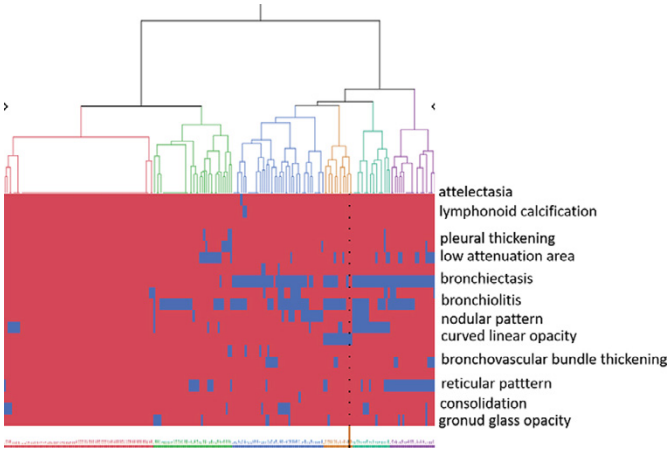
disease duration 13.1 years). Pulmonary lesions were found in 146 (70.2%) of RA patients before treatment Imaging findings were 81of ILD (39%),45 of nodular lesion (21.6%) and 115 of AD (55%). Cluster analysis showed 6 clustered (Fig.), 1; no pulmonary lesions, 2; AD without bronchoectasia, 3; AD with bronchoectasia, 4; AD with curved linear opacities, 5; AD with nodular lesions, and 6; reticular pattern with AD.

AD was common abnormalities and coexisted with other pulmonary lesions in RA. AD was found in 79%, 78% and 71% of patients with pulmonary abnormalities, ILD and nodular lesions, respectively. AD alone, AD with ILD, and AD with nodular pattern were found in 16.3%, 8.6% and 28.9%, respectively, while patients without pulmonary lesions were 29.8% in RA. AD was frequently associated with ILD and nodule compare to non-AD.

No differences were found in gender, smoking history, disease duration and disease activity between patients with and without AD. New emergence or exacerbation of pulmonary abnormalities developed in AD patients compared to those without pulmonary abnormalities or AD. No significant differences were found in clinical features, among AD alone, AD with ILD and AD with nodules.



Conclusions: Pulmonary abnormalities were found in 70% in RA. AD was found in 55% of RA patients and coexisted with other pulmonary lesions such as ILD and nodular lesions. Patients with AD frequently showed newly emerging or worsening pulmonary lesions, regardless of the coexistence of other pulmonary lesions. Thus, AD is shared and critical pulmonary abnormality in RA.

Disclosure of Interest: None declared

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FRI0135 TREATMENT OF JAPANESE EARLY RHEUMATOID ARTHRITIS PATIENTS WITH LOW-DOSE PREDNISOLONE FOR MAXIMUM 1 YEAR LEADS TO EARLIER IMPROVEMENT OF DISEASE ACTIVITY AND DOES NOT WORSEN BONE METABOLISM STATUS AND RATES OF NEW COMPLICATIONS

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Background: Glucocorticoid (GC) therapy for rheumatoid arthritis patients improves joint inflammation and destruction; however, it is associated with risk of complications such as osteoporosis, diabetes (DM), and cardiovascular (CV) disease. Although EULAR recommends that low-dose GC should be administered for up to 6 months, the ideal dose and duration of GC use remain unresolved.

Objectives: To investigate the efficacy and safety of low-dose GC therapy in addition to other disease-modifying antirheumatic drugs (DMARDs) for maximum 1 year in Japanese early RA patients.

Methods: Ninety-six Japanese RA patients with disease duration of <2 years were included. Patients were treated with a T2T strategy; if disease activity did not improve within 3 months, their DMARDs were replaced with alternatives or additional DMARDs were added. We excluded patients with a history of prior complications, including CV disease, DM, or vertebral fracture. We classified patients into two groups, one was group treated with DMARDs alone (N group; 35 females and 10 males) and the other with maximum 5 mg of GC for maximum 1 year along with DMARDs (GC group; 40 females and 11 males). The mean ages of the N and GC groups were 56.3 and 60.9 years, respectively. Thirty-four percent of patients were treated with MTX monotherapy, 20.9% were treated with combined conventional synthetic DMARD with MTX, and 31.3% were treated with a biological agent. Regarding MTX or biological agent use rates, no significant statistical differences were observed between the groups. We evaluated the change of DAS28-CRP scores for 3 years, bone metabolism makers [urine type I collagen cross-linked N-telopeptide (NTX), serum tartrate-resistant acid phosphatase 5b (TRACP5b), serum bone-specific alkaline phosphatase (BAP), and serum osteocalcin (OC)], bone mineral density (BMD) of lumber spine (L-spine) and femoral neck (FN) and the rate of new complications. Comparisons of BMD and the rate of new complications were made at baseline and 3 years after initiating GC treatment.

