Background: Biologics have improved several clinical, patient-reported and radiological outcomes in patients with rheumatoid arthritis (RA), but little is known about the potential impact on the need for joint replacement surgery.

Objectives: To investigate the incidence of joint replacement surgery among biologics treated with biologics naïve patients with RA.

Methods: A nationwide, register-based propensity score matched cohort study. RA patients registered between 2006 and 2016 in the DANBIO register with a disease duration ≤ 2 years were identified. Patients initiating their first treatment series with biologics were followed up to 10 years for a first joint replacement of the hip, knee, shoulder, elbow and finger/wrist.

Results: In total, 1187 biologics treated were matched with 3666 non-biologics treated RA patients. Further, subgroup analyses based on within-strata propensity score matched patients were carried out. All information on surgical outcomes was obtained in the Danish National Patient Registry.

Abstract THU0059 – Table1. Baseline characteristics of biologics treated and biologics naïve patients with rheumatoid arthritis and a disease duration < 2 years registered in DANBIO between 2006 and 2016.

<table>
<thead>
<tr>
<th></th>
<th>Biologics treated</th>
<th>Biologics naïve</th>
<th>SMD</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Total</td>
<td>1187</td>
<td>3666</td>
<td>1.40</td>
</tr>
<tr>
<td>Female, n (%)</td>
<td>828 (70)</td>
<td>2546 (69)</td>
<td>0.01</td>
</tr>
<tr>
<td>Age at start of follow-up, mean (s.d)</td>
<td>53.8 (13.5)</td>
<td>54.1 (15.1)</td>
<td>0.02</td>
</tr>
<tr>
<td>Age at diagnosis, mean (s.d)</td>
<td>52.7 (13.5)</td>
<td>52.9 (15.1)</td>
<td>0.02</td>
</tr>
<tr>
<td>IgM-RF and/or ACA positive at start of follow-up, n (%)</td>
<td>866 (58)</td>
<td>2042 (56)</td>
<td>0.04</td>
</tr>
<tr>
<td>DAS28-CRP</td>
<td>4.5 [3.6 to 5.4]</td>
<td>4.5 [3.4 to 5.4]</td>
<td>0.03</td>
</tr>
<tr>
<td>HAG-DI</td>
<td>1.00 [0.50 to 1.50]</td>
<td>1.00 [0.50 to 1.50]</td>
<td>0.00</td>
</tr>
<tr>
<td>CRP mg/ml</td>
<td>9.3 [3 to 22]</td>
<td>9.3 [3 to 20]</td>
<td>0.02</td>
</tr>
<tr>
<td>VAS physician global</td>
<td>32 [16 to 49]</td>
<td>30 [16 to 50]</td>
<td>0.04</td>
</tr>
<tr>
<td>VAS pain</td>
<td>53 [31 to 73]</td>
<td>52 [30 to 74]</td>
<td>0.01</td>
</tr>
<tr>
<td>Methotrexate, n (%)</td>
<td>1044 (88)</td>
<td>3160 (86)</td>
<td>0.06</td>
</tr>
<tr>
<td>Glucocorticoid, n (%)</td>
<td>246 (21)</td>
<td>718 (20)</td>
<td>0.04</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease, n (%)</td>
<td>168 (5)</td>
<td>57 (5)</td>
<td>0.01</td>
</tr>
<tr>
<td>Cardiovascular disease, n (%)</td>
<td>322 (9)</td>
<td>97 (8)</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Hospitalised with infection in previous 5 years, n (%) | 126 (4) | 43 (4) | 0.01|

Abstract THU0059 – Figure 1

Conclusion: In this nationwide Danish cohort study, there was no difference in the incidence of joint replacement surgery among newly diagnosed RA patients selected for treatment with biologics compared with patients naïve to biologics.

REFERENCES:

Disclosure of Interests: René Cordtz: None declared, Samuel Hawley: None declared, Daniel Prieto-Alhambra Grant/research support from: Grants from Amgen, UCB Biopharma and Servier outside the submitted work, Consultant for: UCB Biopharma, Speakers bureau: Amgen, Lars Erik Kristen2 Grant/research support from: UCB, Biogen, Janssen Pharmaceuticals, and Novartis, Consultant for: Consultant for AbbVie, Amgen, Biogen, BMS, Celgene, Eli Lilly, Janssen Pharmaceuticals, MSD, Novartis, Pfizer, Roche, Sanofi, and UCB Pharma., Speakers bureau: Pfizer, Abb-Vie, Amgen, UCB, BMS, Biogen, MSD, Novartis, Eli Lilly and Company, and Janssen Pharmaceuticals, Søren Overgaard: None declared, Anders Odgaard: None declared, Lene Dreyer Consultant for: MSD, UCB and Janssen Pharmaceuticals, Speakers bureau: UCB, MSD and Janssen Pharmaceuticals.

Methods: Synovial tissue (ST) were sampled by Parker-pearson needle biopsy from 67 RA patients who had completed one year follow-up from a prospective RA cohort. ST from 13 patients with orthopedic arthropathies (Orth. A) with arthroplasty or arthroscopy were used as control. Expression of MUC1 in ST was assessed by immunohistochemistry (IHC). Radiographic assessments of hand/wrist at baseline and month 12 were performed with the Sharp/van der Heijde-modified sharp score. Radiographic joint damage (RJD) was defined as total modified Sharp score (mTSS) >10. Radiographic progression (RP) was defined as a change of mTSS more than 0.5 units.

