Results: Sixteen patients incurred 19 CVD events. Current bDMARD use associated with lower CVD risk (OR=0.20 [95%CI=0.05-0.75], $p=0.018$, Figure 1). However, the effect of bDMARDs was no longer significant when a 6-month exposure extension was applied (OR=0.42 [95% CI 0.13-1.38], $p=0.15$). The effect of bDMARD use on CVD risk was moderated by non-calcified plaque and low-attenuation plaque presence (Figure 1); specifically, bDMARDs were associated with lower CVD risk only in patients with non-calcified plaque ($p=.048$) or low-attenuation plaque ($p=0.036$) at baseline. Per-segment plaque progression analyses showed no main effect of bDMARD exposure on likelihood of new plaque formation (Figure 2). However, bDMARD exposure predicted lower likelihood of new plaque forming in segments without plaque among patients without mixed/calcified plaque in other coronary segments (OR=0.40 [95%CI=0.17-0.93]), but not among those with mixed/calcified plaque elsewhere in their arteries (OR=1.60 [95%CI=0.71-3.62]). Moreover, transition of non-calcified to mixed/calcified plaque associated with bDMARD exposure (OR=4.00 [95%CI=1.05-15.32]). bDMARD use also predicted low-attenuation plaque loss ($p=0.042$).

Figure 1. Effect of bDMARD use on cardiovascular disease risk stratified by coronary plaque presence

A Outcome: New Plaque Formation

B Plaque transition

Figure 2. Effect of bDMARD exposure on plaque formation and transition from baseline to follow-up

Conclusion: In rheumatoid arthritis, bDMARD use associated with reduced long-term CVD risk, lower likelihood of new plaque formation in patients with early atherosclerosis, stabilization of high-risk plaque and protective calcification of non-calcified lesions.

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OP0121

MANAGEMENT OF DYSLIPIDAEMIA AND HYPERTENSION IN PATIENTS WITH RHEUMATOID ARTHRITIS – DATA FROM 19 COUNTRIES

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Background: The realisation that subjects with rheumatoid arthritis (RA) are at increased risk of cardiovascular disease (CVD) has led to a growing interest in risk factor control in such people, but whether this has influenced the management of dyslipidaemia and hypertension (HT) is uncertain. In subjects with coronary heart disease (CHD), audits of CVD risk factor control are regularly performed, which makes it possible to evaluate guideline implementation over time.¹ Updated surveys on CVD risk management in patients with RA are needed.

Objectives: To describe differences in lipid and blood pressure (BP) levels among patients with RA from five world regions. Furthermore, to evaluate attainment of guideline recommended targets for lipid lowering and antihypertensive treatment.

Methods: The Survey of CVD Risk Factors in patients with RA (SURF-RA) was conducted at 53 centres in 19 countries from 2014 to 2019. Data including demographics, RA disease characteristics, CVD comorbidity, risk factors and use of preventive treatment was collected. HT was defined as self-reported HT, and/or measured BP $\geq 140/90$ mmHg, and/or use of anti HT medication (a-HT). The treatment goal of a-HT was BP $<140/90$ mmHg. The 10-year risk of a fatal CVD event was calculated by the European CVD risk calculator, the Systematic Coronary Risk Evaluation (SCORE), and was thereafter multiplied with 1.5 as recommended by the European League Against Rheumatism. Patients were classified in a high or very high CVD risk group according to the 2012 European Society of Cardiology guidelines, with low density lipoprotein cholesterol (LDL-c) goal at <2.6 and <1.8 mmol/L, respectively.²

Results: In total, 14503 RA patients were included. The mean age was 59.8 ± 13.6 years, and it was a strong female preponderance (74%). Nearly 2/3 of the patients were hypertensive. Use of a-HT in the total population differed substantially between the cohorts with limited use in West Europe and Latin America (17.4% and 24.8%), in contrast to North America and East Europe (46.8% and 57.0%). On average, half of those with HT were at the recommended BP goal. The lowest BP goal attainment was seen in Asia, West and East Europe (40.8-43.1%), and the highest in North America (63.5%). Overall 51.5% had an indication for lipid lowering therapy (LLT), and of these 43.5% were taking LLT. Only 34.0% of patients with an indication for LLT were at recommended LDL-c goals. The proportion of RA patients on target for LDL-c varied greatly between regions, from 23.1% in East Europe to 51.0% in North America. The LDL-c goal attainment was higher in RA patients at high risk (45.1%) compared to those at very high risk of CVD (18.0%).