Results: There were no significant differences in DAS28-CRP scores at baseline. In the GC group, the mean GC dose was 2.46 mg/day. At 1 month after treatment, there was a significant difference in the improvement rate of DAS28-CRP scores in the GC group compared with the N group. However, no significant difference was observed between the two groups at 3 months or more post-treatment (Fig.1). None of the bone metabolism makers and BMD deteriorated in the GC group and there were no statistical differences between both groups (Table.1, Fig.2). New complications occurred in four cases in the N group (one, vertebra fracture; one, CVD; and two, high HbA1c levels) and four cases in the GC group (two, vertebrae fractures and two, high HbA1c levels). There were no significant differences in the rate of new complications between both groups.

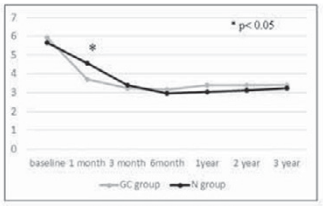

Fig.1 DAS28ESR score

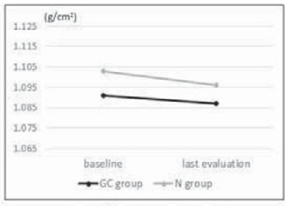

Fig.2(a) BMD of L-spine

(GC group)	baseline	1 year	3 year
NTX (nmolBCE/mmolCr)	45.9± 24.5	48.3± 25.1	46.5± 23.9
TRCP5b (mU/dL)	376± 181	388± 176	369± 169
BAP (μg/L)	17.1± 6.5	16.1± 6.0	17.6± 6.4
OC (ng/mL)	13.4± 6.5	12.6± 6.4	13.9± 6.9
(N group)	**baseline**	**1 year**	**3 year**
NTX (nmolBCE/mmolCr)	44.1± 22.9	44.7± 23.5	44.0± 23.0
TRCP5b (mU/dL)	359± 172	364± 165	365± 164
BAP (μg/L)	17.9± 6.5	17.4± 6.0	17.0± 6.4
OC (ng/mL)	13.7± 6.1	13.6± 6.2	14.1± 6.5

Table. bone metabolism makers

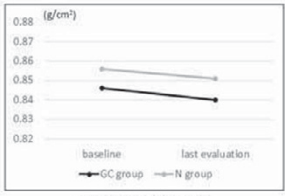

Fig.2(b) BMD of FN

Conclusions: The treatment of early rheumatoid arthritis by low-dose GC for maximum one year enables earlier improvement of disease activity and does not worsen bone metabolism status or the rate of new complications. The therapy does not pose a problem in the middle term. This study confirms that use of GC in RA patients leads to patient satisfaction.

Disclosure of Interest: None declared

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FRI0136 OVARIAN RESERVE, AS ASSESSED BY MEASURING SERUM ANTI-MÜLLERIAN HORMONE LEVELS, DECLINES MORE RAPIDLY OVER TIME IN RHEUMATOID ARTHRITIS PATIENTS COMPARED TO CONTROLS

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Background: The ovarian reserve in women with rheumatoid arthritis (RA) may be compromised, based on a reduced fertility[1] and a younger age at menopause[2]. Serum anti-Müllerian hormone (AMH) levels are a proxy for the ovarian follicle pool, and are the most reliable predictor of the age at which menopause sets in.

Objectives: Our objectives were to study the intra-individual change in AMH levels in female RA patients, and to study the effect of RA-related factors on the decline of AMH levels over time.

Methods: Female RA patients from a nationwide prospective cohort study (PARA study) in 2002–2008, were re-assessed in 2015–2016. Serum AMH levels were measured using the pico AMH assay (provided by Ansh Labs, Texas, USA) and compared to healthy controls (Lie Fong, 2012)[3]. A linear mixed model was built to assess the effect of RA-related clinical factors on the decline of serum AMH levels over time.