Results: 1. Both nuclear and cytoplasmic MUC1 expression were observed in lining and sublining cells of synovium. The percentage of MUC1+ lining cells was significantly higher in RA (median 65.4%, IQR 53.6% 73.2%) than that in Orth. A (median 43.1%, IQR 3.4% 68.4%, P <0.05).
2. Thirty-five (52%) RA patients showed RJD at baseline and their MUC1expression in lining layer was significantly enhanced compared with RA patients without RJD (median 69.6%, IQR64.5% 76.8% vs. median 58.9%, IQR 39.8% 67.9%, P <0.01). Spearman’s rank order correlation test showed significantly positive correlations between the percentage of MUC1+ lining cells with mTSS, joint space narrowing (JSN) subscore and joint erosion (JE) subscore at baseline (r =0.303–0.426, all P < 0.05).
3. Furthermore, twenty-two(33%) patients suffered from one-year RP and they showed significantly higher percentage of MUC1+ lining cells than non-progressive patients (median 71.2%, IQR 55.2% 75.2% vs. median 64.1%, IQR 55.2% 75.2%, r < 0.01).

Conclusion: Our results suggest that higher serum adiponectin levels predict the development of RA in subjects with overweight/obesity.

REFERENCES:


THU0061

IN OVERWEIGHT SUBJECTS, SERUM ADIPONECTIN PREDICTS THE DEVELOPMENT OF RHEUMATOID ARTHRITIS INDEPENDENTLY OF OTHER ADIPOKINES

Yuan Zhang1, Linda Johansson2, Anna Rudin1, Lena Carlsson3, Solbritt Rantapää Dahlqvist2, Cristina Maglio1.

Background: Adipokines, such as adiponectin, leptin, resistin and visfatin, are cytokines produced by the adipose tissue and involved in metabolism and inflammation1. Adiponectin is elevated in both serum and synovial fluid of subjects with rheumatoid arthritis (RA), suggesting a possible role of this adipokine in the pathogenesis of RA 2,3. Circulating levels of leptin, resistin, and visfatin are also higher in subjects with RA compared to controls.

Objectives: Aim of this study was to determine if adiponectin, leptin, resistin, and visfatin predict the development of RA.

Methods: Two nested-case control studies were performed including pre-symptomatic participants of two cohorts from Sweden: the Swedish Obese Subjects (SOS) study and a cohort of individuals identified within the Medical Biobank of Northern Sweden. The SOS is a clinical trial including 4047 subjects with obesity 6. During a follow-up for up to 29 years, 92 subjects developed RA. Among those 92 subjects, 82 subjects with available serum at baseline were matched 1:5 with 410 subjects who did not develop RA during follow-up. Matching was based on baseline age, sex, body-mass index (BMI), bariatric surgery yes/no, year of inclusion, and smoking. A nested case-control study of 88 sex- and age-matched pairs was performed within the Medical Biobank of Northern Sweden using blood samples donated before the onset of the first RA symptoms. The pre-dating time before onset of symptoms of RA was 8.5±5.0 years7.

Baseline serum levels of adiponectin, leptin, resistin, and visfatin were measured using the Quantikine ELISA kit from R&D Systems (Wiesbaden, Germany). Visfatin could not be measured in the Biobank cohort, due to lack of serum. Both binary logistic as well as conditional logistic regression analyses were used to determine if adipokines were elevated years before the onset of RA.

Results: In a multivariable analysis including adiponectin, leptin, resistin, visfatin performed in the SOS cohort, serum adiponectin was associated with a higher risk for RA independently of other adipokines (Odds ratio, OR, 1.1, 95% confidence interval, CI 1.0-1.1, p value=0.01). Leptin, resistin and visfatin levels were not associated with the risk of RA. In the Biobank cohort, no association between adipokines and risk for RA was detected. However, when stratifying the population according to BMI, in the subgroup having BMI≥25 (n=109), adiponectin levels were associated with higher risk for RA (OR 1.2, 95% CI 1.0-1.36, p=0.03), independently of leptin and resistin levels. Virtually the same results were obtained in both the SOS and the Biobank cohorts when conditional logistic regression analysis was used.

Conclusion: Our results suggest that higher serum adiponectin levels predict the development of RA in subjects with overweight/obesity.

REFERENCES:


THU0062

THE DYSREGULATION OF NK CELLS AND NON-CLASSICAL AND CLASSICAL MONOCYTE SUBPOPULATIONS IN INDIVIDUALS AT RISK OF DEVELOPING RHEUMATOID ARTHRITIS

Klára Pražírová1, Olga Krystíková1, Petra Hánovíč2, Hana Hulejová2, Monika Gregová1, Karel Pavelka1, Jiří Venclovs1, Ladislav Šeno1, Mária Filková1. 1. Institute of Rheumatology and Department of Rheumatology, First Faculty of Medicine, Charles University, Prague, Czech Republic; 2. Institute of Rheumatology, Prague, Czech Republic.

Background: Antibodies against citrullinated proteins (ACPAs) are present months to years before the clinical manifestation of rheumatoid arthritis (RA). ACPA+ individuals are at 8-10x higher risk of developing RA compared to seronegative individuals. ELAR characterised individuals with arthritis suspicious for progression to RA based on their clinical features (clinically suspect arthralgia, CSA).

Objectives: The alteration of natural killer (NK) cells and monocyte subpopulations in patients with established RA has been previously described. We therefore aimed to study the lymphocyte and monocyte subpopulations in individuals in the preclinical phase of RA.

Methods: Our study included 49 individuals with arthralgia (mean age 45.9±11.95 years; 92% females) and 80 age and gender matched healthy controls (HC). Leukocytes from peripheral blood were analysed by flow cytometry. Lymphocyte subpopulations were defined as B (CD19...