treatment initiation is beneficial for the outcome of ACPA-negative RA as well, other diagnostics are required for the early identification of ACPA-negative RA.
Disclosure of Interest: None declared
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FRI0132 HIGH DISEASE ACTIVITY IS A PREDICTOR OF DEPRESSION AND PERSISTENT DEPRESSION IN EARLY RHEUMATOID ARTHRITIS: RESULTS FROM THE ONTARIO BEST PRACTICES RESEARCH INITIATIVE (OBRI)

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Background: The prevalence of depression among individuals with rheumatoid arthritis (RA) may be as high as 40% but persistence of depression over time is relatively unknown. Uncontrolled inflammation may drive severe disease and, in turn, inflammation and high disease activity are hypothesized to mediate depressive symptoms.
Objectives: The aims of this analysis were to: (1) describe the prevalence of depression at baseline and determine how often depression persists over time; (2) determine whether there is an association between changes in disease activity and depression over time among individuals with early RA (ERA).
Methods: ERA patients enrolled in the Ontario Best Practices Research Initiative (OBRI) with ERA ($\leq$1 year disease duration) and $\geq$2 years of follow-up were included. Persistent depression was defined as self-reported depression at baseline and at >50% of visits over the first 2 years. The association between baseline disease activity, measured by the Clinical Disease Activity Index (CDAI), and depression at baseline or persistent depression was evaluated with multivariate logistic regression. The General Estimation Equation was also used to explore the association between changes in CDAI disease activity over time and risk of depression.
Results: 469 patients with ERA (72.9% female) were included with a mean (SD) age of 56.8 (13.6) years. Mean (SD) disease parameters were: CDAI: 22.9 (14.1); DAS28: 4.6 (1.5); and HAQ disability Index: 1.1 (0.75). At baseline, the prevalence of depression was 26%, and 23% reported persistent depression. Persistent depression was significantly higher in patients with moderate CDAI (19%) and high CDAI (29%) compared to those in CDAI low disease activity (LDA) or remission (16%, p=0.02). After adjusting for potential confounders (sex, rheumatoid factor status, prior use of csDMARDs, current use of bDMARDs, HAQ disability index, number of comorbidities), increased CDAI at baseline was significantly associated with both baseline depression and persistent depression (OR: 1.04; 95% CI: 1.01–1.06, p=0.002). Female gender (OR: 3.17; 95% CI: 1.50–6.68 p=0.002) and greater number of comorbidities at baseline (OR: 1.68; 95% CI: 1.47–1.93, p<0.001) were also associated with persistent depression. Over the course of follow-up, the risk of depression was significantly higher among patients with moderate disease activity compared to those in CDAI LDA or remission (OR: 1.16; 95% CI: 1.04–1.29, p=0.006). The risk of depression was substantially greater for those with high disease activity (OR: 1.32; 95% CI: 1.15–1.52) over time compared to those achieving LDA or remission states.
Conclusions: Depression in ERA is common and initial high disease activity increases the risk of depression as well as its persistence. High CDAI during the early years of follow-up was also an independent predictor of depression. This highlights the importance of intervening during the "window of opportunity" to control disease activity and the potential to mitigate adverse health outcomes, including depression.
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FRI0133 IS THERE INCREMENTAL MENTAL HEALTH BURDEN ASSOCIATED WITH RHEUMATOID ARTHRITIS?

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Background: Rheumatoid arthritis (RA) patients are more likely to experience depression.[1] This comorbidity is associated with increased disability, use of healthcare services, and mortality risk.[2,3] The association between RA and other mental health disorders has received limited attention and there remains a need to further demonstrate and understand the impact of RA on mental health.
Objectives: Evaluate the mental health burden of RA patients based on the analysis of Short Form-36v2 Health Survey (SF-36v2) mental health (MH) and role emotional (RE) domain scores from two independent general population databases in the US and Europe.
Methods: The mental health burden associated with RA was analyzed by comparing mean SF-36v2 MH and RE scores of individuals self-reporting RA (with or without depression) and the scores from 2 benchmark samples (individuals without RA, individuals with depression and no RA) in two large cross-sectional survey studies (QualityMetric's 2009 General US Population Norming Study of the SF-36v2 and the 2014 European National Health and Wellness Survey). Multivariate regression methods were used to adjust each benchmark sample to the distribution of the RA sample in terms of age and gender. Differences between samples were interpreted with respect to minimally important differences: 3 points for MH; 4 points for RE.
Results: The US (2009) and European (2014) samples included 4,042 and 81,366 individuals, respectively. Compared with individuals without RA or depression, mean RE scores were significantly (P<0.001) lower for RA patients without depression in the US (-7.75 points) and Europe (-5.31 points). Likewise, mean MH scores were significantly (P<0.001) lower among RA patients without depression in the US (-4.85 points) and Europe (-5.03 points) compared with individuals without RA or depression. Compared to individuals with depression and no RA, mean RE and MH scores were 5 to 10 points higher (P<0.001) for RA patients without depression in both the US and Europe. Comparisons of RE and MH scores between RA patients with and without comorbid depression showed that comorbid depression was associated with 2 to 6 points lower scores (P<0.01) in RE and MH domains, in both the US and Europe.
Conclusions: RA is associated with significant and clinically meaningful mental health burden as measured by SF-36v2 MH and RE domains. Results comparing scores between RA patients with and without comorbid depression suggest that there is an incremental mental health burden associated with RA, often exceeding minimally important differences among US patients.
References:
[1] Dickens C, et al. Psychosomatics. 2003;44(3):209–215.
[2] Ang DC, et al. J Rheumatol. 2005;32(6):1013–1019.
[3] Kessler RC, et al. J Occupat Environ Med. 2003;45(12):1257–1266.
Disclosure of Interest: V. Strand Consultant for: Abbvie, Amgen, AstraZeneca, BiogenIdec, Boehringer Ingelheim, Celltrion, Crescendo, Genentech/Roche, GSK, Janssen, Lilly, Merck, Novartis, Pfizer, Regeneron, Samsung, Sanofi and UCB, M. Kosinski Employee of: Optum, R. Rendas-Baum Employee of: Optum, D. Brooks Shareholder of: GlaxoSmithKline, Employee of: GlaxoSmithKline, R. Ganguly Shareholder of: GlaxoSmithKline, Employee of: GlaxoSmithKline
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FRI0134 CLUSTER ANALYSIS OF PULMONARY LESIONS IN RHEUMATOID ARTHRITIS (RA); AIRWAY DISEASE IS SHARED AND CRITICAL PULMONARY ABNORMALITY IN RA

