-6 elaboration and atherosclerosis burden.

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OP0105
FEASIBILITY AND USEFULNESS OF MAPPING BIOLOGIC REGISTRIES TO A COMMON DATA MODEL: ILLUSTRATING USING COMORBIDITIES

L. Kearney-Peet1, K. Hyrich2,3, M. Schafer2, D. Huschek3, A. Stringfeld4, J. Zavada5, M. Lagova5, D. Courvoisier5, C. Teilenbach6, K. Lauper7, C. Sánchez-Piedra8, N. Montero8, J. T. Sánchez-Costa8, D. Pfeito-Añabrandt8,9, E. Burn10,11,12. 1 The University of Manchester Centre for Epidemiology Versus Arthritis, Manchester, United Kingdom; 2Manchester University NHS Foundation Trust, Manchester, Manchester Academic Health Science Centre, Manchester, Manchester National Institute of Health Research Manchester Biomedical Research Centre, Manchester, United Kingdom; 3German Rheumatism Research Center (DRFZ Berlin), Epidemiology and Health Care Research Unit, Berlin, Germany; 4Institute of Rheumatology, Prague, Czech Republic; 5Institute of Biostatistics and Analyses Ltd, Brno, Czech Republic; 6University Hospitals of Geneva, Division of Rheumatology, Geneva, Switzerland; 7Swiss Clinical Quality Management in Rheumatic Diseases, Zurich, Switzerland; 8Spanish Society of Rheumatology, Madrid, Spain; 9Universitat Autonoma de Barcelona and Instituto de Salud Carlos III, GREMIPAL Research Group, Idiap Jordi Gol and CIBERFes, Barcelona, Spain; 10University of Oxford, NDOMS, Oxford, United Kingdom; 11Fundació Institut Universitari per a la recerca a l’Atenció Primària de Salut Jordi Gol i Gurina, IDIAP-Gol, Barcelona, Spain

Background: The Observational and Medical Outcomes Partnerships (OMOP) common data model (CDM) provides a framework for standardising health data with a view towards federated analyses, thus maximising the use and power of combining disparate datasets.

Objectives: To assess feasibility and usefulness of mapping biologic registry data from different European countries to the OMOP CDM and present initial descriptive data regarding comorbidities.

Methods: Five biologic registries, as part of a funded FOREUM project, have been mapped to the OMOP CDM: 1) the Czech biologics register (ATTRA), 2) Registro Español de Enfermedades Artrógenas y Musculoesqueléticas (RESTAR), 3) British Society for Rheumatology Biologics Register for Rheumatoid Arthritis (BSRBR-RA), 4) German biologics register ‘Rheumatoid arthritis observation of biologic therapy’ (RABBIT), and 5) Swiss register ‘Swiss Clinical Quality Management in Rheumatic Diseases’ (SCQM). The mapping includes socio-demographic, observation period within the studies, baseline comorbidities, and baseline medications. Only patients with RA were included. Using R, registers received identical scripts to run on their mapped databases to produce an initial description of patient characteristics without the need to share patient-level data.

Results: A total of 54,458 individuals are included the five registries being mapped to the OMOP CDM, see table. Age and gender distribution was similar across registries. All registers reported on cardiovascular system comorbidities, diabetes mellitus, mental disorders, and respiratory system comorbidities. However, it was noted that results of comorbidity mapping relies on what each registry collects by patient at the point of registration.

Whilst the Charlson comorbidity index could be calculated within each registry, due to lack of the specific coding needed, such as “uncomplicated diabetes mellitus” / “end-organ damage diabetes mellitus,” it was felt to be an inaccurate