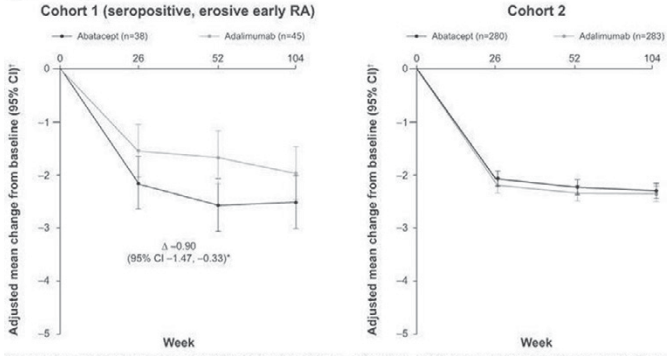
Figure. Adjusted Mean Change from Baseline in DAS28 (CRP) at Weeks 26, 52 and 104 by Patient Type



*Adjusted mean change from baseline at Day 365 (−2.58 [−2.99, −2.17] vs −1.68 [−2.10, −1.25]) for abatacept ERP vs adalimumab ERP patients
†Adjustment based on ANCOVA model with treatment as factor and baseline values, DAS28 (CRP) stratification as covariates
For 95% CI within each group, normal approximation was used if n>5, otherwise exact method was used
ERP=early rapidly progressing

[2] Aletaha D, et al. Arthritis Rheum 2010;62:2569–81.
[3] Weinblatt M, et al. Arthritis Rheum 2013;65:28–38.
Disclosure of Interest: R. Fleischmann Grant/research support from: AbbVie, Amgen, Astellas, AstraZeneca, Bristol-Myers Squibb, Celgene, Janssen, Eli Lilly, Merck, Novartis, Pfizer, Roche, sanofi-aventis, UCB, Consultant for: AbbVie, Amgen, AstraZeneca, Bristol-Myers Squibb, Celgene, Janssen, Eli Lilly, Pfizer, Roche, sanofi-aventis, UCB, M. Weinblatt Grant/research support from: Amgen, Bristol-Myers Squibb, Crescendo Bioscience, UCB, DxTerity, Consultant for: Amgen, Bristol-Myers Squibb, Crescendo Bioscience, UCB, AbbVie, Lilly, Pfizer, Roche, H. Ahmad Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, M. Maldonado Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, E. Alemao Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, J. Ye Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, M. Schiff Consultant for: AbbVie, Bristol-Myers Squibb, Eli Lilly, JNJ, UCB, Speakers bureau: AbbVie
DOI: 10.1136/annrheumdis-2017-eular.3521

SAT0042 SEVERITY OF RADIOGRAPHIC DESTRUCTION ON PERIPHERAL JOINTS IS A STRONG INDEPENDENT RISK FACTOR FOR CAROTID ATHEROSCLEROSIS

J.S. Eun, E.S. Lee, J.W. Kang, J.H. Kim, J.Y. Kang, G.B. Bae, N.R. Kim, S.J. Lee, E.J. Nam, Y.M. Kang. *Kyungpook National University School of Medicine, Daegu, Korea, Republic Of*

