Methods An inception cohort of 42 early RA patients have been studied since symptom-onset. Clinical, MR (1.5 Tesla GE Signa Horizon scanner) and XR data were obtained at baseline and 1 year. MR scans of the dominant wrist and XRs of the same region were read independently by 2 radiologists and scored for erosions at 15 sites within the carpus. Further 2 year clinical and XR data was used to determine the ability of the baseline MRI score to predict XR erosions at 2 years. A lesion-based analysis was also performed to track individual lesions from MR at 0 and 1 year time-points to XR at 1 and 2 years.

Results The baseline MR erosion score was predictive of XR erosion score at 2 years ($p = 0.008$).

Patients with a total MR score (erosions, bone oedema, synovitis and tendonitis) ≥ 13 at baseline were significantly more likely to develop erosions on XR at 2 years (OR 13.4, 95% CI [2.65, 60.5], $p = 0.002$). Baseline wrist MRI has a sensitivity of 80%, a specificity of 76%, a positive predictive value (ppv) of 67% and a high negative predictive value (npv) of 86% for the prediction of wrist XR erosions at 2 years. A lesion-centred analysis, revealed that 84% of baseline MR erosions were still present at one year, increasing to 100% if complete concordance between radiologists was required. The number of MR erosion sites per patient increased from 2.1 (SD 2.7) to 5.0 (SD 4.6) ($p < 0.0001$) over the 1st year of disease. When MR erosion sites were tracked, 21% and 26% were observed on XR, 1 and 2 years later. A high baseline Ritchie score and ESR were predictive of progression of MR to XR erosions over 1 year ($p = 0.01$ and 0.03) but there was no association with the shared epitope. Progression of MR to XR erosions was not seen in those with transient polyarthritis.

Conclusion MRI scans of the wrist taken at first presentation of RA can be useful in predicting radiographic erosions. Thus, MRI may have a role in selection of patients for more or less aggressive management. Most MR lesions persist over the first year of disease but only 1 in 4 progress to XR erosions at the same sites, 1 year later. This may relate to healing, observer error or technical limitations of radiography at the wrist. Progression of MR to XR erosions is greatest in those with high baseline disease activity.

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THU0148 DEMOGRAPHIC AND CLINICAL CHARACTERISTICS IN LONGSTANDING RHEUMATOID ARTHRITIS: A THREE COUNTRY COMPARISON

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Background

Objectives The purpose of this cross-sectional study is to compare the demographic and clinical characteristics of postmenopausal women with longstanding rheumatoid arthritis (RA) between general rheumatology clinics in three European countries.

Methods A total of 150 female patients with RA (50 per centre), aged between 50 and 70 years and a disease duration of 5 or

more years attending a general rheumatology clinic, were consecutively included as part of the OSTRAL study. Demographic and clinical data were collected according to standardised procedures. Hand X-rays (Larsen) were read by one observer. Mean $\pm$ SD are presented in case of normal distribution; median (range) in skewed data. Groups were compared by means of ANOVA. Kruskal-Wallis or Chi square test were performed when appropriate.

Results Mean age (61 ± 6 years), disease duration (14(5–53) years), and rheumatoid factor status (63% positive) were similar in the three centres. BMI (kg/m^2) values 23.0 ± 2.9 in Oslo, 25.7 ± 3.8 in Amsterdam and 27.7 ± 6.0 in Truro respectively, differed between the 3 centres ($p = 0.000^{ab}$). Visual analogue scale (VAS) for pain (MM) differed between the 3 countries ($p = 0.02^c$).

Post hoc test difference ^aOslo-Truro, ^bOslo-Amsterdam, ^cTruro-Amsterdam.

Abstract THU0148 Table 1

	Oslo	Amsterdam	Truro	p-value
Deform.joint (max.18)	4(0–15)	5(0–16)	8(0–18)	0.003 ^{ac}
HAQ (0–3)	1.3 $\pm$ 0.6	1.3 $\pm$ 0.7	1.9 $\pm$ 0.7	0.000 ^{ac}
tot. Larsen (0–120)	25(0–117)	47(2–105)	34(0–102)	0.004 ^{bc}
Prednisone use (%)	61	28	26	0.000 ^{ab}

Prednisone use refers to current use of the drug.

Conclusion These comparisons may reflect different lifestyle and treatment strategies in the different countries with consequent different outcome.

THU0149 TEMPORO-MANDIBULAR DAMAGE IN PSORIATIC ARTHRITIS

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Background Psoriatic arthritis (PA) is a chronic progressing spinal and articular disease associated with psoriasis resulting in development of erosive arthritis, ankylosing of joints and intra-articular osteolysis. It is included into seronegative arthritides and has clinical-radiological peculiarities common for this group of diseases.

Objectives To find out the prevalence and character of temporo-mandibular damage (TMD) during PA and determine the correlation of such damage with other manifestations of this disease.

Methods 76 PA pts were examined. Median age of pts was 36.7 ± 5.6 years and median disease duration 3.4 ± 0.8 years. Radiological stage of damage (except TMD) in 42.1% of pts was II according Steinbrocker and in 39.5% – III. All pts had clinical examination of TMD with detailing of volume of mobility, possible dislocation of articular disk, determining of mandibular deviation during mouth opening, cephalometric studies. TMD radiography by method of Schuller and Parma, orthopantomography, stratal magnetic-resonance computer tomography.

