Abstract SAT0080 – Figure 1. Earlier Use of High Doses of poMTX and scMTX in 2nd Time Period Resulted in More Reaching RA Treatment Targets

Conclusions: This 10 year Canadian prospective study of classifiable/probable RA patients, who were assessed for 1 year suggests that earlier, more intensified treatment promoted in practice recommendations were implemented and resulted in lower disease activity with a greater proportion of patients reaching targets of LDA and/or REM, although 25%–30% of patients still did not achieve LDA or REM by 12 M.


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SAT0081 CHANGES IN INCIDENCE OF SHOULDER, ELBOW, WRIST AND FINGER REPLACEMENT SURGERY AMONG RHEUMATOID ARTHRITIS PATIENTS FOLLOWING THE INTRODUCTION OF BIOLOGICAL DMARDS: AN INTERRUPTED TIME SERIES ANALYSIS USING DANISH HEALTH CARE REGISTERS


Background: We have previously shown that the incidence rate of total knee replacements started to decrease among rheumatoid arthritis (RA) patients following the introduction of biological DMARDs, but less is known on the impact of bDMARDs on the need for joint replacements (JR) of the upper limbs.

Objectives: To investigate the association between bDMARD introduction for the treatment of patients with RA on the trends of upper limb JR among newly diagnosed RA patients compared with a matched general population cohort (GPC).

Methods: Nationwide register-based interrupted time-series analysis using the Danish National Patient Register and Civil Registration System. Study population: incident RA patients diagnosed at a rheumatology or general internal medicine clinic/department from 1996–2010. Intervention: introduction of bDMARDs in Denmark in 2002. Comparison: Each RA patient was matched on age, sex and municipality with up to 10 non-RA individuals (GPC). Outcome: Composite outcome of first shoulder, elbow, wrist, or finger replacement surgery (JR).

Statistical analyses: 5 year age- and sex-standardised incidence rates of JR calculated for incident RA patients diagnosed biannually compared with GPCs. Outcome trends in the pre-bDMARD era (1996–2001) were compared with those in the bDMARD era (2003–2015) with a 1 year lag period in 2002.

Results: From 1996 to 2010, 26 458 incident RA patients were identified and compared with 257,505 GPCs (Table). The JR incidence rate was stable among RA patients in 1996–2001, but started to decrease from 2003 and onwards. Among GPCs, the incidence rate increased throughout the study period. Stepwise backward elimination to produce most parsimonious model: p-entry <0.05 and p-exit >0.2

* △ per year based on biannual data. Abbreviations: yrs, person years

Conclusions: Following the introduction of bDMARDs, the incidence rate of upper limb JR started to decrease among RA patients, whereas the incidence rate steadily increased from 1996–2015 among matched GPCs. The baseline incidence rate was 7-fold higher among RA patients than GPCs, but the absolute need for upper limb JR was low in both groups.

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SAT0082 OSTEOPONTINE AND OSTEOPROTEGERINE AS MARKERS OF ALTERED PRECLINICAL BONE METABOLISM IN RHEUMATOID FIRST DEGREE RELATIVES

E. Soliman1, M. Zehairy2, A. Aly2, K. Mattarawy2, A. alhadydi2. 1Internal Medicine, Rheumatology and Clinical Immunology; 2Faculty of Medicine; 3medical research, Alexandria, Egypt

Background: First degree relatives (FDR) of RA are known to have increased risk of developing the disease. The detection of altered bone metabolism in FDR could be a predictor of the preclinical phase of the disease.

Objectives: To study osteopontine (OPN) and osteoprotegrine (OPG) in FDR of RA patients as markers of altered bone metabolism in relation to clinical manifestations, inflammatory and RA seromarkers.

Abstract SAT0081 – Table 1. Changes in 5-year incidence rate of upper limb joint replacements (JR) in incident rheumatoid arthritis (RA) patients following introduction of biological DMARDs in 2002 compared with secular trends in a matched general population cohort (GPC).