Background: In our previous study, we identified that cumulative inflammatory burdern contributes to the development of carotid atherosclerosis through a synergistic interaction with conventional cardiovascular (CV) risk factors in patients with rheumatoid arthritis (RA). However, it is controversial whether the presence of joint destruction which result from inflammatory burden may be a risk factor for carotid atherosclerosis.
Objectives: To investigate whether intima-media thickness (IMT) and plaques of carotid artery are influenced by radiographic joint destruction in patients with RA.
Methods: A total of 186 patients with RA were included in the present study. Plain X-ray of joints were used to assess the severity of joint destruction. We developed a new radiographic scoring system, named Rheumatoid Arthritis-Radiographic Severity Score (RA-RSS), which scores 21 joint groups with the modified Steinbrocker method. The following joint groups were included: 2 proximal interphalangeal (PIP) joint group, 2 metacarpophalangeal (MCP) joint group, 2 wrist joint group, 2 elbow joint group, 2 shoulder joint group, 1 atlantoaxial joint group, 2 hip joint group, 2 knee joint group, 2 ankle joint group, 2 tarsometatarsal (TMT) joint group, and 2 metatarsophalangeal (MTP) joint group. The grade was determined by the worst changes in each joint group of PIP, MCP, TMT, and MTP joints. RA-RSS grades are assigned as follows: 0 = No radiographic changes; 1 = mild destruction of bone and cartilage; 2 = moderate destruction of bone and cartilage or joint deformities; 3 = Severe destruction of bone and cartilage or bony ankylosis (Score ranges from 0–63). We performed carotid ultrasound to detect the presence of carotid atherosclerosis.
Results: Among 186 patients who were graded using RA-RSS, 110 patients had carotid plaques (59.1%). RA-RSS was significantly higher in patients with plaques compared to patients without plaques (11.2±8.79 vs. 7.6±7.72, p=0.004). Patients were divided into two groups by the cut-off value of plaque development as determined using receiver operating characteristic (ROC) curves: 115 (61.8%) patients with RA-RSS $<$10 and 71 (38.2%) with RA-RSS $\geq$10. There was a significant difference between the groups with respect to the presence of plaques (48.7% vs. 76.1%, $p<0.001$), while there was no difference in mean carotid IMT (0.87±0.19 vs. 0.88±0.14, p=0.684). The mean age, the presence of conventional CV risk factors, Korean version of the modified HAQ (mKHAQ), DAS28-ESR, and RA-RSS $\geq$10 were significantly associated with plaque development. Multivariate logistic regression analysis showed that RA-RSS $\geq$10 (OR 2.94 [95% CI 1.48–5.84]) and the presence of conventional CV risk factors (OR 2.30 [95% CI 1.21–4.35]) were independent risk factors for plaque development.
Conclusions: The present study shows that radiographic destruction over peripheral joints, which directly reflects cumulative inflammatory burden, is a strong independent risk factor for plaque development that is associated with CV events and mortality.
References:
[1] Churl Hyun Im, et al. Inflammatory burden interacts with conventional cardiovascular risk factors for carotid plaque formation in rheumatoid arthritis. Rheumatology (Oxford). 2015 May;54(5):808–15.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.5985

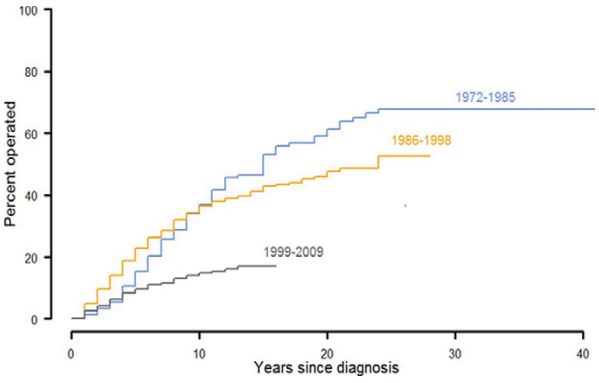
SAT0043 FACTORS AFFECTING THE NEED FOR ORTHOPAEDIC SURGERY IN PATIENTS WITH RHEUMATOID ARTHRITIS. RESULTS FROM 1010 PATIENTS DIAGNOSED WITH RA FROM 1972-2009

B.-T.S. Fevang[1,2], A.M. Fenstad[3], O.N. Furnes[3,4], T.W. Nystad[1,3]. *[1]Dept. of Rheumatology, Haukeland University Hospital; [2]Dept. of Clinical Sciences, University of Bergen; [3]The Norwegian Arthroplasty Register, Haukeland University Hospital; [4]Department of Surgical Sciences, University of Bergen, Bergen, Norway*

Background: Surgery still comprises a necessary part of treating RA patients, when medication fail to prevent joint destruction. Orthopaedic corrective procedures are considered a reliable and objective proxy for a destructed joint, and is an important outcome measure in RA.
Objectives: To investigate how patient characteristics, time of diagnosis and treatment affect the need for orthopaedic surgery in patients with rheumatoid arthritis (RA).
Methods: We reviewed the medical history of 1544 patients diagnosed with RA at Haukeland University Hospital in Bergen, Norway from 1972 to 2009, of which 1010 (mean age 57, 69% women) were included in the study. Relevant orthopaedic procedures were obtained from the Norwegian Arthroplasty Register and the hospital's administrative patient records. 693 procedures (joint synovectomies 22%, arthrodeses 21%, prostheses 41% and forefoot procedures 12%) were performed in 315 patients. Survival analyses were completed to evaluate the impact of age, sex, radiographic changes and year of diagnosis, on the risk of undergoing surgery.
Results: Patients diagnosed in 1972–1985 and 1986–1998 had a relative risk (RR) of 2.4 and 2.2 ($p<0.001$) respectively, of surgery compared to patients diagnosed in 1999–2009. Radiographic changes at diagnosis and female sex were also significant risk factors. Disease activity at baseline did not affect the outcome. Anti-rheumatic medication was significantly different in the three time periods.