Results: 128 women were re-assessed at a mean age of 42.6±4.4 years, with a median disease duration of 15.8 (IQR 12.7–21.5) years. The participants appeared a more fertile selection of the original PARA cohort. The mean time between the first and the follow-up assessments was 10.7±1.8 years. At follow-up, more patients had AMH levels below the 10th percentile of controls (39%; 95% CI 31 – 48%), than at baseline (16%; 95% CI 9.3–22%). The linear mixed model showed only a significant effect of age, and no significant effect of RA-related factors on the decline of serum AMH levels over time.

Conclusions: This is the first longitudinal study on AMH levels in women with RA, and is showing that AMH levels in RA patients decline more rapidly over time compared to healthy controls. This indicates that the disease process of RA has a negative impact on the ovarian reserve of young pre-menopausal RA women.

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FRI0137 PRESENCE OF THYROID DISEASE IN RHEUMATOID ARTHRITIS PATIENTS IS PREDICTOR OF WORSE INITIAL TREATMENT RESPONSE: AN OBSERVATIONAL, COHORT STUDY

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Background: Rheumatoid Arthritis (RA) should be treated instantly to prevent further joint destruction. The first few months after treatment initiation are critical for long-term treatment outcome.[1]Patients with RA are at increased risk of thyroid disease with direct effect on initial treatment response.[2]

Objectives: To define the prevalence of thyroid disease among RA patients as well as to evaluate the correlation between presence of thyroid disease in RA patients and initial treatment response.

Methods: All RA patients who were registered in the local part of Danish Danbio registry were included in this study. Patients' demographic data, serology results including rheumatoid factor (RF) and anti-cyclic citrullinated peptide antibody (anti-ccp) as well as disease activity score in 28 joints-C-reactive protein (DAS28-CRP) at the time of diagnosis and after 4 months (±1–2 months) of treatment initiation were extracted. ∆DAS28 was calculated as follows: DAS28 at the time of diagnosis – DAS28 after 4 months (±1–2 months) of treatment initiation. Patients' electronic hospital records including laboratory results were reviewed to reveal if they had been diagnosed with thyroid disease.

Results: 1035 patients were included in the study (Table 1). Prevalence of thyroid disease was 11.8% (122/1035). Multiple linear regression analysis showed a negative correlation between ∆DAS28 and presence of thyroid disease adjusted for age, gender, disease duration, RF, anti-ccp and DAS28 at the time of diagnosis (Regression coefficient (95% Confidence Interval): -0,157 (-0.312 to -0.002), P=0.047) (Table 2). RA patients with thyroid disease had significantly poorer initial response to RA treatment compared to patients with isolated RA after 4 months of treatment (P=0.002).

Table 1. Demographic and disease characteristics of the included (N=1035) patients

Age (years), Mean ± SD:	67,1±14,5
Gender (%) Female	656 (63.4%)
DAS28 at time of diagnosis, Mean ± SD:	4.5±0.9
DAS28 after 4 months of treatment, Mean ± SD:	3.1±0.8
∆DAS28, Mean ± SD:	1.4±1.0
IgM Rheumatoid Factor (%) Positive	607 (58.6%)
Anti-ccp (%) Positive	532 (51.4%)

Table 2. Results of Multiple linear regression analysis

Variables	Coefficient	t-stat	Confidence Interval		P value
			Lower 95%	Upper 95%	
Age	0,002	1.427	-0.001	0.006	0.154
Male gender	0,056	1.051	-0.049	0.161	0.293
disease duration	-0,003	-1.093	-0.009	0.002	0.275
Rheumatoid Factor positivity	0,010	0.159	-0.118	0.139	0.873
Anti-ccp positivity	-0,030	-0.456	-0.158	0.098	0.649
DAS28 at diagnosis	0,717	26.173	0.664	0.771	>0.001
Presence of Thyroid Disease	-0,157	-1.988	-0.312	-0.002	0.047

Conclusions: Presence of thyroid disease in RA patients worsens initial treatment response and is suggestive of poor long-term prognosis. The authors propose routine measurement of serum thyroid stimulating hormone (TSH) in all RA patients at the time of diagnosis and with yearly interval.