Results TMD in PA debut was found in 25 (32.9%) of pts and occupied the 6th place by frequency among other articular damages. In 60% of cases arthralgia was noticed. In some cases there were stable arthralgias and speedy decrease of articular mobility of this localization. More often we found bilateral damage as

compared with unilateral. There were cases of isolated TMD in PA debut. In the developed stage of the disease almost all pts (67 out of 76, or 88.1%) demonstrated painfulness during palpation of periarticular muscles. Limitation of mandibular excursion of III and IV stage was found in 18 pts. TMD deviations were noticed prevalently in unilateral damage of them. No occlusion pathology or deformation of face skeleton was found. According to TMD radiography, aside from osteoporosis and narrowing of articular space, 27 pts demonstrated erosion of joints surfaces and in 6 cases osteolysis of the head of the mandible. In the majority of cases the stage of TMD correlated to radiological PA stage as a whole.

Conclusion TMD is a frequent PA clinical manifestation. The frequency and character of such damage are closely related with the activity of inflammatory processes, arthritis prevalence and stage of its development.

THU0150 PROGRESSION OF RADIOLOGICAL DAMAGE IN PATIENTS WITH RHEUMATOID ARTHRITIS IN REMISSION; A PROSPECTIVE TWO YEAR FOLLOW-UP STUDY

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Background

Objectives To investigate the progression of radiological damage in patients with RA in remission during a follow-up of 2 years.

Methods RA patients (n = 187), in remission according to the ACR/Pinals criteria were included. Radiographs of hands and feet were made at baseline and after 2 years. Radiological damage was assessed according to the Sharp-van der Heijde method (range score 0–448; (SHS)). SHS at baseline and after 2 years were compared in the complete group and in subgroups of patients with persistent remission and in those suffering an exacerbation (Wilcoxon test). As riskfactors for radiological progression were analysed: number of tender and swollen joint, Ritchie score, Disease Activity Score (DAS), serum rheumatoid factors, Visual Analogue Scale for physicians impression of disease activity (VAS, range 0–100), and Health Assessment Questionnaire (HAQ) score.

Results At baseline and after 2 years, the mean SHS of the complete group were 49 and 51 ($p < 0.001$). In the subgroup with persistent remission, the mean SHS were 52 and 53 ($P = 0.004$). No significant correlations were found between radiological damage and variables at baseline ($\rho = 0.1$). In the subgroup of patients with an exacerbation, the mean SHS were 46 and 51 ($p < 0.001$). Progression of radiological damage correlated significantly with the following baseline variables: SHS($\rho = 0.40$), HAQ-score ($\rho = 0.28$), IgM-RF ($\rho = 0.29$), IgA-RF (0.25); but not with the DAS or VAS.

Conclusion Radiological damage proceeds in RA patients in remission and is not related to disease activity.

THU0151 HIGH FREQUENCY OF REDUCED BONE MASS IN MEN WITH RHEUMATOID ARTHRITIS

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Background

Objectives Osteoporosis is a well known complication of rheumatoid arthritis (RA). Both osteoporosis and RA are diseases predominantly affecting women. The aim of this study was to investigate the bone mineral density (BMD) in Scandinavian males with RA and to analyse the impact of different disease dependent and disease independent variables on bone health.

Methods Bone mineral measurements were done in 103 male RA patients attending a referral clinic of rheumatology. The BMD values were correlated with rheumatoid factor (RF), duration of disease, presence of erosions, degree of inflammation (DAS28), functional capacity (HAQ), treatment, levels of biologically active testosterone, body mass index (BMI) and smoking.

Results The patients were 20–70 years old with a median disease duration of 4 years (range 0–43). They had small but significant reductions in their BMD compared with an age and gender matched reference population (z scores). The mean BMD was lowered 6% ($p < 0.01$) in femoral neck, 6% ($p < 0.01$) in the trochanteric region, 7% ($p < 0.01$) in the region of Ward, and 4% ($p < 0.05$) in the spine. However, a substantial proportion of the patients had reduced bone mass defined as BMD lower than -1SD(z score). Thus 45/98 had reduced bone mass in femoral neck and 47/102 in the spine which is far more than the expected 16%.

Z-scores at Ward's triangle correlated with disease duration and presence of erosions. At trochanter z-scores correlated with duration of disease, erosions, HAQ, as well as BMI. The best multiple regression analysis with HAQ, erosions and BMI explained 22% of the variance. At femoral neck z-scores did not correlate to any of the tested variables. At spine (L2-L4) only erosions were significant correlated with z-scores.

Sulphasalazine had a statistically significant positive correlation to the bone in Ward's triangle and trochanter while methotrexate had a negative correlation to the bone in the trochanter region.

Neither in correlation analysis nor in multiple regression analysis there were any correlations between z-scores at hip or spine and RF, current degree of inflammation, treatment with glucocorticoids, parenteral gold or ciclosporin, levels of biologically active testosterone or smoking in any of the skeletal sites measured.

Conclusion A substantial proportion of males with RA had reduced bone mass. Variables that reflect structural damage had large impact on bone mineral density.

THU0152 THE DISEASE ACTIVITY SCORE PREDICTS RADIOLOGICAL PROGRESSION DURING THE FOLLOWING 6 MONTHS OF OBSERVATION IN A 5 YEARS OBSERVATIONAL STUDY; AN EXAMPLE OF ADVANCED LONGITUDINAL DATA ANALYSIS

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Background A number of studies have shown that a high level of disease activity is associated with more rapid radiological progression. In those studies *time-averaged* or *time-integrated* estimates for disease activity have been used. The concept of time-averaged disease activity does not entirely reflect reality, because disease activity is rarely constant over time. An inherent