Variable category	5 years[a]	10 years[a]	RR	95% CI	p-value
Gender, male	13	22	1		
female	19	30	1.35	1.02–1.77	0.035
Age (years)					
<69	15	27	1		
≥70	22	31	1.04	0.77–1.42	0.78
Radiolographic changes at diagnosis					
No arthritis	12	21	1		
Possible arthritis, or MR findings only	19	26	1.01	0.66–1.57	0.92
Arthritis	23	34	1.46	1.10–1.94	0.008
Osteoarthritis	35	55	2.81	1.94–4.05	<0.001
Time period					
1999–2009	12	18	1		
1986–1998	25	38	2.16	1.62–2.87	<0.001
1972–1985	15	37	2.38	1.71–3.31	<0.001

[a]5- and 10-year survival, in percent.



Conclusions: Patients with early years of diagnosis had greatly increased risk of having an RA related procedure performed. This is probably due to the year of diagnosis being a proxy for the type and intensity of medical treatment.
References:
[1] Goodman SM. Rheumatoid Arthritis Therapy and Joint-replacement Surgery: Are We Making a Difference? J Rheumatol. 2016;43:833–5.

Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.2961

SAT0044 A 10-YEAR FOLLOW UP STUDY OF EARLY SERONEGATIVE ARTHRITIS DIAGNOSED AT AN ADULT AGE

K. Paalanen, J. Asikainen, T. Rannio, P. Hannonen, T. Sokka. *Rheumatology Department, KSSHP, JyväskylÄ, Finland*

Background: Up to 20–30% of patients enrolled into RA cohorts and clinical trials are seronegative. However, in studies examining predictors, prognosis, and response to treatment, seropositive and seronegative groups of patients seem to behave differently. Only a few studies have focused on the long term follow up of seronegative arthritis.
Objectives: To investigate long-term outcomes of patients with seronegative arthritis during a 10-year follow-up period including clinical outcomes and reclassification of diagnosis when applicable.
Methods: A total of 1046 patients were classified as early RA in 1997–2005 at single rheumatology center and scheduled for a ten year follow-up, including 434 seronegative patients who are subjects of the present analysis. Follow-up examinations were carried out for at least 2 years and then at 5 and 10 years by the treating specialist including complete clinical examination and patient reported outcomes. In addition, case –reviews were performed, with re-classification of the cases when applicable
Results: Among the 434 seronegative patients (69,4% women, mean age 58), 271 subjects were seen for the 10 year visit with the mean disease activity DAS28 of 2,3 (SD 1,02) and the mean HAQ of 0,71 (SD 0,72). Out of the remaining 146 patients, 88 had died and 53 did not attend the 10-year visit due to altered diagnosis, refusal or comorbidity. Five patients had dropped out and files of 17 patients were missing. During the follow-up of 10 years, 12/434 (2,7%) patients could be classified as seropositive or erosive RA: 4 turned seropositive (2 for ACPA and 2 for RF [>2x normal level]) and 8 developed erosions typical for RA. Reclassification revealed 70 (16,1%) cases of polymyalgia rheumatica, 47 (10,8%) cases of osteoarthrosis without evidence of inflammatory disease, 47 (10,8%) cases of psoriatic arthritis, 39 (9,0%) cases of spondylarthritis and 16 (3,7%) cases of plausible reactive arthritis. Few cases were reclassified as gout (11 cases (2,5%)) and pseudogout (3 cases (0,7%)). Also paraneoplastic arthritis (6 cases (1,4%)), juvenile arthritis (5 cases (1,2%)), hemochromatosis (2 cases (0,5%)), ankylosing spondylitis (2 cases (0,5%)) and temporal arteritis (2 cases (0,5%)) were revealed during follow up. One case of each reflex sympathetic dystrophy, trauma-induced arthritis, meniscal injury, optional Nasu Hakola disease, microscopic polyangiitis (MPA), granulomatous polyangiitis (GPA), antisynthetase syndrome and colitis ulcerosa were also found. The remaining 147 patient (33,8%) could not be reclassified in any clear cut diagnosis. A total of 44 of these undifferentiated cases had transient arthritis, 43 cases had features of seronegative spondylarthritis and 57 cases remained totally unspecified, while three patients had features of inflammatory connective tissue disease (SLE and Sjögren's syndrome), but they did not meet available classification criteria. In addition, files of 17 (3,9%) patients were missing from the analyses.
Conclusions: Over a 10-year period, 97% of seronegative patients remained seronegative and did not develop RA-like erosions. Reclassification revealed significant heterogeneity in the diagnosis of seronegative RA. Therefore, seronegative arthritis should not be studied as a homogenous disease entity.
References:
[1] Padyukov, Arthritis Rheum 2004, 50: 3085–3092.
[2] van Dongen, Arthritis Rheum 2007, 56: 1424–1432.
[3] Jantti, Clin Rheumatol 2002, 21: 353–356.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.2332