Conclusion: This large international survey on RA patients revealed considerable geographical differences in CVD preventive treatment. Lower goal attainment for LLT than reported for subjects with CHD was observed. We conclude that there is a substantial need for improvement in CVD preventive measures in RA patients.

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OP0122

SUBCLINICAL ATHEROSCLEROSIS OF FEMORAL ARTERIES IN RHEUMATOID ARTHRITIS. AN ULTRASOUND STUDY

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Background: Cardiovascular morbidity and mortality is increased in patients with rheumatoid arthritis (RA). This cannot be entirely explained by traditional risk factors. Inflammation and autoimmunity may play a role in the cardiovascular risk excess. Subclinical atherosclerosis is associated with a risk comparable to

established coronary heart disease. In RA it has been investigated by carotid artery ultrasound and carotid atherosclerotic plaques are more prevalent in RA patients than controls. EULAR recommendations for cardiovascular disease risk management consider that carotid ultrasound may be part of the risk evaluation in patients with RA. Recent studies in general population have shown that plaques in femoral arteries are more common and are associated with higher cardiovascular risk.

Objectives: To study the usefulness of femoral artery ultrasound for the detection of subclinical atherosclerosis and its ability to improve cardiovascular risk assessment in RA patients.

Methods: Cross-sectional observational study of prevalence in 140 RA patients aged 40 to 65 years. Subclinical atherosclerosis was evaluated by carotid and femoral artery ultrasound.

Results: Atherosclerotic plaques were found in 86.4% of RA patients (60.7% in carotid arteries and 78.6% in femoral arteries). Patients with plaques were older and more frequently past or present tobacco users. Femoral plaques were larger and more numerous than the carotid plaques and people with plaques in both locations had more extensive subclinical atherosclerotic disease (table). Only 7.9% of RA patients were considered as having very high cardiovascular risk by clinical factors, after carotid ultrasound this increased to 57.1% and after femoral ultrasound to 86.4%.

Conclusion: Ultrasound examinations of the femoral artery in addition to the carotid artery increased the detection of subclinical atherosclerosis and determine a group of patients with higher intensity of atherosclerotic disease. Examinations of both arteries allowed a greater number of RA patients previously considered to have low to moderate cardiovascular risk to be classified as very high cardiovascular risk.

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Table

	Only carotid plaques n= 11	Only femoral plaques n= 36	Femoral and carotid plaques n= 74
Number of carotid plaques per patient	1,3 ± 0,5	-	2,5 ± 2,0*
Carotid plaques size (mm)	1,63 ± 0,20	-	2,08 ± 0,69*
Number of femoral plaques per patient	-	2,3 ± 1,7	3,7 ± 2,9**
Femoral plaque size (mm)	-	2,20 ± 0,59	3,10 ± 1,10**
Total number of plaques per patient	1,3 ± 0,5	2,3 ± 1,7*	6,2 ± 4,3***

†Results in mean ± sd. *p<0,05 vs only carotid plaques. **p<0,05 vs only femoral plaques. ***p<0,05 vs only carotid plaques and only femoral plaques.

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OP0123

RISK OF BREAST CANCER BEFORE AND AFTER RHEUMATOID ARTHRITIS, AND THE IMPACT OF HORMONAL FACTORS

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Background: Large cohort studies have consistently reported decreased occurrence of breast cancer among women with RA. However, both the reasons behind this decreased risk and if it is present already before RA diagnosis, is unclear. The occurrence of RA following breast cancer is clinically and etiologically important also for other reasons. Long-term adjuvant anti-hormonal treatment with tamoxifen or aromatase inhibitors has become mainstay for estrogen receptor positive breast cancer, but are often associated with arthralgia as a side effect. Some studies have suggested that these therapies not only induce arthralgia, but also inflammatory arthritis.

