

**Conclusions:** Although moderate-to-heavy alcohol consumption was associated with lower baseline DAS28 in patients, alcohol drinking status was not associated with change in disease activity, as measured by DAS28, at 1-year follow-up.

**References:**

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**SAT0080 CLINICAL SIGNIFICANCE OF SOLUBLE CD163 IN REFRACTORY SYSTEMIC-ONSET IDIOPATHIC ARTHRITIS**

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**Objectives:** The present study explored the correlation of soluble CD163 with refractory systemic-onset juvenile idiopathic arthritis (refractory So-JIA) as well as the clinical significance of soluble CD163 in (refractory So-JIA).

**Methods:** A total of 33 young patients diagnosed with So-JIA in the active period and 30 young patients diagnosed with So-JIA in the inactive period at Guangzhou Women and Children's Medical Center (Guangzhou, China) from January 2010 to January 2012 as well as 40 age-matched healthy individuals, who had visited the hospital for medical examination in the same time-period were enrolled in the present study. Flow cytometry was used to determine the lymphocyte count and ELISA was adopted for determining the levels of soluble CD163 in serum

**Results:** The levels of soluble CD163 and their correlation with indexes of disease activity were observed. In patients with So-JIA in the active period, the levels of soluble CD163 and the Tcell count were significantly higher than those in the inactive So-JIA and healthy individuals ( $P < 0.05$ ). Furthermore, the levels of soluble CD163 were positively correlated with C-reactive protein, ferritin, erythrocyte sedimentation rate, white blood cell count and immunoglobulin E as indexes of disease activity ( $P < 0.05$ ).

**Conclusions:** Soluble CD163 is a more valuable index for early recognise refractory active So-JIA, which can provide a basis for active period development and clinical observation.

**Disclosure of Interest:** None declared

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**SAT0081 RELATIONSHIP BETWEEN RHEUMATOID FACTOR POSITIVITY AND TREATMENT EFFECT WITH A FIRST BIOLOGIC AGENT IN RHEUMATOID ARTHRITIS: MULTICENTER STUDY USING A MIXED-EFFECT MODEL**

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**Background:** Although the presence of rheumatoid factor (RF) may be a risk factor for the onset and progression of rheumatoid arthritis (RA), sufficient literature does not exist to support the clinical relationship between RF positivity and the effects of treatment with biologic disease-modifying antirheumatic drugs (bDMARDs). This multicenter study aimed to explore the association of RF positivity with the effects of bDMARDs treatment in bio-naïve RA patients using a linear mixed-effect model.

**Objectives:** In a multicenter study, patients are clustered within institutions, therefore results of adjustment models are likely to be biased by random,

unobserved between-institution differences. Such bias could lead to inaccurate prediction and interpretation of outcomes. We used a linear mixed-effect model including between-institution variation as a random effect, which would improve the performance of this multicenter study.

**Methods:** In total, 625 bio-naïve RA patients registered in the Tsurumi Biologics Communication Registry (TBCR), which comprises Nagoya University and 15 affiliated institutions in Japan, who received bDMARDs treatment during the study period (2006–2016) were eligible for inclusion. Demographic information and disease characteristics were assessed at baseline. DAS28 using erythrocyte sedimentation rate was recorded at baseline and following 24 weeks of therapy. In order to predict DAS28 improvement at 24 week, a linear mixed-effect model including between-institution variation as a random effect, controlling for RF positivity, age, sex, stage, methotrexate (MTX) use, prednisolone (PSL) use, tumor necrosis factor inhibitor (TNFi) or non-TNFi, and DAS28 at baseline, was developed.