SAT0045 11 YEARS' FOLLOW-UP OF A DANISH 2-YEAR TREAT-TO-TARGET RANDOMIZED CONTROLLED TRIAL IN PATIENTS WITH EARLY RHEUMATOID ARTHRITIS: BASELINE PREDICTORS OF FUNCTIONAL AND RADIOGRAPHIC OUTCOMES

M.L. Hetland[1,2], K. Stengaard-Petersen[3], P. Junker[4], H. Lindegaard[4], T. Ellingsen[4], J. Pødenphant[5], H. Skjødt[6], A. Vestergaard[7], B. Ejbjerg[8], S. Jacobsen[9], N.S. Krogh[10], M. Østergaard[2], K. Hørslev-Petersen[11]. *[1]DANBIO; [2]COPECARE, Rigshospitalet, Glostrup; [3]Department of Rheumatology, University Hospital, Aarhus; [4]Department of Rheumatology, University Hospital, Odense; [5]Department of Rheumatology, Gentofte Hospital, Gentofte; [6]Department of Rheumatology, Rigshospitalet, Glostrup; [7]Department of Radiology, Hvidovre Hospital, Hvidovre; [8]Department of Rheumatology, Slagelse Hospital, Slagelse; [9]Department of Rheumatology, Rigshospitalet; [10]ZiteLab, Copenhagen; [11]Kong Christian X's Gigthospital, Gråsten, Denmark*

Background: Few RCTs have investigated long-term (>10 years (yrs)) outcomes of goal-directed synovitis suppression in early rheumatoid arthritis (RA). The CIMESTRA trial was a 2-year double-blinded Danish multicenter study on aggressive treatment with csDMARDS (methotrexate (MTX) versus MTX and cyclosporine) in combination with intra-articular glucocorticoids (1+2). Disease control after 2 yrs was excellent with ≈50% in remission and halted radiographic progression in both groups. We present 11 yr follow-up data.

Baseline predictors of:			
-Functional status (HAQ_{10}-)*	**Coefficient**	**95% CI**	**p-value**
DAS28 (per unit increase)	0.10	0.02-0.18	0.02
Anti CCP (positive)	0.24	0.02-0.46	0.03
-Radiographic progression (ΔTSS_{0-10}-)*	**Coefficient**	**95% CI**	**p-value**
Anti CCP (positive)	7.69	0.91; 14.47	0.03
MRI bone marrow edema (per unit increase)	0.87	0.19; 1.55	0.01

: Initial baseline variables in the HAQ_{10}- (§) and ΔTSS_{0-10}-(#) multivariable linear models before backward selection were: Total Sharp-van der Heijde-Score (TSS)[§#]; Health Assessment Questionnaire score[§]; Disease Activity Score (28-joint count, 4 variables)[§]; age[§]*; anti CCP[§]*; gender[§]*; MRI erosion score[§]*; MRI synovitis score[§]*; MRI bone marrow edema[§]*. CI, confidence interval; CCP, cyclic citrullinated peptide (dichotomized value); MRI, magnetic resonance imaging.