<table>
<thead>
<tr>
<th>Cohort</th>
<th>N</th>
<th>Mean age at start of follow-up</th>
<th>Females, n (%)</th>
<th>n JR PYRS</th>
<th>Baseline incidence rate/1000 pyrs</th>
<th>△ per year* 1996–2001</th>
<th>△ in level 2003</th>
<th>△ per year* 2003–2015</th>
<th>Absolute/relative △ at midpoint in bDMARD era (mid-2006) compared with counterfactual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA</td>
<td>26358</td>
<td>58.9 years</td>
<td>18 691 (71%)</td>
<td>295 1 238 814</td>
<td>2.65 (2.27–3.04)</td>
<td>-</td>
<td>-0.10</td>
<td>+0.01</td>
<td>-0.44 (-0.49 to –0.39)/–17%</td>
</tr>
<tr>
<td>GPC</td>
<td>2 57 505</td>
<td>58.4 years</td>
<td>1 82 192 (71%)</td>
<td>377 1 152 052</td>
<td>0.11 (0.04–0.17)</td>
<td>0.03</td>
<td>+0.03</td>
<td>+0.03</td>
<td>No change</td>
</tr>
</tbody>
</table>

Note: △ per year based on biannual data. Abbreviations: yrs, person years.
Methods: 55 persons were included, divided into 20 RA patients, 25 FDR of RA patients (without evidence of arthritis) and 10 healthy matched controls. Clinical evaluation, with emphasis on joint symptoms and signs was done for all, in addition to measurement of ESR, CRP, RF, anti-CCP, serum OPN and serum OPG.

Results: Mean ESR was significantly higher in RA (64.15±34.29) than in FDR (15.61±11.04, p<0.001) and controls (6.0±2.05, p<0.001) and significantly higher in FDR than controls (p<0.001). Mean CRP was significantly higher in RA (26.38±29.14) than FDR (5.9±5.08, p<0.001) and controls (2.0±0.53, p<0.001) and significantly higher in FDR than in controls (p<0.011). Mean RF and anti-CCP were statistically higher in RA than in FDR and controls. Mean anti-CCP was higher in FDR than in controls but without reaching statistical significance while there was no difference regarding mean RF between FDR and controls. OPN was higher in RA (3.6±4.20) than in FDR (1.97±1.04) and controls (2.81±1.31) without statistical significance (p=0.102). While OPN was significantly higher in RA (143.89±56.47) than both in FDR (22.23±56.75, p=0.009) and controls (6.20±12.43, p=0.003). Mean serum OPG in RA was higher in RF and CCP positive (24.43 and 4.13±3.48 respectively) than RF and CCP negative (2.65±0.35 and 3.58±2.58 respectively) but without reaching statistical difference. Mean serum OPN in RA was higher in RF and CCP positive (153.15±384.64 and 161.78±394.67 respectively) than RF and CCP negative (60.50±55.56 and 42.47±68.09 respectively) but without reaching statistical difference. 8/25 (32%) FDR had arthralgia while 17/25 (68%) FDR were asymptomatic. FDRs with arthralgia had significantly higher ESR (27.88±11.22) and CRP (10.36±21.21) than asymptomatic FDR (9.82±4.13, p=0.003) and (3.93±3.58, p=0.003) respectively. OPN was higher in FDR than in controls and higher in those with arthralgia (51.55±114.68) than those without (8.44±9.67) but without reaching statistical difference (p=0.031). Similarly, serum OPN was higher in FDR with arthralgia (2.09±1.19) than asymptomatic (1.70±0.56) but also without significant difference (p=0.620). Furthermore, mean RF and anti-CCP were higher in FDR with arthralgia but didn’t reach significant difference.

Conclusions: OPN and OPG are markers of altered bone metabolism in RA. Their elevation in FDR than controls denotes a state of altered bone metabolism. Moreover, FDR with arthralgia experience higher levels of OPN, OPG, ESR, CRP, RF, and anti-CCP than asymptomatic FDR. These findings reflect an ongoing disturbed bone metabolism and inflammation in FDR which could precede the clinical disease phase. Thus, OPN and OPG could serve as markers of altered preclinical bone metabolism in rheumatoid FDR. Results need to be confirmed on larger numbers of FDR.

Disclosure of Interest: None declared