**Results:** Of the 625 patients, 513 showed RF positivity and 112 were antibody negative. Mean  $\pm$  SD age at baseline was 56.9 $\pm$ 14.0 years; 509 patients were women (81.4%). The mean  $\pm$  SD DAS28 score at baseline was 5.19 $\pm$ 1.24. Proportion of MTX and PSL use were 79.3% and 58.1%, respectively. Following adjustment for relevant covariates, RF positivity was associated with a decrease biologic treatment effect ( $\beta = -0.33 \pm 0.12$ ,  $p < 0.05$ ). In another model including an additional interaction term of RF status and TNFi or non-TNFi, the influence of RF status on treatment effect was persistent ( $\beta = -0.26 \pm 0.14$ ,  $p < 0.1$ ). These two models had comparable AIC. A model excluding RF positivity term had larger AIC than these two models, suggesting that RF positivity is crucial for predicting the effect of bDMARDs treatment.

Fixed effects

	$\beta$ coefficient estimate	Std. Error	p value
(Intercept)	0.18	0.42	0.67
RF positivity	-0.33	0.12	<0.05
DAS28 at baseline	0.74	0.041	<0.05
Age	-0.016	0.0037	<0.05
Female gender	-0.35	0.12	<0.05
Non-TNFi use (TNFi as reference)	0.29	0.12	<0.05
Methotrexate use	0.084	0.12	0.51
Prednisolone use	-0.23	0.10	<0.05
Stage	-0.24	0.10	<0.05

**Conclusions:** In our multicenter study using a linear mixed-effect model including between-institution variation as a random effect, RF positivity, in addition to some well-known variables, was found to be independently associated with decreased effects of bDMARDs treatment in bio-naïve RA patients.

**Disclosure of Interest:** None declared

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**SAT0082 THE INVESTIGATION FOR THE INFLUENCE OF SILASTIC ARTHROPLASTY OF METACARPOPHALANGEAL JOINT ON THE ACTIVE EXTENSION RANGE OF PROXIMAL INTERPHALANGEAL JOINT IN THE RHEUMATOID HAND**

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**Background:** The ulnar deviation (Ud) deformity of the metacarpophalangeal (MCP) joints is a typical deformity in the patients of rheumatoid arthritis (RA). Joint replacement arthroplasty can be indicated for the treatment of severe Ud deformity, silastic prosthesis being widely used with generally good results [1]. There are few, however, previous reports focusing on the relationship between the range of motion (ROM) of the MCP and PIP joints after the surgery.

**Objectives:** The objective of this study was to investigate the influence of silastic replacement arthroplasty of MCP joint replacement on post-operative extension range of PIP joint of the same finger.

**Methods:** RA patients who underwent silastic replacement arthroplasty of at least 1 MCP joint except for thumb for the treatment of Ud deformity were reviewed. There were 80 hands of 65 patients, average age of whom was 70.1 (32.4–86.1) years old, 56 patients being female and 9 being men. The ROM of the PIP joints before and after surgery was collected from the medical records, and the relationship between the post-operative change of ROM in PIP joints and post-operative ROM of in the MCP joint of same finger was examined. Paired-t test and the correlation coefficient were used for statistical analysis.

**Results:** The mean active extension range of PIP joints in index to little finger changed from  $-0.68^\circ$  ( $-56.0$ – $30.0$ ) to  $0.92^\circ$  ( $-52.0$ – $30.0$ ) [ $P = 0.55$ ],  $-5.64^\circ$  ( $-104.0$ – $30.0$ ) to  $-8.44^\circ$  ( $-56.0$ – $30.0$ ) [ $P = 0.03$ ],  $-3.44^\circ$  ( $-112.0$ – $32.0$ ) to  $-8.91^\circ$  ( $-94.0$ – $40.0$ ) [ $P = 0.08$ ], and  $-9.81^\circ$  ( $-96.0$ – $30.0$ ) to  $-17.2^\circ$  ( $-76.0$ – $30.0$ ) [ $P = 0.07$ ], respectively. There was an indication of a decrease in post-operative extension range of PIP joint except for the index finger. The ROM of the PIP joint was reduced only in the little finger, but was significantly increased in the index and middle finger. Correlation coefficients between the active flexion range of the MCP joint and the active extension range of the PIP joint of index to little finger was 0.34, 0.19, 0.08, and 0.33 respectively, no correlation being found.

**Conclusions:** Post-operative decline in active extension of the PIP joint might be a compensatory change accompanying a shift of the arc of motion of the