Objectives: The aims were to 1) investigate the clinical and radiographic status and 2) identify baseline predictors of functional status and erosive progression.
Methods: Of 160 patients (pts) included, 130 pts also had MRI of the wrist performed at baseline. 17 pts had died since baseline. All living pts were contacted and 120 signed informed consent to participate in a 11 yrs' follow-up visit assessing e.g. treatment, disease activity (DAS28, CRP, 4 variables), physical function (HAQ), X-ray of hands and feet. Baseline MRI was scored by OMERACT rheumatoid arthritis MRI scoring (RAMRIS) system, X-rays by Sharp-van der Heijde total Sharp Score (TSS). Multivariable linear regression analyses of a panel of baseline variables (see foot note in table) with backward selection were performed with HAQ at 11 yrs (HAQ_{11}) and radiographic progression since baseline (ΔTSS_{0-11}) as dependent variables.
Results: 120 of 160 pts (75%) completed the 11 yrs visit. 96 pts with available baseline MRI and X-rays of both time points were included in the prediction models. Withdrawal analysis comparing the 160 pts with the 40 and 64 pts who were not included showed similar baseline characteristics except for higher DAS28 and HAQ score for withdrawers. Follow-up was after 11.6 yrs (10.7–12.2) (median (IQR)). Pts were 63 yrs (55–72) and 70% females. 20% received biologics (+/- csDMARD), 53% csDMARD alone, 27% were in drug free remission. DAS28 was 2.0 (1.5–2.6); pain score: 1 cm (0.3–3); pt. global: 1.1 cm (0.2–2.9); swollen joint count (28SJC): 0 (0–0); tender joint count (28TJC): 0 (0–1). 76% of pts were in DAS28 remission; HAQ-score was 0.25 (0–0.75); ΔTSS_{0-11}(median (IQR)):4 (0–13); ΔTSS_{0-11}(mean±SD): 10.9±16.9). The annual progression rate since baseline was median (IQR):0.4 (0–1.1); mean±SD:0.96±1.52. Multivariable linear regression analyses are shown in Table.
Conclusions: 11 years after diagnosis 75% were in DAS28 remission. HAQ-score was low, and mean radiographic progression was <1 TSS unit/year. High DAS28 and positive anti-CCP at baseline were independent predictors of poorer functional status. Baseline MRI bone marrow edema and anti-CCP positivity were independent predictors of radiographic progression.
References:
[1] Arthritis Rheum 2006; 54: 1401–9.
[2] Ann Rheum Dis 2008; 67: 815–22.
Disclosure of Interest: M. L. Hetland Grant/research support from: AbbVie, BMS, MSD, Pfizer, Orion, Novartis, Biogen, Eli Lilly, K. Stengaard-Petersen: None declared, P. Junker: None declared, H. Lindegaard: None declared, T. Ellingsen: None declared, J. Pødenphant: None declared, H. Skjødt: None declared, A. Vestergaard: None declared, B. Ejbjerg: None declared, S. Jacobsen: None declared, N. S. Krogh: None declared, M. Østergaard Grant/research support from: Abbvie, BMS, Boehringer-Ingelheim, Celgene, Eli-Lilly, Centocor, GSK, Hospira, Janssen, Merck, Mundipharma, Novartis, Novo, Orion, Pfizer, Regeneron, Schering-Plough, Roche, Takeda, UCB, K. Hørslev-Petersen: None declared
DOI: 10.1136/annrheumdis-2017-eular.1720

SAT0046 TNF ANTAGONIST DRUG SAFETY ASSESSMENT BY PHARMACOVIGILANCE SIGNALING AND POST-MARKETING ADVERSE EVENT REPORTS

M. Cavaco[1], F. Araujo[2,3], J. Eurico Fonseca[4,5], J. Goncalves[1]. *[1]iMed – Research Institute of Medicines, Faculdade de Farmacia Universidade de Lisboa, Lisboa; [2]Rheumatology Unit, Hospital de Sant'Ana, Cascais; [3]Institute of Microbiology; [4]Instituto de Medicina Molecular, Faculdade de Medicina da Universidade de Lisboa, Lisbon; [5]Rheumatology Department, Centro Hospitalar de Lisboa Norte, EPE, Hospital de Santa Maria, Lisbon Academic Medical Centre, Lisboa, Portugal*

Background: TNF antagonists have been equally effective in the treatment of immunoinflammatory diseases. However, differences in their characteristics and the introduction of biosimilars may be associated with different safety profiles.
Objectives: The main goal of this study is to compare the safety of infliximab (IFX), etanercept (ETN), and adalimumab (ADA), as well as of IFX-biosimilar.
Methods: We assessed the adverse events reported in the EudraVigilance database between 2004 and 2016. The MEdDRA® system was used to classify the adverse events according to the primary system organ class. For a direct