Objectives: To examine the risk of incident breast cancer in women with RA, and the risk of RA in women with a history of breast cancer, taking anti-hormonal treatment for breast cancer into account.

Methods: Using nationwide Swedish registers, women with new-onset RA diagnosed 2006-2016 were identified. Each RA patient was matched on age, sex, and place of residence to 5 randomly selected control subjects from the general population. Through register linkages, we collected information on breast cancer, breast cancer risk factors (age at childbirth, number of children, hormone replacement therapy), and socio-economy. The relative risk of breast cancer after RA was assessed using Cox regression, and the relative risk of RA in women with a history of breast was assessed using conditional logistic regression.

Results: The risk of incident breast cancer in women with RA was reduced and the association was not attenuated by adjustment for breast cancer risk factors (HR=0.80, 95%CI 0.68-0.93)(Table 1). The risk was similar among seronegative RA, (HR=0.77, 95%CI 0.58-1.02), and seropositive RA, (HR=0.81, 95%CI, 0.67-0.98), and for all age groups. We noted reduced risks for all TNM stages, and for both pre- and postmenopausal breast cancer (assessed with age cutoff 50 years). The risk of RA in women with a history of breast cancer was similarly reduced (OR=0.87, 95%CI, 0.79-0.95). Odds ratios (OR) stratified by serostatus and age at RA diagnosis yielded similar results. There was no clear trend in the level of risk reduction when examining the risk by menopausal status, or cancer stage at breast cancer diagnosis. Women with breast cancer treated with tamoxifen (OR=0.86, 95%CI 0.62-1.20), or aromatase inhibitors (OR=0.97, 95%CI 0.69-1.37), did not have an increased risk of RA compared to women with breast cancer treated differently.

Table 1. Risk of breast cancer in women with RA, overall and by serostatus (events and hazard ratios), and risk of RA in women with a history of breast cancer, overall and by serostatus (events and odds ratios)

	No. of breast cancers, patients with RA	No. of breast can- cers, comparators/ controls	RR (95% CI)
Risk of breast cancer in women with RA	190	1191	0.80 (0.68-0.93)
Seronegative RA	55	346	0.77 (0.58-1.02)
Seropositive RA	124	772	0.81 (0.67-0.98)
Risk of RA in women with breast cancer	555	3193	0.87 (0.79-0.95)
Seronegative RA	157	921	0.85 (0.71-1.01)
Seropositive RA	367	2088	0.88 (0.78-0.98)

Conclusion: There is a decreased risk of breast cancer in patients with RA, and a similar decrease in risk of breast cancer before RA diagnosis. We did not find evidence to support that the decreased risk of breast cancer was due to known risk determinants. Furthermore, adjuvant anti-hormonal therapy as used in secondary breast cancer pharmacoprevention did not seem to increase the risk of RA.

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OP0124

RISK OF MALIGNANCIES ACROSS BIOLOGIC CLASSES IN RHEUMATOID ARTHRITIS: ANALYSIS OF A NATIONAL CLAIM DATABASE

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Background:

Objectives: To estimate the incidence rate of malignancies in biologic-treated RA patients, and to compared it to the general population and across different classes of biologics

Methods: We conducted an historical cohort study within the French the national claim database, named SNDS. This database prospectively records individual health resource of 86% of the entire French population (65 million inhabitants) since 2007. RA adult patients were identified based on ICD-10 code (M05 or M06). Patients with cancer history were excluded. Treatment exposures focused on incident first use of biologics including all anti-TNF, rituximab, abatacept, tocilizumab, ustekinumab, anakinra. To identify incident treatment periods, only patients who did not receive any biologics in the 1-year period before the index date were