but detailed lipid profiling has been lacking in very early disease and across the spectrum of disease activity.

**Objectives:** In a treatment naïve early RA trial cohort, we sought to compare circulating lipid profiles between patients treated with first line etanercept + methotrexate (ETN+MTX) versus methotrexate treat-to-target (MTX-TT) regime and between clinical remission and high disease activity.

**Methods:** VEDERA trial (Very early Etanercept and Methotrexate versus Methotrexate with/without Delayed Etanercept in RA) randomised 120 treatment naïve RA patients to either first-line ETN+MTX or MTX- TT regime with escalation to ETN+MTX if not in DAS28ESR remission at week 24. TC, triglycerides (TG), high density lipoprotein (HDL) and LDL were measured; apolipoproteins and atherogenic indices such as TC/HDL, atherogenic index of plasma (AIP) and apolipoprotein B/A-I ratio (aporatio) were calculated at baseline, weeks 12, 24 and 48. Linear mixed effects regression was used to test the effect of treatment on lipids and atherogenic indices in states of remission (DAS28-ESR ≤ 2.6) and high disease activity (DAS28-ESR > 5.1).

**Results:** Baseline clinical characteristics of individuals and lipid profiles including atherogenic indices were comparable between the two treatment groups (Table 1).

<table>
<thead>
<tr>
<th>Total, N = 120</th>
<th>MTX- TT, N = 60</th>
<th>ETN+MTX, N = 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC</td>
<td>4.69 (4.03,5.25)</td>
<td>4.70 (4.05,5.42)</td>
</tr>
<tr>
<td>TG</td>
<td>1.15 (0.90,1.41)</td>
<td>1.18 (0.92,1.32)</td>
</tr>
<tr>
<td>HDL</td>
<td>1.28 (1.04,1.53)</td>
<td>1.29 (1.04,1.57)</td>
</tr>
<tr>
<td>LDL</td>
<td>2.87 (2.23,3.27)</td>
<td>2.87 (2.23,3.19)</td>
</tr>
<tr>
<td>TC/HDL</td>
<td>1.36 (1.13,1.60)</td>
<td>1.36 (1.13,1.55)</td>
</tr>
<tr>
<td>AIP</td>
<td>0.62 (0.54,0.70)</td>
<td>0.62 (0.54,0.70)</td>
</tr>
</tbody>
</table>

In clinical remission, a lowering of atherogenic indices and TC, TG, LDL levels as well as a rise in predicted HDL levels were observed. In high disease activity, both HDL and LDL were increased along with the atherogenic indices TC/HDL, AIP and aporatio. However, the predicted values at different weeks did not reach statistical significance (not shown).

Treatment with MTX- TT and ETN+MTX had opposing effects on predicted HDL levels in remission and high-disease activity (Figure 1). In remission, MTX- TT treatment resulted in a predicted rise in HDL whilst with ETN+MTX a small reduction was observed (estimate 0.004, p = 0.02). Similar trends were observed for HDL in high disease activity (p = 0.5). In remission, both treatments resulted in a reduction in LDL (p = 0.5), whilst in high disease activity ETN+MTX treatment resulted in a modest rise in LDL compared to MTX- TT (p = 0.06). At weeks 24 and 48, significant differences were observed in LDL values between treatment groups in high disease activity (estimate 0.57, p = 0.05 and estimate 1.13, p = 0.04 respectively).

**Conclusion:** Effect of early ETN treatment on HDL, and to a lesser extent LDL, differs from MTX and is modulated by clinical disease activity. Further investigations is needed to understand the basis for these findings and the clinical implication of observed differences in LDL and HDL. These data may indicate direct effect of therapies on the qualitative and functional components of metabolic lipid pathway.

**REFERENCES:**


**Disclosure of Interests:** None declared

**DOI:** 10.1136/annrheumdis-2022-eular.4904

**Table 1. Baseline lipids (mmol/L) and atherogenic indices in VEDERA. Median with interquartile range and n (%) reported.**

**Recent advances in orphan rheumatic diseases**

**POS0214**  
**CORONARY MICROVASCULAR DYSFUNCTION IN PATIENTS WITH RHEUMATOID ARTHRITIS AND DIABETES MELLITUS: A CROSS-SECTIONAL STUDY WITH 13NH3 MYOCARDIAL PET/CT**

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**Background:** Patients with rheumatoid arthritis (RA) are at increased risk of cardiovascular disease. This risk is similar to that of diabetes mellitus (DM). There have been no studies comparing the coronary microvascular dysfunction associated with coronary flow reserve (CFR) of RA patients to both patients with DM and a control group (patients without RA, without DM and no cardiovascular event).

**Objectives:** To assess the difference in coronary microvascular dysfunction in patients with RA in comparison to patients with DM and control group.

**Methods:** From our 13NH3 myocardial PET/CT registry we included all patients that were included from December 2013 until March 2019. A total of 33 patients with RA, 299 patients with DM and 179 control patients (patients without RA and without DM) were analyzed. Myocardial blood flow was quantified at rest and under stress induced by administrating adenosine. Coronary flow reserve was calculated by dividing MBF under stress by MBF in rest. CFR < 2 was indicative for coronary microvascular dysfunction.

**Results:** The mean age of patients was 66, with more females in the RA and control group vs the DM group (67% and 69% vs 48% respectively). The total MBF, under adenosine administration, measured in RA patients was higher than DM patients albeit that this did not reach statistical significance (2.26 ± 0.69 vs 2.21 ± 0.70, p = 0.08). When compared to controls, the MBF of RA patients was significantly lower (2.94 ± 0.44 vs 2.26 ± 0.70, p < 0.001). The coronary flow reserve (CFR) of patients with RA was similar to patients with DM (2.20 ± 0.69 vs 2.21 ± 0.70 mL/min/g, p = 0.977). The CFR of the control group was significantly higher than those of the RA patients (3.03 ± 0.64 vs 2.20 ± 0.69 mL/min/g, p < 0.000) and of the DM patients (3.03 ± 0.64 vs 2.21 ± 0.70 mL/min/g, p < 0.000). 42% of RA- and 38% of DM patients had coronary microvascular dysfunction, compared to 4% in the control group.

**Conclusion:** Our results indicate an impaired coronary blood flow in both patients with RA and DM in similar levels. Both patient groups had significantly more coronary microvascular dysfunction.

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**Figure 1:** Predicted trends in HDL and LDL in remission (left) vs high disease activity in MTX- TT and ETN- MTX groups

**Conclusion:** Effect of early ETN treatment on HDL, and to a lesser extent LDL, differs from MTX and is modulated by clinical disease activity. Further investigations is needed to understand the basis for these findings and the clinical implication of observed differences in LDL and HDL. These data may indicate direct effect of therapies on the qualitative and functional components of metabolic lipid pathway.

**REFERENCES:**


**Disclosure of Interests:** None declared

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**Recent advances in orphan rheumatic diseases**

**POS0215**  
**PHENOTYPES AND DISEASE CHARACTERISTICS OF IG44-RELATED DISEASE IN NORWAY**

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**Background:** Milestones in the field of IgG4-related disease (IgG4-RD) include the 2011 Comprehensive Diagnostic Criteria (CDC) (1), the 2019 ACR/EULAR classification criteria (2), and the recent identification of four distinct clinical phenotypes (3). Performance of the criteria and phenotypic disease expression in Scandinavian populations are largely unknown.