Results: The differences between group was investigated by Mann-Whitney test. Normal levels of CRP (routine assessment, normal levels <4 mg/L) as well as cIMT and presence of carotid plaques had the highest levels of aggregates (p=0.003 and p=0.037, respectively).

Background: In gout patients the extent of monosodium urate (MSU) crystal deposition can be quantified by ultrasound. Gout may be associated with atherosclerotic disease which might be related to low-grade inflammation. Calprotectin is a major granulocyte protein reflecting the level of systemic inflammation.

Objectives: To explore whether the extent of MSU crystal deposition is associated with low grade systemic inflammation as assessed by calprotectin/C-reactive protein (CRP) and with carotid pathologies in asymptomatic gout patients.

Methods: The baseline data from NOR-GOUT, a prospective study of patients with gout in inter-critical periods, was used. Patients with crystal-proven gout with increased serum urate levels (>360 μmol/L), were selected with low grade systemic inflammation as assessed by calprotectin/C-reactive protein (CRP) and with carotid pathologies (OMERACT definitions; double contour (DC), tophi and aggregates) with bilateral assessment of wrist, MCP2, knee, ankle, MTP1 and claw toes.

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Results: A total of 202 gout patients without flare were included (95.5% men, mean (SD) age of 56.5 (13.8) years, 79 (7.7) years since first flare). The mean (SD) sum score of DC was 4.4 (3.5), tophi 6.6 (6.6), aggregates 9.3 (5.6), calprotectin 801 (525) μg/mL, CRP 7 (14) mg/L and serum urate (SUAs) 499 (77) μmol/L. Linear regression analyses were performed in 122 (60.4%) of the patients. Significant correlations were found between the MSU depositions and the inflammatory markers as well as cIMT. The 27% patients with increased calprotectin had the highest levels of each of the three lesion types (p<0.001) (Figure), and the 39% with elevated CRP levels had the highest levels of tophi and aggregates (p<0.05). The 18% with increased thickness of cIMT and the 53% patients with carotid plaque had the highest levels of aggregates (p=0.003 and p=0.037, respectively).

Conclusion: In asymptomatic gout patients, higher load of MSU crystal depositions was associated with increased levels of inflammatory markers, cIMT and presence of atherosclerotic plaques in the carotid arteries. This may indicate that crystal depositions cause subclinical inflammation with subsequent systemic implications, but future longitudinal studies are needed to confirm such causal relationships.

Disclosure of Interests: Hilde Berner Hammer Speakers bureau: AbbVie, Lilly and Novartis, Silvia Rollefstad: None declared, Gro Jensen: None declared, Lars Karoliusoen: None declared, Lene Terslev Speakers bureau: Speakers fee from AbbVie, Jansen, Roche, Novartis, Pfizer, MSD, BMS and GE, Espen A Haavardsholm: None declared, Tore K. Kvien: Speakers bureau: Tore K Kvien has received fees for speaking and/or consulting and/or research funding to Diakonhjemmet Hospital from AbbVie, Biogen, BMS, Celltrion, Egis, Evapharma, Ewpoharma, Eli Lilly, Gilead, Hikma, MSD, Mylan, Novartis, Oktal, Pfizer, Sanofi, Sanoﬁ and UCB. Anne Grete Semb: None declared, Till Uhlig: None declared

DOI: 10.1136/annrheumdis-2021-eular.3758

Table 1. Relative Risk of Gout by Quintiles of DASH and Western Diet Score, Stratified by Mean GRS

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Below Mean</th>
<th>Above Mean</th>
<th>P Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>21</td>
<td>36</td>
<td>46</td>
<td>52</td>
<td>58</td>
<td>27</td>
<td>49</td>
<td></td>
</tr>
</tbody>
</table>
| Person-Years | 47397 | 49348 | 47837 | 47589 | 45283 | 45529      | 47937      | 47357         | 4644785
| Age-Adjusted RR | 1.00 (ref) | 1.49 (0.86, 2.66) | 1.26 (0.71, 2.33) | 1.71 (1.00, 2.93) | 2.22 (1.31, 3.74) | 1.00 (ref) | 1.21 (0.85, 1.74) | 1.98 (0.97, 2.51) | 1.32 (0.82, 2.12) | 0.89 (0.50, 1.59) | 0.61 (0.34, 1.09) | 1.0 (ref) | 1.0 (0.73, 1.37) | 0.85 (0.63, 1.17) | 0.51 (0.33, 0.76) | 0.68 (0.49, 0.96) | 0.73 | 0.69 |

*Adjusted for age (continuous), menopause, use of hormone therapy (never, past or current), history of hypertension, systolic and diastolic blood pressure (continuous), alcohol (continuous), total energy intake (continuous), and intake of meat, seafood, and dairy foods (continuous).

**For linear regression analyses, significant correlations were found between the MSU depositions and the inflammatory markers as well as cIMT. The 27% patients with increased calprotectin had the highest levels of each of the three lesion types (p<0.001) (Figure), and the 39% with elevated CRP levels had the highest levels of tophi and aggregates (p<0.05). The 18% with increased thickness of cIMT and the 53% patients with carotid plaque had the highest levels of aggregates (p=0.003 and p=0.037, respectively).

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DOI: 10.1136/annrheumdis-2021-eular.290

Table 2. Relative Risk of Gout by Quintiles of DASH and Western Diet Score, Stratified by Mean GRS

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Below Mean</th>
<th>Above Mean</th>
<th>P Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>27</td>
<td>49</td>
<td>51</td>
<td>21</td>
<td>22</td>
<td>75</td>
<td>89</td>
<td>90</td>
</tr>
<tr>
<td>Person-Years</td>
<td>39208</td>
<td>47247</td>
<td>57277</td>
<td>34953</td>
<td>56764</td>
<td>39815</td>
<td>45853</td>
<td>55401</td>
</tr>
<tr>
<td>Age-Adjusted RR</td>
<td>1.00 (ref)</td>
<td>1.43 (0.89, 2.29)</td>
<td>1.22 (0.76, 1.96)</td>
<td>0.8 (0.45, 1.42)</td>
<td>0.5 (0.28, 0.88)</td>
<td>1.00 (ref)</td>
<td>0.97 (0.72, 1.33)</td>
<td>0.79 (0.58, 1.07)</td>
</tr>
</tbody>
</table>

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