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Disclosure of Interest: None declared

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FRI0138 LUNG INVOLVEMENT IN RHEUMATOID ARTHRITIS – A PORTUGUESE REALITY

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Background: Rheumatoid arthritis (RA) is associated with a wide range of extra-articular manifestations. Non-cardiac thoracic manifestations occur in approximately 5–20% and can affect the pleura, pulmonary parenchyma, airways and vasculature[1]. Besides, patients can also experience drug-induced pulmonary disease related to RA medication[2].

Objectives: To characterize lung involvement and factors associated with lung disease in a cohort of RA patients.

Methods: Retrospective analysis of RA patients followed in our Rheumatology department. Lung involvement was defined by the presence of imagiological/histopathological alterations described in the spectrum of rheumatoid arthritis-associated lung disease in either symptomatic or asymptomatic patients. Logistic regression analysis was used to evaluate demographic and clinical features independently associated with lung disease.

Results: In total, 532 RA patients were analysed, 400 females, mean age of 63.6 (±13.8) years and mean disease duration of 11.8 (±9.5) years. Rheumatoid factor (RF) was positive in 69% and anti-cyclic citrullinated peptide antibodies (ACPA) in 60%; 8.8% were current smokers and 7.5% past smokers. Methotrexate (MTX) was the most prescribed synthetic DMARD (85.9%) and biologics were used in 32.3% of patients.

Lung involvement was documented in 38 patients (7.1%; 95% CI 5.2%>9.7%). The specific types of lung disease are presented in figure 1. The mean interval between articular and pulmonary symptoms was 6.1 (±6.4) years, with only 1 patient having lung involvement diagnosed prior to joint manifestations. Most patients were female (73.7%), 78.9% RF positive, 68.4% ACPA positive and 29% current/previous smokers. Secondary Sjögren's Syndrome was present in 5 patients. Eighteen (47%) patients were medicated with MTX, 16 of them initiated therapy before developing respiratory symptoms and 10 (26.5%) with biologics (4 with TNF antagonists, 3 with tocilizumab, 2 with rituximab and 1 with abatacept). Most patients (92.1%) had abnormal chest x-rays, but only 47.4% were symptomatic. Pulmonary function tests (PFT) were abnormal in 31.6% of patients and 47.4% had diffusing capacity for carbon monoxide (DLCO) less than 75% predicted (7 had no DLCO estimated). Respiratory insufficiency was present in 7 (18.4%) patients. In multivariate logistic regression analysis, current MTX use (OR: 2.1 [1.02–4.33]), RF positivity (OR: 3.48 [1.18–10.25]) and older age (OR: 1.03 [1.00–1.06)] were independently associated with lung involvement.

Type of lung involvement	**UIP** (n=10)	**NSIP** (n=8)	**Bronchiectasis** (n=16)	**Follicular bronchiolitis** (n=1)	**Pleural involvement** (n=3)
Female	7	6	14	1	0
RF positive	8	7 (1 missing)	12 (1 missing)	1	2 (1 missing)
Smoking	4 (1 missing)	3	3	0	1
PFT	4 normal	5 normal	9 normal	1 normal	3 normal
	3 restrictive	1 restrictive	4 restrictive		
	1 obstructive	1 restrictive + obstructive	2 obstructive		
DLCO < 75%	7	3 (2 missing)	7 (3 missing)	0	2

UIP – usual interstitial pneumonia; NSIP – nonspecific interstitial pneumonia

Figure 1 – Specific types of lung involvement and its characteristics

Conclusions: Lung involvement was present in 7.3% of our cohort and was diagnosed in average 6.1 years after the first joint manifestations. RF positivity, older age and current MTX use are associated with lung disease.

As most patients remain asymptomatic, lung involvement is probably under-diagnosed in RA patients. Besides, in clinical practice exams that can detect preclinical disease, such as high-resolution chest computed tomography, are usually reserved for symptomatic patients or with an abnormal chest x-ray.

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Disclosure of Interest: None declared

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FRI0139 PREVALENCE OF HYPERPARATHYROIDISM IS HIGHER AMONG RHEUMATOID ARTHRITIS PATIENTS COMPARED TO THE GENERAL POPULATION: AN OBSERVATIONAL, COHORT STUDY

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Background: Patients with Rheumatoid Arthritis (RA) are at increased risk of different comorbidities which may affect long-term prognosis.[1] Primary hyperparathyroidism (PHP) is a metabolic disorder of one or more of the parathyroid glands with a prevalence of 1–7 per 1000 adults.[2]