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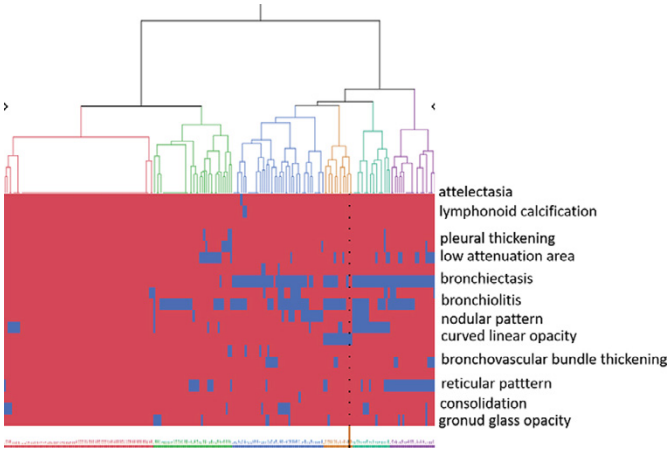
Background: Rheumatoid arthritis (RA) is a systemic inflammatory disease that affects joints and various organs including the lung. The pulmonary involvement is critical for prognosis of the patients and decision of the treatment. Moreover, the pulmonary involvement showed various abnormalities such as interstitial pneumonia (ILD) and airway disease (AD). Importantly, a pulmonary abnormality coexists with other ones in RA patients. There have been large numbers of studies on the prevalence of pulmonary abnormalities and clinical features of patients with these lesions. However, it remains to be elucidated what existence pattern of pulmonary abnormalities RA patients have.
Objectives: To reveal the existence pattern of the pulmonary abnormalities in RA patients using cluster analysis, and to clarify the clinical features of patients with multiple pulmonary abnormalities.
Methods: Subjects were consecutive 208 RA patients who were treated with bDMARDs as the first one from Feb. 2004 to Sep. 2015 in our department and received HRCT scan before and after the therapy. Pulmonary abnormalities were classified into 4 categories (ILD, nodular lesions, AD and other) and 20 lesions such as ground-glass opacity, reticular pattern, bronchiolitis and bronchiectasis and were examined their existence and distribution. Cluster analysis was conducted according to the existence of the lesions by Ward method. Clinical features were analyzed through reviewing medical records.
Results: Subjects were 208 RA cases (M/F; 64/144, mean age 59.2 year-old,

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.

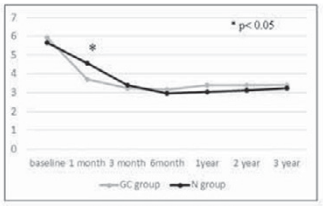

Fig.1 DAS28ESR score

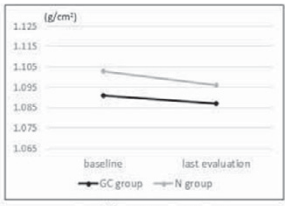

Fig.2(a) BMD of L-spine

(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

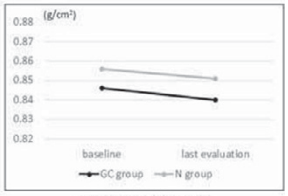

Fig.2(b) BMD of FN

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.

References:

[1] Brouwer J, Hazes JM, Laven JS, Dolhain RJ. Fertility in women with rheumatoid arthritis: influence of disease activity and medication. Ann Rheum Dis 2015;74:1836–41.

[2] Del Junco D. The relationship between rheumatoid arthritis and reproductive function [Dissertation]. Houston, Texas: The University of Texas Health Sciences Center at Houston School of Public Health; 1988.